USA 2011

imagine cup™

by Microsoft®

Imagine Cup 2011 Worldwide Finals

JULY 8–13, 2011
NEW YORK CITY, USA

THE WORLD'S PREMIER STUDENT TECHNOLOGY COMPETITION

DELL

Microsoft game studios

Windows Embedded

Windows Phone

Microsoft

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***Bold** denotes 2011 Finalists

Message from **Steve Ballmer**

Hello, and welcome to the ninth annual Microsoft Imagine Cup Worldwide Finals! It is a privilege to welcome you to New York City as part of the Imagine Cup Worldwide Finals – the event where the world's brightest students showcase their talents and passion for using technology and software to solve real-world problems.

We are excited to host the Imagine Cup Worldwide Finals in New York, a city that embodies the cultural diversity, innovation, tenacity, and intensity of the Imagine Cup. I am personally thankful for the city of New York for hosting this event—it is an inspiring backdrop for the Imagine Cup! My hope is that Imagine Cup sparks your creativity while providing a rich and different cultural experience. From Spain to Brazil, Japan to India, Korea to France, Egypt to Poland, and now the United States, Imagine Cup is a global adventure.

This year you were invited to "**imagine a world where technology helps solve the toughest problems.**" This theme generated many innovative solutions that aim to tackle some of the world's most desperate issues. Whether it is economic or environmental, healthcare or disaster response, we collectively face tremendous challenges. I believe the power of technology harnessed creatively by minds like your own will be instrumental in overcoming those challenges.

You are now part of a community of young innovators destined to make a huge impact. For example, last year, a team from the Czech Republic developed a mobile application that provides navigation assistance and helps coordinate disaster rescue teams. Today, these students are working with a global non-profit to deploy their system in Haiti to track the spread of cholera, and in Japan to monitor areas affected by the recent earthquake and tsunami. A Bulgarian team developed software to help teachers engage with students more effectively in the classroom. After competing in the Imagine Cup, the team began pilots of their solution in elementary schools in Bulgaria, leading to adoption of the product in more than 50 schools across the country. I am excited to see how products like Xbox Kinect, Windows Phone, Bing and Windows Azure are providing rich platforms for this year's competitors to achieve similar results.

I look forward to experiencing the energy and brilliance of all of our worldwide finalists. Your work will inspire us all to see how technology can make a lasting change for the better in how we think, work, and live.

Sincerely,

Steven A. Ballmer
CEO
Microsoft Corporation

Message from **S. Somasegar**

I am very excited to be hosting the ninth annual Imagine Cup Worldwide Finals in New York City, USA, one of the most amazing cities on earth. New York has truly earned the label "the world's largest cultural melting pot" with approximately 40% of its population stemming from other countries. I cannot think of a better backdrop for this year's finalist competition.

My participation in the world finals spans nine years, starting in Spain in 2003, and we have hit just about every continent on our journey. Each Imagine Cup final continues to blow me away with the talent, passion and technology that I get to experience. In addition, it is a fantastic forum for students to show what is possible with technology, to experience a vastly different culture from their own and possibly make some life-long connections at the same time.

This competition's core challenge to students is to imagine a better world empowered by technology, created by their talent and innovation. Microsoft supports this vision through this competition as well as our student program, Microsoft DreamSpark, which provides professional-level tools that we hope will inspire students to explore the power of software and encourage them to forge the next wave of software-driven breakthroughs. Microsoft DreamSpark makes available, at no charge, a broad range of development and design software for download to millions of high school and college students around the world.

The Imagine Cup showcases the dreams, ideas and creative energy of young leaders in technology and gives them the exposure, resources, and connections to focus their passion into projects that benefit the society of tomorrow. This year we again invite students to "imagine a world where technology helps solve the toughest problems facing us today". This theme urges finalists to tackle some of the world's most complicated issues where solutions are desperately needed, now more than ever. We have economic, environmental, social, political and scientific challenges currently facing our world that may be surmounted by creative technological solutions.

Having the world finals in the US is an experience that I have been waiting for, for a very long time. New York is one of the most fascinating places in the world. It houses the center of the US Economy, the United Nations, one of the largest arts and entertainment communities and as I mentioned earlier, it is one of the most diverse metropolitan cities in the world. It is a city where residents of all cultures can find resolve in the face of adversity, and post 9/11 has been viewed as one of the most inspiring places to live. Finally, I look forward to experiencing the creativity and brilliance of our group of Worldwide Finalists. Their work will inspire us all to see how technology can make a lasting change for the better in how we think, work, and live. Please join me in welcoming the finalists of Imagine Cup 2011, and in wishing them the very best in all of their future endeavors.

S. Somasegar
Sr. Vice President, Developer Division
Microsoft Corporation

Message from **Robert Youngjohns**

Congratulations on reaching the 2011 Imagine Cup Worldwide Finals in New York City! As you know, the Imagine Cup is the world's premiere student technology competition with over 350,000 participants worldwide. Taking part in the Imagine Cup 2011 Worldwide Finals is admirable and valuable; reaching the finals is a huge accomplishment and you should really be proud!

The Imagine Cup is truly an amazing experience and one I wish I had when I was a student. As you know, it provides you the opportunity to develop real-world skills and explore career opportunities in Science, Technology, Engineering, Mathematics, and design and exercise your creativity to change create solutions that can the world. But more importanly, it gives you a chance to meet, share and exchange ideas with your peers from around the globe.

This is a wonderful opportunity to shine a spotlight on you, the best and brightest students from across the nation and around the world. Your chance to showcase the amazing projects you created. In categories ranging from software and game design, to digital media, to embedded development and Windows 7 phone applications, these projects are inspiring as impactful.

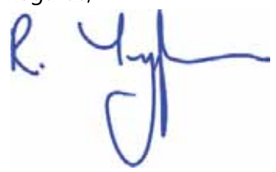
The world has always been shaped by those who take part and get involved. As students you have the power to change the world, and create a brighter tomorrow. Imagine Cup, like other programs such as DreamSpark, BizSpark, Students2Business, is an example of a platform Microsoft provides to inspire you and give you real world experiences to help and encourage you to pursue the dynamic career opportunities in tehnology.

By participating in Imagine Cup you are identifying yourselves as future industry leaders. This week is your opportunity to take a step toward a better future. Let's continue to work together to encourage innovation, help equip the next generation to grow academically, and invest in developing business around the world.

I am proud and inspired by projects I have seen. It's those who do who make the real difference and I would encourage all of you to help others, get involved, and stay involved.

Thank you for participating in the Imagine Cup and for your commitment to making a difference today and into tomorrow.

Regards,



Robert Youngjohns
President, Microsoft North America

Message from **Walid Abu-Hadba**

Welcome Imagine Cup 2011 World Finalists! It is a great honor for Microsoft to host you here in New York City for the Worldwide Finals of Imagine Cup 2011. I hope that you are ready to compete for the title of World Champion in your chosen competition.

The Imagine Cup demonstrates Microsoft's continued commitment to inspire the next generation of technology leaders to apply their imagination, passion, and creativity to solving real world problems and having a lasting impact on the world.

The mission of the Imagine Cup is to make the world a better place using the power of software. In every category of the Imagine Cup, you have the opportunity to transform the world for the better through technology.

The competition will be tough. By reaching the finals of the world's premier student technology competition, you have already shown yourself to be one of the world's most gifted technology students. To me, you are all already winners and I congratulate you on your remarkable achievements.

Best of luck in the Imagine Cup 2011 Worldwide Finals.

Walid Abu-Hadba
Corporate Vice President
Developer & Platform Evangelism Group
Microsoft Corporation

Message from **Jon Perera**

Imagine Cup Finalists,

Welcome to the Imagine Cup 2011 Worldwide Finals, and welcome to New York City! Let me be one of the first to formally congratulate you for representing your country in this globally recognized finalist competition.

Nine years ago, the Imagine Cup started with a simple, yet powerful idea that the combination of student innovation and technology can change the world. Our theme for this year's competition is, "Imagine a world where technology helps solve the toughest problems." You are delivering on this.

Over the last few months, I've had the privilege of meeting hundreds of Imagine Cup competitors, and have already seen solutions that inspire, amaze, and have potential for significant impact in the lives of people around the world. Your innovations will help address the challenges of global hunger, climate change, education and so much more. Some of the key trends we're seeing across all of the teams include a real focus on cloud-technologies, mobile, social, and gaming technologies in ways that are truly inspirational.

Competing in the Worldwide Finals is an important lifetime experience – so make the most of it! Plan to spend a great deal of your time connecting with students from all over the world: share information, share cultures, share stories but make sure to… connect. Take advantage of the learning seminars we've put together for you across business and technology, and enjoy New York City!

Most importantly, let the Imagine Cup be a beginning for you, and for the world. As our world's future innovators and technology leaders, our planet will look to you to lead the way on solving some of our greatest challenges. Lead with your mind but also lead with your heart, as both are required to make a difference. Ask yourself, your team-mates, and your new friends, "How will we continue to take this important work forward in the world, together?"

Thank you for your important accomplishments, and I look forward to spending time with you this week!

Jon Perera
General Manager, Education Group
Microsoft Corporation

ABOUT THE IMAGINE CUP

Welcome to the Imagine Cup 2011 Worldwide Finals in New York City, USA!

As the world's premier student technology competition, the Imagine Cup is one way Microsoft encourages students around the world to apply their imagination, their passion, and their creativity to technology innovations that can make a difference– today!

Now in its ninth year, the Imagine Cup is a global competition focused on finding solutions to real-world problems.

Every year the Imagine Cup continues to expand and touch the lives of competitors all over the world. In 2011, over 350,000 students registered for the nine different Imagine Cup competitions and challenges.

With the 2011 Theme: "Imagine a world where technology helps solve the toughest problems." as their guiding light, we invited students around the world to harness their creative energy, their technical know-how, and most of all, their personal passion to step up to the challenge.

Teams were formed in a total of 183 countries/regions around the globe. Each team and each individual student envisioned new ways to approach the world's problems and drawing on their unique skills and experience, they created stellar possible technology solutions.

Competitors chose to compete in any of the following competitions and challenges: Software Design, Embedded Development, Game Design: Windows/Xbox, Game Design: Mobile, Game Design: Web, Digital Media, Windows Phone 7, IT Challenge, Interoperability Challenge, Orchard Challenge and Windows 7 Touch Challenge.

The Imagine Cup 2011 Worldwide Finalists, Orchard Challenge Winner and Windows 7 Touch Challenge Winner showcased in this publication have presented unique technology-based solutions. These finalists have investigated the deepest problems in their countries, regions and throughout the world and envisioned groundbreaking ways to solve these issues. Their creativity demonstrates that technology is the most crucial tool for a changing world.

The Imagine Cup was founded in 2003 and has traveled the world westward from Barcelona, Spain to Sao Paolo, Brazil to Yokohama, Japan to New Delhi, India to Seoul, South Korea to Paris, France and down to Cairo, Egypt, up to Warsaw, Poland and this year, west to New York City, USA. The "cup" itself, a trophy first awarded in 2003 when Software Design was the only category, has spent time with the Software Design champions in the United States (2003-2004), France (2004-2005), Russia (2005-2006), Italy (2006-2007), Thailand (2007-2008) Australia (2008-2009), Romania (2009-2010) and Thailand (2010-2011). This year the cup will travel from Thailand to the United States and will be awarded to the winning Software Design team on 13 July, 2011.

WELCOME FROM THE IMAGINE CUP TEAM

Welcome!

Welcome to New York City, USA and to the Imagine Cup 2011 Worldwide Finals! Yes, just like you, we have been preparing all year for this moment and working on creating an unforgettable experience. Every year we are excited by the level of creativity and ingenuity brought to each of the projects – and this year is no exception. We have enjoyed connecting with you through the forums, newsletters, Facebook, and Twitter and meeting some of you at your Local Finals events around the world. We are inspired when we learn about why you chose to compete in the Imagine Cup. And now, we have the chance to meet each of you in person.

You have worked very hard to be here today. We asked you to research, brainstorm, design, and develop potential solutions that address the toughest problems facing our world today. You imagined a world with less poverty, cleaner water, less hunger and disease, greater survival prospects for mothers and their babies, better educated children, quicker disaster relief infrastructure, equal opportunities for all, and a healthier environment; a world in which developed and developing countries work in partnership for the betterment of all. You skillfully stepped up to the challenge!

We know you will give your best while competing at the Worldwide Finals so take the time to get to know your fellow Worldwide Finalists; share ideas, exchange e–mails, Tweet about the experience, "friend" each other on Facebook and most importantly, forge new friendships. In addition to all of the events we have planned, take time to experience the awe and excitement of New York City.

Please make sure to introduce yourself to us over the next six days. Congratulations on your achievements and welcome to the United States!

Good luck!
The Imagine Cup Team

THE IMAGINE CUP TEAM

MICROSOFT CORPORATE IMAGINE CUP TEAM

Left to Right:
Lisa Harper, Millo Ognissanti, Suzi LeVine, Jon Perera, Ani Babaian, Luca Peruzzo, Leila Shearer, Ashwin Karuhatty, Toddy Dyer, and Emily Fishkind

NOT PICTURED:
Shannon Anderson, Kathy Bayly, Jeff Clausen, Carol Cooper, Catherine Cormoreche-Meljac, Mary Corrales-Diaz, Jeff Dickens, Kristin Hampton, Monette Johnstone, Rachel MacGillivray, Rob Nicolai, Karen Robbins, Aaron Rogers, Lori Skinner-Studley, Mark Stephenson, Austin Stewart, Nicole Torrecampo, Bert Velasco, Stacy White, and Chris Yates

MICROSOFT U.S.A. TEAM

Left to Right: *Jessica Anderson, Hilary Pike, and Jodi Ellias*

Thank you to the entire United States Academic Developer Evangelist team: *Ed Donahue, Bob Familiar, Edwin Guarin, Randy Guthrie, Bradley Jensen, Krishna Kumar, Lindsay Lindstrom, Andrew Parsons, Kenny Spade, Sam Stokes, Alfred Thompson, Tara Walker, and Dan Waters. To Dan Kasun and Martin Schray for their leadership.*

Thanks to the US Public Sector particularly: *Kristin Bockius, Mario Rebello, Alonda Williams, and Donna Woodall*

Special thanks to our executive sponsors: *Mark Hindsbo, Alysa Taylor, and Allison Watson*

Thanks especially for incredible collaboration with our Worldwide DPE counterparts: *Lisa Harper, Ashwin Karuhatty, Suzi LeVine, and Millo Ognissanti.*

ZAAZ TEAM

Left to Right: *Justin Marshall, Ilga Paskovskis, Katherine Leggett, and Beau Betts*

FAST TRACK TEAM

Left to Right: *Brian Conte, Kathryn Stenberg, and Tim Heikell*

HISTORY OF THE IMAGINE CUP

2003—Barcelona, Spain

Theme: *"Link between people, information, systems, and devices, using Web services and .NET as the springboard."*

Worldwide Competitors:
- 1,000 students from 25 countries
- 15 finalist teams

2004—Sao Paulo, Brazil

Theme: *"Imagine a world where smart technology makes everyday life easier."*

Worldwide Competitors:
- 10,000 students from 90 Countries
- 50 finalist teams

2005—Yokohama, Japan

Theme: *"Imagine a world where technology dissolves the boundaries between us."*

Worldwide Competitors:
- 30,000 registered, 17,000 students competed from 97 countries
- 86 finalist teams

2006—Delhi, India

Theme: *"Imagine a world where technology enables us to live healthier lives."*

Worldwide Competitors:
- 68,000 registered, 24,000 students competed from 100 countries
- 76 finalist teams

2007—Seoul, South Korea

Theme: *"Imagine a world where technology enables a better education for all."*

Worldwide Competitors:
- Over 100,000 registered, 59,000 students competed from 126 countries
- 120 finalist teams

2008—Paris, France

Theme: *"Imagine a world where technology enables a sustainable environment."*

Worldwide Competitors:
- Over 200,000 registered, 59,000 students competed from 124 countries
- 124 finalist teams

2009—Cairo, Egypt

Theme: *"Imagine a world where technology helps solve the toughest problems facing us today."*

Worldwide Competitors:
- Over 300,000 registered, 59,000 students competed from 140 countries
- 143 finalist teams

2010—Warsaw, Poland

Theme: *"Imagine a world where technology helps solve the toughest problems."*

Worldwide Competitors:
- Over 325,000 registered students from more than 140 countries.
- 122 finalist teams

Solve the World's Toughest Problems

In 2011, we asked some of the world's most talented students - software programmers, hardware developers, game designers, video enthusiasts, and dreamers to ***"Imagine a world where technology helps solve the toughest problems."*** The United Nations identified some of these tough problems in its Millennium Development Goals. Imagine Cup 2011 uses these ambitious challenges as a guiding light to inspire students to create change all across the globe.

We look forward to another year of witnessing the amazing innovations of students that step up to these challenges. We are astonished by each competitor's resourcefulness, and creative thinking. And yes, no matter who comes up with the best solutions to the world's toughest problems - everybody wins!

The Eight United Nations Millennium Development Goals

The United Nations Millennium Development Goals were agreed upon by 189 nations around the world more than ten years ago. They encompass universally accepted human rights such as freedom from hunger, the right to basic education, the right to health, and a responsibility to future generations. We are now less than 3 years from the target date – 2015 – by which the Millennium Development Goals are to be achieved.

We asked competitors to imagine a world with less poverty, hunger and disease, greater survival prospects for mothers and their infants, better educated children, equal opportunities for women, and a healthier environment; a world in which developed and developing countries worked in partnership for the betterment of all. Then each of them imagined that they were part of the solution.

IMAGINE CUP THEME: SOLVE THE WORLD'S TOUGHEST PROBLEMS

How will the world look in 2015 if the goals are achieved?

- More than 500 million people will be lifted out of extreme poverty.
- More than 300 million will no longer suffer from hunger.
- Dramatic progress in child health will save 30 million children and more than 2 million mothers.
- More than 350 million people will have access to safe drinking water.
- More than 650 million people will have the benefits of basic sanitation.
- Hundreds of millions more women and girls will lead their lives in freedom, with more security and more opportunity.

Imagine Cup Solve This

In addition to the 2011 Theme and the Millennium Development Goals, students had another place to look for inspiration: Imagine Cup Solve This.

The Imagine Cup 2011 Solve This program was comprised of eight different issues submitted by IGOs, NGOs, and non-profit organizations around the globe. Teams could take these issues on as part of their Imagine Cup project. Imagine Cup Solve This helped many Finalist teams put their ideas into action. The following organizations submitted issues to the Solve This library for Imagine Cup 2011:

- Food and Agriculture Organization of the United Nations
- NetHope Inc.
- Robin Hood Foundation
- United Nations Development Program (UNDP)
- United Nations Industrial Development Organization (UNIDO)
- United Nations World Food Program
- United Nations Program on Youth (UNPY)
- US Agency for International Development (USAID)

THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

July 8, 2011

Dear Friends:

It is a great pleasure to welcome everyone to the 2011 Imagine Cup Worldwide Finals, sponsored by Microsoft.

New York City is quickly becoming a center for innovation with the growth of a robust technology ecosystem throughout the five boroughs. Technology drives better processes, and better processes – in the public or private sector – result in more effective delivery of services. By making New York the nation's leading digital city, we'll not only deliver better services to all our residents, businesses, employees, and visitors, but also attract the world's best talent so the next generation of public servants will be able to improve those efforts further still.

That's why the Imagine Cup makes so much sense – and why New York is the perfect city to host the event. The 2011 Imagine Cup Worldwide Finals highlight the innovation already happening in New York, and we look forward to even greater advancements in the coming years. Our initiative to grow or attract a new applied sciences facility will position us for continued success by bringing the best and brightest in the critical fields of engineering, science, and technology to New York. Encouraging students to develop a passion for these disciplines at an early age, through programs like the Imagine Cup, will better prepare them to compete in the workforce of the future and inspire change in all sectors, and I commend Microsoft as well as everyone associated with this exciting event for helping to create a brighter future for us all.

On behalf of the City of New York, please accept my best wishes for an inspiring and successful Imagine Cup!

Sincerely,

Michael R. Bloomberg
Mayor

EVENT SCHEDULE

Friday, July 8
- Arrivals
- Opening Ceremony

Saturday, July 9
- Competition Day 1
- 2nd Round Announcement
  (Software Design and Embedded Development)

Sunday, July 10
- Competition Day 2
- Learning Sessions
- Finalist Announcement
  (Software Design, Embedded Development, and Game Design)

Monday, July 11
- Citizenship & Cultural Activities
- BBQ at Ellis Island

Tuesday, July 12
- Finalist Presentations

Wednesday, July 13
- Learning Sessions
- Showcase
- World Festival
- Farewell Party

Thursday, July 14
- Departures

SOFTWARE DESIGN

ALGERIA

Poverty. Hunger. Education. Environment. Health.

The Software Design competition encouraged student teams from around the globe to step up to the challenge and propose solutions to some of the toughest problems.

These finalist teams are all winners who have proven that their technical ability and innovative ideas are worthy enough to bring them to New York City. Here they will show the world their solutions and proudly represent their country/region in the Imagine Cup Worldwide Finals.

For the students on these teams, the Imagine Cup Finals is a huge step on their way to a great future. Many of them will work at major corporations, begin a non-profit organization, integrate their solutions into key programs for government agencies, or start their own companies. One thing is certain – more than one of these teams is definitely on the road to changing the world.

Learn more about the innovative technical solutions that the 2011 Software Design finalist teams created to address real problems and to change the world.

Epsilon

Team Members:
Billel Boudouma, Tarik Kheloufi, Zaki Hamouli, and Arezki Samir

Mentor:
Tarek Bellache

School:
Institut National de Formation en Informatique d'Algérie

PROJECT: SurgeReal

SurgeReal helps students and surgeons practice basic surgeries by providing 3D organ images and step-by-step learning materials. With a solution much cheaper than its competitors and other simulators, SurgeReal answers a very critical issue faced by surgeons living in remote areas around the world.

Theme/Millennium Development Goal: Our project works on the following goals: Universal Education, Child Health, Maternal Health, and Global Partnership.

Technology Used: Bing Maps, Internet Explorer, Kinect, Silverlight, Windows 7, Windows Phone, XNA Game Studio, Other

Inspiration: What inspired us was the real and the incredible differences between operations and their success rate in the world depending of the region in the world. We discovered the staggering inequalities after much research. Even a member of our family had a cataract operation under these statistics so you can imagine how much we feel that we need to be involved. We couldn't stay away from trying to increase the rate success of operations in regions where there was the most need. We started thinking about how we could help increase the success rate of that surgeries in all developing countries!

Future Plans: We hope that SurgeReal will be used by universities and hospitals around the world. We know that with the support of NGOs we can make a real and effective worldwide impact. Our plan in Algeria is that we will expect to introduce a test version in an ophthalmology clinic later this summer and our start-up Epsilone-Solutions, is also being created.

X-TEACH

Team Members:
Nelly Adamyan, Artur Mkrtchyan, and Harutyun Terteryan

Mentor:
Arman Atoyan

School:
State Engineering University of Armenia, Yerevan State University

PROJECT: Teach Me Now

Our project is an interactive educational, group-based exchange platform called Teach Me Now. The system helps deliver trainings on any issue and helps anyone interested in acquiring new skills and knowledge. The system provides a large field of training programs related to any area; from salsa dancing and fish hunting to astrology and software development. It contributes to the problems of youth unemployment by helping the process of connecting young people to labor market needs. Teach me Now has many important functions. Once a sufficient number of trainees have been recorded, the relevant user registered as a trainer is notified and can create a training event. The trainer then creates the event, and the system automatically suggests the event to those potential attendants. The system moderators receive a percentage from the cost of each successful training. The system is always actively integrated in social network realms and has connections to LinkedIn, Twitter, Facebook and more. Referral programs are actively used for engaging satisfied users for further marketing and promotion.

Teach Me Now is an effective business model and will definitely turn into successful business project and the number of people interested in its benefits will become huge. Teach Me Now is based upon a strong request among society. It implies a new, flexible solution to the global problem of youth unemployment and equal education opportunities for everyone.

Theme/Millennium Development Goal: Universal Education

Technology Used: Bing Maps, Silverlight, Windows 7, .NET, Windows Live, Other

Inspiration: When discussing possible issues of global concern we came to a common conclusion: only through education can the world problems may be solved. We went deeper into more specific problems connected with global education arrangements. The motivation and inspiration to work on Teach Me Now, was universal high rates of youth unemployment. Today, everyone strives for higher education, yet not every educated person manages to get employed successfully. We've decided to create a platform which will enable everyone to shape their own career, go beyond the boundaries of what they've learned in colleges and universities, and continually gain new skills, more experience and a larger network. We aim to double and then triple the number of happy, employed faces.

Future Plans: At the very beginning no certain plans for future development were expected. Yet now as time passes, we have started to understand how important our project is and how beneficial its implementation will be. We believe in Teach Me Now and in the future we plan to give it a great start.

UCEEG

Team Members:
Quang Du, Le Nguyen, Kim-Mai Bui, and Chung Thang Lap Duong

Mentor:
Dat Tran

School:
University of Canberra

PROJECT: Brain Speller

Brain Speller aims to help people with physical disabilities, motor conditions, and speech impairment by developing a solution that allows them to communicate and interact with the world around them. We have used a commercially available headset and developed a solution that allows a user to type letters to spell words on our interface; the user can then convert text to speech. Users can also use applications such as Internet Explorer, Microsoft Word and Microsoft PowerPoint as well as a mobility solution.

Theme/Millennium Development Goal: Help those who are living with physical disabilities

Technology Used:
Hardware
- Laptop
- Emotiv EPOC Headset

Software
- Microsoft C# .NET 4.0
- Microsoft Visual Studio 2010
- Text to Speech SDK
- Emotiv SDK

Inspiration: We looked at the percentages of people living with disabilities and found that they were so vast. It really affected us deeply and we wanted to help them perform simple day-to-day activities that we definitely can take for granted. Our mentor pointed one of our team members towards brain computer interface studies, we looked at how we could help them with this technology. We discovered there is just so much potential. We invented a solution to raise productivity and promote independence by allowing them to communicate and interact with the world around them.

Future Plans: We plan to work with companies to embed this technology into appliances that we use every day. Making the headset an input device that can be used with all applications, not just the ones that we have applied them to.

Team Rapture

Team Members:
Sahidul Islam, Mustakim Ali, and Avishek Ahmed

Mentor:
Ahmed Niaz Morshed

School:
American International University – Bangladesh

PROJECT: Third Eye

In today's world, smart phones and cloud computing blessed all of us with enormous power and we are thankful to this wonderful advancement of technology. But have we ever wondered if vision impaired people can take advantage of these technologies like we do? So far, the answer is "No, they can't". Therefore, we thought of making this smart phone device an eye for those people and we call it the Third Eye. With Third Eye, we will help them. We will help them to be free. The project Third Eye was designed for the vision impaired people so that they can live their life in a way similar to the normal people. If that can be achieved, not only the vision impaired people would be able to end their frustrating and miserable life, but they will be contributing to the national and thus world economy which will lead the whole world to take a giant step to reduce hunger and poverty. Third Eye is a solution consisting of 17 different problem solving features for the vision impaired people such as Routing, Accident Detection, Nearby Places, Games, Music, Email, Phone, SMS, E-book Reader, Paper Book Reader, Weather, Time, News, Facebook, Wikipedia, Bing etc. Third Eye is a Windows Pone 7 application, its user interface is designed in such way that vision impaired people will get audio feedback from wherever they touch on the screen. It will help them to reach from a location to another location by providing proper instructions (e.g. turn left, turn right, keep going etc.) using GPS and compass. As they cannot see, they can use their phone camera as an eye to read books using OCR technology. To enhance the greatest asset they have got, their hearing sense, we have created a game by which they will hear moving objects sound coming towards them from different angle and they have to guess that sound by moving their phone on that direction.

Theme/Millennium Development Goal: End Poverty & Hunger

Technology Used: Windows Phone 7, Silverlight, Azure, Bing, ASP.NET, SQL Server, and Microsoft Speech API

Inspiration: In our surrounding world there are many problems and many people are suffering. To realize or feel those problems you need an inner eye. When we decided to participate in the Imagine Cup, that same day we saw a vision impaired woman and her suffering touched our soul. We decided to do something for those misfortunate people. You have to look in-depth of a problem to find out the appropriate solution. That is why we visited a blind school and had discussions with those vision impaired students and their teachers. We found that, visiting some new places is one of the toughest problems that the visually impaired face. It is hard for them to figure out where to go, and how to go. They can't read, they can't use internet and in their life the word "entertainment" is often absent. So we, Team Rapture, tried to create a solution, a Third Eye" for them.

Future Plans: We would like to see Project Third Eye on every vision impaired people's hand and see them smiling with the help of Microsoft. We believe, Third Eye will make their lives better. It's a small step and with this step we are calling all mankind to come and join us, let's change the world. We are altogether, working hard no matter what happens, we will certainly win the heart of millions of vision impaired people on this blue planet, that's the motto of our work.

SPU Team

Team Members:
Igor Perić, Branko Krstić, and Aleksandra Ružić

School:
Slobomir P University

PROJECT: FloodSim Project

Our Imagine Cup 2011 entry addresses the inability for people to predict water movement direction and its amount on land surface in various disaster scenarios including flood, dam collapse, tsunami, massive rain, etc. We thought about this issue and concluded that people's decisions in these cases were based only upon pure feeling or, in rare cases, rough mathematical estimation. We tried to reduce the inevitable impact disaster has to make by developing set of tools for approximation of different flood scenario outcomes. We made the execution extremely fast by using the parallel processing power of fast GPU processors. This enabled simulation preview in real time. This gave people ability to see predicted results of their actions on computer screens before they act in real world. It will also keep impact of flood on human lives as low as possible. Additionally, services that we built are capable of sending early flood alerts in the form of e-mails and SMS messages to all subscribed users that are in danger (based on simulation results for their location). Users can subscribe to alerting services or browse through all uploaded simulation scenarios on ASP.NET web site, Silverlight application or Windows Phone 7 application.

Theme/Millennium Development Goal: Ensure Environment Sustainability

Technology Used: Bing Maps, XNA Framework, WCF, Azure, Silverlight, ASP.NET, Windows Phone 7

Inspiration: We were inspired by the critical flood situation that hit the city we live in. The nearby river flow intensity was increased and it went out of its banks so that most of the land around us was flooded for a couple of days. Actions were done based only on hints and feelings about what's right and what's wrong. No real estimation was made before action occured. People were not well informed and no one knew if the situation would get worse and if so, by how much. We didn't like all of the uncertainty, so we decided to try to reduce it andtry to keep people safer and make actions that the civil protection agencies are conducting that much more reliable. Further along, Japan was struck by a tsunami wave. We decided to improve our software so it can simulate situations like that as well.

Future Plans: It depends on people's interest. We, first of all, plan to discuss its usage in our local state government. If they show interest we will try to improve its accuracy and implement more features to make it more helpful in disaster scenarios.

LevelUP

Team Members:
Adailson de Castro Queiroz Filho, Gabriel Magalhães da Luz, Hugo Rodrigues da Silva Filho, and Júlio Rodrigues de Mendonça Neto

Mentor:
Francinildo Kleyson dos Santos

Schools:
Faculdade dos Guararapes; Faculdade Maurício de Nassau; Universidade Federal de Pernambuco

PROJECT: EDUACADEMY

The project EduAcademy is an educational platform based on cloud computing, targeted to educators and educational institutions. It promotes integration and interaction between educators and the dissemination of activities that use technology in classrooms. It consists of three modules, which are its pillars: The EduSocial, Multi-Activities and HelpSystem.

The EduSocial is a social network focused on educators and educational institutions and is responsible for interconnecting them. It also connects the other two modules to the platform, giving access to them and displaying updates, news and novelties.

The Multi-Activities are designed for specialized educational software that teachers can use in the classroom with students. All activities are set by educators, so they can implement activities according to the real scenario of their students.

The third pillar é HelpSystem, which is a space where educators can help each other by sharing experiences, taking questions and even talking about a certain subject. All this through chat rooms, forums and messaging. This way they can help themselves and minimize the difficulties that could have in the classroom.

Theme/Millennium Development Goal: Universal Education

Technology Used: In this solution we used Windows Azure Platform, Silverlight, ASP.NET, AJAX, WPF, Reality Augmented, OpenGL, Voice Recognition provides by the Speech SDK, Apps with multi gestures technology and others.

Inspiration: We believe that education can improve the world, make it better for people. By providing a good education for people, they will work for a better world. We were inspired by the revolution caused by social networking, the internet, new technologies such as Augmented Reality, touchscreen.We decided to use these things in creative ways to support teachers while they make efforts in the classroom.

Future Plans: We intend to get government grants, private companies partnerships and investors to raise fund to finish the project and make a product that benefits many students, educators, and benefit all of society.

Walk2Help

Team Members:
Ivelin Mollov, Ivaylo Hinov, Alexander Dalemski, and Ivan Garbev

Schools:
New Bulgarian University, Sofia Technical University

PROJECT: Walk2Help

Walk2Help is a social application that rewards users for saving the environment. Users gain credits for saving CO2 by walking and have the ability to use those credits to support “causes” of their choice. A “cause” could be anything or anyone that requires support, for example starving kids in Africa, funding of medical research, supplies to countries impacted by war, proceedings for natural disasters and so on. Once a "cause" reaches the required amount of credits, a Sponsor then fulfills the donation. As each user earns credits or gives their credits to a “cause” of their choice, their achievements are shared on social networks like Facebook, Twitter and Foursquare. Sponsors benefit from the social marketing and social responsibility that they demonstrate. **Getting involved is easy:**

1. Earn credits by simply walking instead of driving. Walk2Help rewards you for this—you don't have to pay for anything!
2. Go to your Profile and assign your credits to a "cause" of your choice. Support what you believe in.
3. Once a "cause" reaches the required amount of credits, the Sponsor will fulfill the donation.

Walk2Help establishes a circle of win-win situations, where each participant supports the other:

- User’s achievements are shared with friends and family on social networks. Their achievements advertise the Sponsors and the "causes"
- Sponsors benefit from the social marketing and chatter about their responsibility to global problems. They have the potential to receive tax benefits and reputation in social responsibility.
- People and organizations in need of assistance receive support and donations. Essentially, Walk2Help collects the joint efforts of many people to provide aid when and where it is needed.

Theme/Millennium Development Goal: Ensuring Environmental Sustainability - is the main category under which Walk2Help falls under, however the solution also supports Ending Hunger and Poverty, Achieving Primary Education for Everyone, Combating Widespread Disease” and potentially many other global problems.

Technology Used: Windows Phone 7/Silverlight

- Microsoft Windows Azure, including Microsoft SQL Azure
- ASP.NET
- Windows Communication Foundation and REST services
- ADO.NET Entity Framework

Inspiration: To use our skills to create applications that make a difference.

Future Plans: After Imagine Cup, Walk2Help will introduce new features to the application making it even more entertaining and engaging for users. The team will seek out support to a wider variety of "causes", introduce new ways to recognize contributions, and provide new methods of advertisement for Sponsors.

SOFTWARE DESIGN

CHILE

Lifeware S.A.C.

Team Members:
Mario Ogalde, Jorge Alviarez, and Diego Cid

School:
Universidad Tecnica Federico Santa Maria

PROJECT: LifewareIntegra

Today, approximately 10% of the world population, more than 667 million people, suffer from some sort of disability. Our solution will reduce the impact of living with a disability and will allow these people to use computers and access education and employment, ensuring them a much higher quality of life. LifewareIntegra is a totally innovative software solution that takes advantage of cutting-edge technology to make the users´ physical limitations a non-issue, enabling them to use a computer and the internet, no matter the degree of their limitations. LifewareIntegra includes a set of tools that enable complete access to a computer and its applications. What differentiates our solution from all others is its capacity for personalization. It can detect the facial expressions, movements, speech, and thought patterns that are best suited to that user. And, because our software reads and records neuro-signal patterns, with enough training and mental stamina, a user could train him or herself to produce a specific signal pattern when thinking of a specific word. These Think Patterns enable users to control the computer without movement or voice commands. We at Lifeware imagine a future where our disabled brothers and sisters have the same opportunities for education, employment and social integration as we do. We imagine a life where they are defined not by what they can't do, but where they have access to tools that focus on and function because of what they can do. Creating LifewareIntegra, we wanted to make a new life for the disabled.

Theme/Millennium Development Goal: Universal Education, End Poverty & Hunger, Help for Disabled People

Technology Used: NET Frameworks 3.5 - 4.0, Visual Studio 2010 Professional, XML Web Service consumption, Emotiv Epoc Brain-Computer Interface, SAPI 5.4, Windows Presentation Foundation, and WinApi.

Inspiration: Our inspiration began when we thought about how difficult it is for disabled people to live in the real world. We believe that many of their problems can be solved and their life can become better through technology solutions. When we saw that technology wasn't available for those who cannot move their hands, we wanted to solve this as our primary goal. We want disabled people to have access to a complete world (friends, social networks, education and work) through computers and LifewareIntegra Software Solution.

Future Plans: After participating in the Imagine Cup, we will continue investigating how to allow people with more extreme disabilities or rare diseases to have access to our technology and to the complete variety of tools that a computer can provide. We have already set up our company, so we are eager to continue developing different software programs in order to help those who need it the most. We believe it is possible because we have already seen what a solution like ours can do for others. We will not stop.

SOFTWARE DESIGN

CHINA

Care Everyone

Team Members:
Bo Wang, Yanan Jian, Hao Lin, and Zhongsheng Zhao

Mentor:
Francinildo Jianshe Jin

Schools:
City Institute, Dalian University of Technology

PROJECT: UWing

UWing gives physically disabled people a pair of wings to get access to information, in the virtual world of computers, they can act like healthy people and even control their computers in a faster way.UWing is an information accessbility assistant for physically disabled people. Users who use this project wear a hat which is inlayed with a tiny green cube to control the movement of a cursor and speak out commands to finish the action of the cursor. We also developed several applications aimed at helping physically disabled people get information such as a special web browser, phone service, short message service, social interaction and more. With this project, whenever users want to contact friends, they can open their mailbox in a natural and convenient way, edit e-mail with a specific input method or make phone calls only by speaking out the name of the friend. Users can also play computer games for entertainment with the tactful method of moving their head and using the speaking commands. The main idea of UWing is to let people who suffer from upper limb disability use computers without barriers. Thus they can better blend in to our highly developed society. It will also ease the burden of their families and allow many to live on their own.

Theme/Millennium Development Goal: Help for Disabled People

Technology Used: Internet Explorer, Silverlight, Windows 7, OpenCV, SAPI

Inspiration: The number of physically disabled people in the world is increasing. More and more people are suffering from such misery and these people are all around us. We wanted to add some light to their dim life.We want them to to be able to act as healthy people in a virtual world that a computer creates for them. So we designed this project to let them control computers without needing the use of their hands. This allows them to receive and get information in a natural and convenient way.

Future Plans: We plan to access our users needs more extensively. We also want to make our project global and work to improve our project into a real product.

CarPooling Mate Finder

Team Members:
Mario Alberto Barrantes Quesada, and Wagner Alberto Alvarado Quesada

School:
Universidad de Costa Rica

PROJECT: Carpooling Mate Finder

Carpooling Mate Finder is a phone application that supports the carpooling activity by registering the user's common travel routes and schedules. This application uses GPS technology to get your location, and automatically, register your routes. Users can then make searches for possible travel mates that have routes that match with that location and schedule. Carpooling Mate Finder's objective is to reduce the quantity of cars in the streets and by this way decrease the traffic and reduce gas emissions. Carpooling Mate Finder has also a website where users can do the same as they would with the phone application and it has more options like making advanced searches. This application is connected with social networks. You can register by using Facebook. There is a functionality of reporting transit status where users can select the option to publish their transit status on their Facebook wall. Because privacy is very important, we created a system where the users can send requests to be a travel mate, and then they can be accepted as a trusted travel mate. In just these cases Carpooling Mate Finder will expose user's contact information.

Theme/Millennium Development Goal: Ensure Environment Sustainability

Technology Used: Windows Azure (SQL Server Azure), Bing Map and Bing Services, Windows Phone 7, Windows Communication Fundation, and Facebook API.

Inspiration: We started with this idea because the car traffic is a problem that affects us every day. One day, we were listening to the radio, and they were talking about all advantages of carpooling, and we noticed that there was a law in our country (Costa Rica) that allows unrestricted cars to drive during the restriction day only if they are carpooling. Despite this effort, we see that often there is one car for one person on the streets. So we thought people are minded to practice this activity but they don't find the correct travel mates. We can connect them And that's how this project started.

Future Plans: We plan that Carpooling Mate Finder will be implemented initially in Costa Rica. We think that this initiative is going to be welcomed because if you use it, you have the possibility to leave your car at your home and save money. Additionally, nowadays people are very concerned about the environment, and this is Carpooling Mate Finder's objective. We are currently searching for sponsors. We think that a lot of companies can benefit from being a part of this green initiative. After this proof-period in Costa Rica, we will be ready to implement Carpooling Mate Finder in every important city in the world lincluding Shanghai, Tokyo, Cairo, Sao Paulo, Paris, and more.

apptenders

Team Members:
Ivan Borko, Dominik Tomičević, and Ivan Antonić

Schools:
Faculty of Electrical Engineering and Computing, University of Zagreb

PROJECT: KiDnect

KiDnect is a project which is designed to allow physical therapist to increase their relationship with a client in such a way that they will be able to record an exercise which a particular patient or child requires, and that child, while watching, can then repeat the exercise. This will make their interaction to be much richer. What is actually ideal is that KiDnect has the ability to monitor the exercises if a child repeats them correctly, and will record if they are completed correctly. These same recordings will be archived, which allows monitoring of the child during the months and years of therapy and also enables an insight into the child's progress. In this way, we approach every child with the sort of manner that their degree of illness demands, which allows the individual access and customization to every child. The child is approached in a completely appropriate way, and the exercise will be seen as a game that actually has to be performed on a daily basis. Using broadband Internet,KiDnect it will be accessible in every home to the families that have no possibility of going into institutions that are equipped adequately for such children. This allows our services to be accessible to children who live in rural areas.

Theme/Millennium Development Goal: Child Health

Technology Used: Microsoft .NET, Microsoft XNA Game Studio 4.0, OpenNI, Microsoft Kinect, and Windows 7

Inspiration: We started with the idea of using a Kinect controller for an Xbox console, because we saw how revolutionary it is. What we noticed is that it is used only for purposes of entertainment but can be used in so many other purposes. We decided to use the console for medical purposes. To connect game and therapy in one! During the project development, we decided to make software which would be helpful in physiotherapy. As we know, there are games for kids and adults, aerobics, dance and others What about games for children that are limited in their movements? They have no choices as far as participation in normal daily life. Every day, on streets, in schools, we see those children who are limited in their movement. Our idea to create software adapted to children with neuromuscular conditions, such as cerebral palsy was born—KiDnect.

Future Plans: Our goal is that KiDnect is available in home of every child who can use it. First of all we want KiDnect in every organization that works with cerebral palsy patients so they can use it and send us feedback the application usability. All the time, during the project development, we were collaborating with volunteer associations, so we want to expand those trials further. We will listen to their advice and continue to improve the application. Some major hospitals are also already interested in our project so we want to collaborate with them and make our project ruseful for children who really need it.

iDOC

Team Members:
Diomidis P., George Nikolaides, Costantinos Costa, and Antonis Mavris

Mentor:
Charalambos Poullis

School:
University of Cyprus

PROJECT: iDoc

Currently, there is an abundance of information on the internet about doctors, medical institutions and hospitals. Yet none seems to be very helpful at the time of an emergency. Our objective in developing iDOC, is to make medical information quickly, easily and freely accesible to everyone in the world through their mobile device. It is an innovative solution utilitizing cutting-edge Microsoft technologies. In particular, the solution comprises two applications: a mobile application which will be freely available to all users. and a web application which will be a subscription-based model, for all medical professionals to be able to access.

Theme/Millennium Development Goal: Gender Equality, Child Health, Maternal Health

Technology Used: Bing Maps, Internet Explorer, Silverlight, Windows 7, Windows Phone, Other

Inspiration: Despite the fact that there is an abundance of information on the web about doctors, medical institutions, and hospitals, it is not helpful at the time of emergency. For example, if you are in a foreign country like Africa when you need to seek medical assistance, you have only your web enabled smart-phone. Our goal is to make medical assistance just a click away and available to everyone through the use of cutting edge technologies - regardless of where they are on the planet.

Future Plans: We plan to complete the commerce module for handling subscription payments with credit cards. We are also going to relocate our own web-space and domain name. Another plan is to revise and incorporate more medical information. Finally we are going to market iDOC to doctors and medical institutions.

Celebrio Software

Team Members:
Martin Novák, Petr Kunc, Pavel Smolka, and Jan Volmut

Mentor:
Tomáš Pitner

School:
Masarykova Univerzita

PROJECT: Celebrio

There are nearly 117 million of people over age 65 in the U.S. We designed Celebrio system, to provide them with better access to computers. Celebrio is a web operating system for the elderly, which is unlike conventional operating systems. It is specifically designed for people with low vision, bad dexterity, and a fear of computers. It includes advantages of optimization in the touch screen that provides a natural way to control the omputer using only fingers. Now with Celebrio, my grandmother uses a tablet which is a small lightweight computer screen controlled by touch, and she doesn't need to learn to work with a mouse or keyboard. She can see the large icons and simple applications that can be operated using just her single finger. The world is opened up to her in a new way! All a user has to do is to download our application built using Visual Studio, .NET framework and C # and then install it. This application is the centerpiece that uses the internet to communicate with Windows Azure servers in Dublin.

Theme/Millennium Development Goal: Improving Living Standards for the Elderly.

Technology Used: Windows Azure, Visual Studio, .NET framework, C #

Inspiration: The inspiration was our team leader's grandmother who could not use the computer and was afraid of it but quickly learned how to use a computer using Celebrio. We knew about Imagine Cup and we knew that it is a competition which changes lives and that it can change lives of our grandparents as we use the technology to help the elderly live a longer and younger life.

Future Plans: After winning the national round of the Imagine Cup, we started receiving a lot of attention from people and media in the Czech Republic. This applause gave us motivation to create our own private company and start a business which would never have existed without our Imagine Cup idea. We are already growing and finding new people and partners who want to work with us.

SOFTWARE DESIGN

ECUADOR

Falcon Dev

Team Members:
José Vicente Anilema Guadalupe; Henry Javier Paca Quinaluiza, Gerardo Francisco Pérez Layedra, and Juan José Morales Ruiz

School:
Escuela Superior Politécnica de Chimborazo

PROJECT: SkillBox

SkillBox improves traditional education and early stimulation methods, to help when working with those that have special learning disabilities. To achieve these learning objectives, SkillBox uses features that are oriented including activity games. The architecture that we used is modular, giving us the possibility to insert SkillBox in to mobile devices such as cellphones, PDA's and also in the future, we want to integrate it into television, cinemas, and more. SkillBox needs a webcam, Windows OS, and basic elements that can all be found in most computers. Then SkillBox is accessible to many users economic structure. SkillBox includes our sign translation software E.A.S.Y that translates spoken language to sign language, activities with augmented reality that help with developing memory, reasoning and logic, and a finally a communication board to allow those with serious motor disability take part in the learning.

Theme/Millennium Development Goal: Achieving Primary Education for Everyone.

Technology Used: WPF, Silverlight, Speech Recognition, Augmented Reality

Inspiration: Our main motivation always has been the creation of accessible technology for all kind of users. Our goal was to make it inexpensive and easy to operate. When we started, we didn't have an idea of what group could benefit from this technology, but when we researched the flaws in our city we noticed that there are not information methods that aid in teaching children with special needs. From that point forward, we decided to investigate the needs of this group of people. We gained a new perspective for sure. We realized that with the new tools we created we could help these people and also help their teachers to make their work easier than before.

Future Plans: We want SkillBox to reach everyone that need it. We have been talking to our government to implement it in all the schools in our country. We have already implemented SkiilBox in the Institute of the Deaf of Chimborazo. The functionality of SkillBox allows us to integrate SkillBox in to other devices such as Windows Phone, cinema, box offices, cash desks, customer services areas and more.

SOFTWARE DESIGN

EGYPT

CairoTeam3

Team Members:
Mostafa Nageeb, Mohamed Ibrahim, Ahmed Gamal, and Nouran Raouf

School:
Faculty of Computers and Information – Cairo University

PROJECT: Tabeeb

Tabeeb is a healthcare solution that addresses the needs of doctors, patients, and medical receptionists with the use of the web, and mobile devices. Tabeeb enables patients to make an appointment online. It helps the medical receptionist organize and manage their clinic. Tabeeb also provides the patient with a way to monitor the queue at a clinic through their mobile application and help them make sure that the doctor is there. It also helps them get there on time and avoid waiting for their appointment. We also developed in Tabeeb a filing system for doctors to keep records of their patients' medical history.

Theme/Millennium Development Goal: Monitor People's Health, and Save Time for Doctors and Patients.

Technology Used: Microsoft Windows Azure, Windows Phone 7 SDK, Microsoft SQL Azure

Inspiration: We know about the Imagine Cup since our first year in college, but we never thought of competing in it. This year, when we were thinking about an idea that solves a real problem in a real world, and after seeing the great effort Microsoft is doing in making the Imagine Cup such a successful competition, we decided to go for it.

Future Plans: We are planning to launch our project after we get back to Egypt and we are still developing our marketing and sales plans, and we already have developed a business model.

SOFTWARE DESIGN

FINLAND

Team 25k

Team Members:
Kimmo Koski, Johannes Maliranta, and Petteri Lehtonen

Schools:
Turku University of Applied Sciences, University of Turku

PROJECT: Vigilis

Vigilis is a tool to help parents keep a watchful eye on their children. It is especially useful in this new, connected world where socializing – good and bad – is done with the press of a button. Vigilis also provides children with the ability to immediately and automatically communicate and document any cyber-bullying or sexual harassment that they experience online or via mobile devices. It's designed to function as an instrument between the children and their parents, encouraging them to work together to solve the problems and dangers this information age has brought to the forefront.

Theme/Millennium Development Goal: Child Health

Technology Used: Windows Azure, Silverlight, Windows Phone 7, Bing Maps

Inspiration: This is one of the few problems in this world everyone can actually relate to. For example every one of us has seen bullying. It's unbelievable how something so hurtful can be happening in so many different levels. That's why we wanted to take action.

Future Plans: We will provide a closed beta in six months for testing purposes. We hope Vigilis is available to our users in the beginning of year 2012. First release will support English and the future goal is to also support most used languages throughout Europe. At launch only the Android client is available, but our vision is to provide clients to all major mobile operating systems.

SOFTWARE DESIGN

FRANCE

Team Dream'n'Touch

Team Members:
Thibault Delval, François Dupayrat, Ghiles Ikni, and Jonathan Pamphile

Mentor:
Casandra Prerost

School:
EFREI (French School of Electronics and Computer Science)

PROJECT: eBakPak

The eBakPak is a smart e-BackPack designed for primary school kids (K-grade 5). It provides them with a unique set of interactive tools and content to help them with their learning needs. It includes a mLibrary (m for multimedia) and fun games. The eBakPak also contains tools for teachers to aid with teaching and also to aid in their administration needs for the class. Teachers can lock the application, launch special games, open books at a particular page, send emails to parents and more. The eBakPak is designed to help kids learn at their own pace with the Manabu, a virtual avatar that plays with the kids and help them with their learning.

Theme/Millennium Development Goal: Primary Education

Technology Used: We believe the best tool to teach young students are not standard computers but tablets, with the so-called natural user interface. To build the application running on the tablet, we used XNA. Developing with a gaming framework will make the application easier to port in other platforms. Server-side, we have .NET WebServices running on Windows Server 2008. Finally, the administration interface is built using WPF, as it fit well in the environment.

Inspiration: François and Thibault are from France, Johny is from the Caribbean Islands and Riley is from North Africa. We all had different educations, some of us had our parents support us, some could afford tutors and private schools while others had to work to pay for their studies. In a team of 4 people we have all these different paths and we all think that it's not fair, that primary education (the basics) differ based on where you live, or who your parents are. That's why we designed the eBakPak and added into it the Manabu. Everyone is asking us where we got that Manabu idea so here's the story: The Manabu is for all the little boys and girls playing with their imaginary friends. The Manabu is the virtual creature we wanted to have when we were kids to help us with our homework. The Manabu will be the virtual creature that will help our kids with their homework.

Future Plans: We are currently focused on the competition. We don't really have any clear plans for the future. We will re-evaluate it when the competition is over.

majiRanger

Team Members:
Matthias Voigt, Veronika Thost, Rene Ranft, and Johannes Schuricht

Mentor:
Stephanie Eichler

School:
Dresden University of Technology

PROJECT: majiSolutions

Our project addresses the supply of drinking water. In this context, one of the toughest problems in our world is the efficient distribution of drinking water that is availble for consumption. Thereby, all existing sources need to be considered. In Africa, there are NGOs and governments collecting important data about all available water resources. Our product, majiSolutions, supports an effective data management program and provides appropriate visualization techniques for the evaluation and analysis of existing information. In this way, majiSolutions also enhances the conception and planning of new installations for better and regular provisions of drinking water. MajiSolutions is a three-fold product supporting the capturing, processing and presentation of data about water sources with the attention focused on both the quality and quantity of available water. MajiMobile, a Windows Phone 7 application, was developed to capture the information efficiently on the spot. The core of majiSolutions is the majiFramework, a set of WCF services, for data processing and analysis. MajiWeb, a Silverlight application, provides the means to display and manage the data appropriately.

Theme/Millennium Development Goal: Child Health, Maternal Health, Environmental Sustainability, Global Partnership

Technology Used:
Written in C# & XAML:
- WCF RIA Services : majiFramework
- WPF Application : majiConfigurator
- Silverlight Application : majiWeb
- WP7 Application : majiMobile

using:
- Bing Maps
- Microsoft Translator
- LINQ
- Windows Server 2008
- Microsoft SQL Server

Inspiration: In 2009 a team member, Johannes Schuricht, went to Tanzania as a volunteer for more than one year. There he met Joerg Henkel, who is working for TaWaSa.Net (Tanzanian Water and Sanitation Network), which deals in the Water and Sanitation sector. Together they developed the idea of a mapping software for improved water supplies. With the team of Veronika, Matthias and Rene Johannes was able to realize the idea and they developed majiSolutions. Now the the idea was improved and majiSolutions can be used for mapping geographical objects of each domain.

Future Plans: At the moment, a pilot project is being planned in cooperation with the Ministry of Water in Tanzania. Also a partnership with the Tumaini University in Iringa has been founded so that we can map the cultural tourism development for the Southern Highlands of Tanzania. Furthermore, we envision establishing a start-up to pursuit and promote majiSolutions more officially in the future. We are still in close contact with NGOs and the government of Tanzania.

Epione

Team Members:
Dimitrios Tzionas, Stamatis Georgoulis, Konstantinos Vrenas, and Stefanos Eleftheriadis

Mentor:
Leontios Hadjileontiadis

School:
Aristotle University of Thessaloniki, Greece

PROJECT: Epione

In Greek myths, Epione was the goddess of soothing of pain. She was the wife of medicine god Asclepius, mother Hygeia (good health), Panakeia (all-cures) and Iaso (healing). Our project Epione is an innovative pain management system (concerning both physical and psychological pain), developed using the Microsoft .NET and Azure cloud platform. Epione exists as a discreet and unobtrusive gadget on the desktop of the user, that: "feels" their pain, through novel image (using a webcam) and biosignal (EEG using Emotiv) processing techniques, in order to detect pain expression and user's psychological condition (unexpressed pain), respectively. It tjhen interacts with them by triggering a biofeedback system (stimulators - T.E.N.S.), a 3D virtual reality world (Epione Vault) and experiential interaction (using Kinect) that distracts user's attention from the feelings of pain, and loads appropriate music, that induces (binaural effect) low frequencies (1-8 Hz) to the user's brain to relax them. It supports the physician through monitoring and providingadvice to the user regarding therapeutic scenarios, through their Windows Phone. It helps the user to share their pain via social networks. It provides relief to users that suffer from phantom limb pain, simulating (using Augmented Reality techniques) the missing body parts, and enabling the user to move the simulated virtual limbs with the power of their mind (using EEG).

Theme/Millennium Development Goal: Monitor People's Health

Technology Used: Bing Maps, Kinect, Silverlight, Windows 7, Windows Phone, XNA Game Studio, Other

Inspiration: Pain is the oldest medical problem and the universal physical affliction of mankind. It has been little understood in physiology until recently. History reveals that pain is different for every person who experiences it. It is understood differently in different times and places. Working to relieve chronic pain is a a medical and social emergency. Adopting the spirit of UNESCO and World Health Organization (WHO) principles, Epione aims at creating a pain management environment that can assist patients, with different levels and types of pain, and physicians during the process of easing their suffering. Epione contributes to the new culture of personalized healthcare and improving the quality of life at a global level.

Future Plans: Epione is an active project that is constantly being improved. We have taken into account several considerations in order to develop a strategic plan that will over time encompass cross-case testing and evaluation of the feedback from our target group. We also made sure to include plans for an extension of Epione to a multilingual system. We want to includesa variety of pain therapy imagery tasks, including those that enable international use and further increases a variety of phantom limb pain tasks. We hope to create a new module that can assist with pain management during labor and we will further customize pain therapy tasks to different pain sources and the patient age based on the analyzed physiological information inputs.

SOFTWARE DESIGN

INDIA

Infiniti

Team Members:
Harpreet Singh Sareen, and Amanjot Singh

Schools:
University College of Engineering, Punjabi University, Patiala

PROJECT: Web@ssist

Web@ssist primarily consists of an technology toolbar that can inject various functionalities and tools in any web page based upon the user's preferences. This customizes the way that a disabled person can view and interact with the web pages without having to install any additional desktop software. The advanced framework of Web@sssit allows the use and integration of 'cloud based AT tools' a very favorable approach, since these solutions and services are no longer tied to any particular system. This means that these tools can also be used on a system in which the user does not have complete control or administrative privileges. The approach works by injecting an HTML code fragment into a web page and a remote JavaScript file introduced relies on a remote database communicating with it through AJAX and JSON to evoke the user preferences and henceforth some plugins. Each plugin is a singular utility (e.g. text enlargement, virtual keyboard, alternative text input mechanisms, text-to-speech etc.) which can be used alone or in most cases in combination with other plugins. Saving the personal accessibility configuration of a person on-the-cloud removes the specific machine dependence. In addition, many websites that do not take accessibility techniques into consideration, can then be made accessible on the user's side. The attempt of Web@ssist to move the accessibility solutions from the user's computer to the web. It aims to fulfil the needs of the unique users from the cloud itself.

Theme/Millennium Development Goal: Help for Disabled People

Technology Used: Internet Explorer, Windows Azure, Other

Inspiration: The idea of changing the world employing the power of software is very thought provoking and motivates us to the edge . As part of the Imagine Cup, we started early with the analysis and background research for the problem we wanted to solve. The main aim was to go for a very feasible and practical solution that could really make a difference. About 10% of the web users have special needs which are not addressed correcty with the current web configurations. Among the adult computer users (working age) in the United States alone, 1 in every 4 has a vision difficulty, 1 in every 4 has a dexterity difficulty and 1 in every 5 has hearing difficulty. The huge figure of population being affected does not stand to be neglected and this inspired us to work for the access of the web. While it is rightly said, everybody can write the code but only a few have the power to change the world through software! Our team certainly strides to make a virtuous effort towards a truly inclusive web.

Future Plans: We intend to carry on with the same project for future too because of the open request for more assistive techniques specific to some disabled users. We have got requests from numerous people ready to volunteer for the further activities related to problem related guidance, testing and added inputs to take our project to attired completion.

SOFTWARE DESIGN

INDONESIA

Gatotkaca

Team Members:
Dody QoriI Utama, Arganka Yahya, Kania Audrint, and Anggunmeka Luhur Prasasti

Mentor:
Tauhid Nur Azhar

School:
Telkom Institute of Technology, Institut Teknologi Bandung Indonesia

PROJECT: Childhood

Childhood is a project which is built to educate mothers about healthy eating habits for children and recognize child development milestones through their own smart phone. It allows a mother to become more aware about their children's health needs and increase parent involvement which is crucial to proper child growth. Childhood is also a program that assists with early child disease detection by utilizing the images of eyes and saliva. Our goal is to decrease the child mortality rates in the world.

Theme/Millennium Development Goal: Reduce Child Mortality

Technology Used: Azure, Microsoft Silverlight, Microsoft SQL Server 2008, Microsoft Visual Studio 2010, Bing, Microsoft Expression, Windows Phone

Inspiration: The design and development of Childhood stems from the fact that many parents struggle with a lack of information about healthy eating habits and the importance of breast-feeding. Childhood' aims to deliver comprehensive guidance for recognizing baby development milestones, measuring child growth, and detecting whether there is unusual children development. This system is also capable of analyzing food composition that agrees with healthy eating habits for children. In terms of worldwide deployment, it is highly feasible because WHO has released standardized criteria for measuring child growth for every country.

Future Plans: Implement childhood and market it together with Indonesian medical association so that it is able to be used by parents to nurture their children.

Team Hawk

Team Members:
Kosar Othman, Choman Jalal, and Enjii Isa

Mentor:
David Cook

School:
American University of Iraq—Sulaimani

PROJECT: Refugee Registration

This project is about helping refugees by providing a fast and a secure way of registering them. We know that refugees are considered to be nonexistent until they are properly registered by the government or an NGO. Our project provides a secure and a fast way for registering refugees by using a mobile device, in our case a Windows Phone 7 device. We have developed an application in which we collect information about refugees and their welfare needs and we send the information to the database stored on our domain. By using this technology we get rid of the old way of registration which was through paperwork. We believe that paperwork requires time, money, and many employees. And paperwork is not secure, because papers can be lost, burnt or even altered. But in our application the information is securely transferred to the database and we avoid the risk of losing information by securing the database using login credentials. By using our application, we hope governments or NGOs can help refugees and provide humanitarian aids as soon as possible.

Theme/Millennium Development Goal: Ending Poverty & Hunger

Technology Used: We used C# programming language to develop the Windows Phone7 application. We needed a way to transfer the information from our application to the database, so we used a web service using ASP.NET. This web service is a middleware used to connect our application to the database on our domain. And for creating the database we have used MS-Access for now, but later on we believe that we need to migrate it to SQL server.

Inspiration: There is a refugee camp near our university. Student and faculty from my university are helping those refugees on a regular basis. There is a weekly program in which our university provides education and entertainment for children in that refugee camp which is called (Qalawa Refugee Camp). For our team this was enough to think about something that not only helps refugees from Qalawa, but also refugees from all over the world. So we brainstormed and researched about what should be done to help refugees. And we came up with this project since we think it is a very important step to help refugees.

Future Plans: We are willing to send this application to a refugee camp in Namibia in order to see how successful our approach is. Then we will further develop the application to a point where all the refugee information and needs are adequately are addressed in our application. We believe our project will help refugees and will change their lives for the better. This is also the first Imagine Cup in Iraq, being the finalist and representing Iraq in the Worldwide Finals is going to be an unforgettable experience.

Team Hermes

Team Members:
Matthew Padden, Aine Conaghan, Calum Cawley, and James McNamara

Mentor:
Padraig Harte

School:
Sligo Institute of Technology

PROJECT: Team Hermes

Team Hermes have developed an innovative, smart, simple yet sophisticated solution to address the second biggest killer of young people in the world today – road traffic accidents. Our goal is to create awareness of the link between road conditions, driver behavior and road incidents. We designed a device that plugs into the car. This device constantly uploads to the cloud information on how that car is being driven and where the car is. Our cloud application analyzes this data for dangerous driving behavior, providing instant feedback to both the driver and the car owner. It allows a third party to monitor the performance of the driver. This could be an anxious parent concerned about the safety of their teenager or a fleet manager monitoring the driving of his sales staff. It also analyzes road quality and acts as an early warning system for dangerous roads. This system is essential as the UN has declared this to be the decade of action for road safety, an issue the team is very familiar with and wanted to address. Our multi-disciplinary approach to this ever increasing problem will educate drivers about their personal driving behavior and save lives.

Theme/Millennium Development Goal: Reduce Driving Safety

Technology Used: Bing Maps, Internet Explorer, Silverlight, Windows 7, Windows Azure, Windows Live, Windows Phone, Windows Touch, Other

Inspiration: The number of road deaths in Ireland has reached an epidemic level in recent years. This affects us all on the team. We believe our solution will make drivers smarter, roads safer, and save lives.

Future Plans: Following the Worldwide Finals, we will pursue negotiations with various organizations so we can release Hermes as a commercial product. We intend to do it immediately to address the appalling statistics from road traffic accidents and to help the Road Safety Authorities worldwide. Indeed, winning the Imagine Cup would speed up building the necessary partnerships!

NeaSoft

Team Members:
Clemente Giorio, Raffaele Galiero, and Marta Ponari

Mentor:
Sergio Di Martino

School:
Università Federico Secondo Napoli

PROJECT: OMCR—Oculorum Moto Computer Regere

More than 16 million people in the EU are affected by different kinds of motor disabilities, over half of them have poor functional autonomy in everyday life. Severe neuromotor diseases can partly or entirely limit voluntary muscle control, thus affecting a patients's communication and social skills. Information technology assists disabled users with systems aimed to allow them to talk and write using special devices. With OMCR (Oculorum Moto Computer Regere), the Neasoft team has designed and put together a system able to bridge the digital divide offering severely disabled users a software that allows them to communicate, learn, and be entertained. In particular, OMCR is designed to be an intermediary between the user and Windows 7 enabling the user to operate any software and access the Internet's inexhaustible information. OMCR aims to become a voice and tool of expression for people with physical disabilities, which hinder their ability to communicate with the outside world. We want to simplify processes such as being informed, and learning to communicate with a PC for people that do not currently have the ability to do so. The strength of OMCR is its ability to adapt to any available webcam, thus offering satisfactory performance even with low-cost devices. This offers a controller-free interaction system that provides an innovative, feature rich, eye-controlled interface able to access a remarkably wide choice of software. It is now possible to explore, enjoy and work exclusively with your eyes.

Theme/Millennium Development Goal: Universal Education

Technology Used: Windows 7, Internet Explorer, Visual Studio 2010 Ultimate, Expression Studio 4, .NET Framework, WPF, OpenCV, gazelib, Kinect,

Inspiration: We were inspired by the book "The Diving Bell and the Butterfly" (Le Scaphandre et le Papillon) and the movie based on it. The book is the memoir of Jean-Dominique Bauby, a successful and charismatic journalist, that describes what his life is like after suffering a massive stroke that left him with a condition called locked-in syndrome. The entire book was written by Bauby blinking his left eyelid to choose the right letter from a frequency-ordered alphabet read by his assistant. The book took about 200,000 blinks to write and an average word took approximately two minutes.

Future Plans: After Imagine Cup, we have planned two different evolutions of OMCR project. The first one is related to the optimization and research of new interfaces aimed to make disabled people interact more easily. Then, we plan to conduct a market analysis to make these solutions merchandisable. The second one is related to the utilization of gaze-tracking technologies in non-medical fields. For example, the use of Kinect has nowadays considerably improved the gaming experience, which could be further enhanced considering eye gaze in addition to body movements.

Team MI3

Team Members:
Imairi Yasutomo, Yusuke Imai, and Motoki Tanaka

Mentor:
Takahiro Koita

School:
Dosisha University

PROJECT: Dr. One—Medical In Your Hand

Some people travel very far to reach hospitals from their homes. Often they lose their lives when they suffer from a common disease because the amount of doctors that are accessible are few.And they don't have appropriate abilities to understand the medical care treatments or read about them. When large-scale disasters happen the need for doctors increases substantially. Our project - Dr.One is a system to help these people. Dr.One has three innovative features. In generally, conventional diagnosis of disease should just need to use medical equipment. However, diseases can now be diagnosed without using any medical equipment because of our medical database that can help register many diseases and allow them to be diagnosed with 90% plus accuracy. This idea is called "General Medicine" and is the first feature in Dr.One. We implemented this general medicine algorithm in our system with doctors in Japan. In addition, you can also access Dr.One through a mobile phone. The second feature is a specialized database for developing countries or disaster areas. If the database is utlized, diseases can be diagnosed and it is possible to get higher diagnosis accuracy. When you bring Dr.One to an area, Dr.One learns that area's diseases by local doctors automatically. So, Dr.One becomes a clone doctor and can help to solve the doctor shortage problems. The third feature is various business opportunities that lead to employment For example, our solution can collaborate closely with drug makers, thus improving the infrastructure of telephone systems, and establish telephone support centers. Finally, Dr.One changes and creates a whole new medical structure in developing countries and will help to activate the local economy. We will with Dr. One make our dream a reality.

Theme/Millennium Development Goal: Child Health, Combat HIV/AIDS

Technology Used: Bing Maps, Silverlight, Windows 7, Windows Azure, Windows Phone

Inspiration: We are aware of what the most important mission is to solve medical problems. The other day, a mobile phone played an active part in the unprecedented great disaster that occurred in Japan because the mobile phone can easily exchange information between individuals with the most developed networks. We study information engineering. Therefore we wanted to create a new medical system based on an existing information infrastructure of the mobile phone network. We are convinced that our solution can make a new medical system which is really needed right now.

Future Plans: Our solution's next step is to add local diseases to medical database for use in developing countries or disaster areas. This additional process is manually done by doctors in Doctors Without Borders or NGO. We will put in our deepest efforts to make it a realization.

SOFTWARE DESIGN

JORDAN

Oasys Team

Team Members:
Monir Abu Hilal, Mohammad Azzam IV, Hani AbuHuwaij, and Yousef Wadi

Mentor:
Mohamed Saleh

Schools:
German Jordanian University, Petra University, Princess Sumaya University

PROJECT: Project Horizon

Project Horizon gives people with severe disabilities the chance to interact with computers, browse the internet and use all the features that information and communication technology have to offer. People who suffer from the inability to use their hands or limbs can now effectively and using a low cost solution take full control of their personal computers to browse the internet, easily type text and freely navigate through the vast world of communication. The project aims to make a low cost, easily installed, and user friendly mouse-like device that people with disabilities can control, even if their disability reaches the extent of not being able to move their hands or limbs. Also, it allows them to easily control and interact with their computer, and engage in different activities from the basic functions of viewing pictures and websites to advanced ones such as writing their own programs and applications.

Theme/Millennium Development Goal: Combat HIV/AIDS, Global Partnership

Technology Used: Bing Maps, Silverlight, Windows 7, Windows Live, Other

Inspiration: A friend of ours had a car accident which paralyzed her and she now suffers from quadriplegia. She used to love writing, drawing and socialzing, but after the accident she was not able to do any of that anymore. She inspired us to try to do something to help people with such cases, that was the dawn of Project Horizon.

Future Plans: Our future plans extend to have Project Horizon available for everyone in need for it around the world. We also want to promote the marketplace more in order to have more apps that serve more needs. We are also planning to extend the patients' abilities to control the phones entirely and to also create a software development environment for quadriplegic developers. We will be cooperating more with the NGOs around the world who are specialized in helping quadriplegics.

SOFTWARE DESIGN

KOREA

Four Leaf Clover

Team Members:
Yong Choi, Jung JaeMin, InSik Sin, and Im NamGyu

School:
Sejong University

PROJECT: DreamHUB

DreamHUB solution makes hope a reality for children living in the darkness of poverty. It aims to help those with the greatest needs of help, these hopeful beautiful children of the world. Everyone can make a real difference to those who most need it through social network services that use the Web and Mobile technology. DreamHUB enables a child to connect with several sponsors, in which by constant communication, the child's life will greatly improve and last longer. These sponsors will then help make new groups via their social networks. Children will be able to support themselves from hardships and despair eventually through DreamHUB.

Theme/Millennium Development Goal: End Poverty & Hunger, Universal Education, Child Health, Combat HIV/AIDS, Global Partnership

Technology: Bing Maps, Internet Explorer, Silverlight, Windows 7, Windows Phone

Inspiration: Many people die from hunger but food waste is a serious problem too. We thought that it's essential to have concern and give them a helping hand to solve this problem. We found 1:1 child sponsorship while we were concerning this. It was impressive because of long-term aid and feedback from child. But we couldn't afford to support a child about $30 every month and we thought another way help to them. We made small group to support a child. DreamHUB started here.

Future Plans: DreamHUB does not have many members now because it's prototype. We will contact NGOs to introduce our system. We already have received some positive feedback from many NGOs. We will develop it more from feedback from members and NGOs. We are sure that it will make new culture happen.

SOFTWARE DESIGN

KUWAIT

SWAP Team

Team Members:
Ali Taqi, Bader Al-Mohammad Ali, and Eissa Al-Qadeeri

School:
American University of Kuwait

PROJECT: Revolutionary Reporting System

The problem with the current reporting system is that on average it would take approximately one minute to report a problem and in that one minute we have found that a lot of information about location and details were repeated. The current system also does not make it easy for a person to report simple things such as potholes, burnt street lights, or traffic light failure. In order to report these problems to the correct authorities you would first have to find out this organization to report to, and the current reporting system suffers greatly for lack of simplicity to report problems. An example of this would be by imagining yourself in a different country and you saw a car accident, being a good Samaritan you would take your phone, but the second your about to dial you realize that you have no idea where you are, what the emergency hotline is, or the possibility of language barrier. Revolutionary Reporting system is a simple image reporting software/application that uses the GPS location which is geotagged in images taken by a phone camera to report problems to the proper authorities. This method of reporting makes the process much faster and efficient because the picture speaks a thousand words globally.

Theme/Millennium Development Goal: All MDG categories

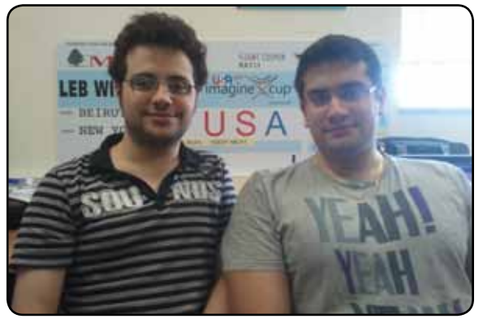
Technology Used: Bing Maps, Geotagging, Microsoft SQL Azure, Windows 7, Microsoft Visual Studio 2010, Microsoft .NET, ASP.NET, MySQL, Microsoft Silverlight, Windows Phone 7, Internet Information Services 7, Windows Communication Foundation

Inspiration: Mark is the owner of the blog http://www.248am.com, a local blog in Kuwait. On several occasions, Mark has noticed a problem during his daily activities (a pothole, broken street lamps, etc) and decided to take a picture of it and post it on his blog. Shortly after, the appropriate authority attended to the problem, and thanked Mark for raising awareness about this problem. We thought of taking this process and automating to serve everyone, not just people with famous local blogs.

Future Plans: We plan on presenting this idea to the Ministry of Interior in Kuwait, as well as looking for possible sponsors to cover the costs of the servers. If the Ministry of Interior in Kuwait accepts it, implements it and the feedback is positive, we would like to expand the system to more than one country, eventually serving the whole world.

SOFTWARE DESIGN

LEBANON



D4W

Team Members:
Daniel George Haddad, and Wajih Halim Boukaram

Mentor:
Dr. George Turkiyyah

School:
American University of Beruit

PROJECT: Project Brogil

Unchecked growth in developing nations is taking its toll on our planet. People in these nations do not yet understand the severity of the situation, nor do they care much about the environment. The best way to solve this problem is to raise awareness in these countries and that is where Brogil comes in. Project Brogil is an experience designed to raise serious questions in the minds of children (between the age of 7-12) in the developing nations. Players will get to control a tree wisp born from a barren tree. This wisp is charged with enriching the tree by gathering nutrients from different locations. The wisp starts by traversing the tree's roots and then moves to the neighboring soil. While in the soil the wisp finds a lot of strange anomalies and when it decides to investigate the matter, the wisp is lead to the surface where it finds that the forest to which the tree belongs is being cut down to make way for urban-expansion. The wisp hurries back to its tree hoping to save it but ultimately, one little tree wisp can't do much and the tree gets cut down leaving the wisp unbound.

By first building a relationship between players and their tree and then exposing it to the dangers, we hope to raise serious questions in young children's minds. No one is going to fix the environment for us. The future of our planet is in our hands.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Microsoft Visual Studio

Inspiration: Earlier this year, we decided to put our heads together and develop a handful of independent games. We began developing one when our Professor (Dr. George Turkiyyah) came along and informed us about the Imagine Cup and said that he would like us to compete in it. While taking a walk around campus one day Daniel snapped a few pictures of a large tree with roots coming out of the earth and thought "What would it be like to go through these roots?" and it was then that the project took its proper form and it has been evolving with us ever since.

Future Plans: We would like to release Project Brogil on several market places. We are very eager to hear people's reactions and feedback. It would also be terrific if the United Nations decided to adopt our project.

SOFTWARE DESIGN

MALAYSIA

Team Cyber Knightz

Team Members:
Tan Jit Ren, Ker Jia Chiun, Wai Lun Chan, and Mun Choong Wong

Mentor:
Muhammad Anis Ur Rehman

School:
UCTI University

PROJECT: Health3

Health3 is an application designed to improve the health of cancer patients focused on three important factors, well-being, medication and emotional support. Cancer patients can get state of the art technological tools to help with food monitoring, medication intake monitoring, body vitality tracking, interactive physiotherapy, exercises and awareness of nearby essential places for help and support. The ability to link up with cancer based NGOs, cancer experts, and other patients will create an integrated environment that gives the patient emotional support as well as the knowledge that they are not alone in fighting the cancer war. With cloud technology, cancer patients can also gain the benefits of Health3 via a lite version which can be deployed on their mobile devices. The lite version also comes ith an emergency and handy help function that detects the location of the cancer patient and alerts related parties for immediate medical attention when needed. Health3 also comes with a quick report generation function that will gather data of past activities with Health3 to help their doctor analyze the cancer patients' health status for better decision making. Focusing on the ability to customize, Health3 enables each distinct cancer patient to have the most sophisticated health monitoring application in addressing their needs individually. The whole idea of a health application has been taken to a brand new level which changes the concept of how health applications are deployed on technological devices to fully maximize the benefits with the aim to lead cancer patients to a healthier lifestyle and increase their survival chances.

Theme/Millennium Development Goal: Combat HIV/AIDS

Technology Used: Bing Maps, Kinect, Windows 7, Windows Azure, Windows Phone, Windows Touch, Other

Inspiration: Our inspiration came from research on cancer and when we found out that 7 million people die every year of cancer. Not only that, we have additional inspiration by our friend when their mother was diagnosed with cancer.

Future Plans: We will continue to approach and gather organizations which are interested in our solution and work with them to hopefully commercialize our application as soon as possible so that the cancer patients all over the world can gain benefits from it and lead a healthier lifestyle soon.

SOFTWARE DESIGN

MEXICO

Ibero Mexico

Team Members:
Brenda Moller Ramos, Andrea Cesar Gil, Fernando Rivero Sosa, and Benjamin Morales Venegas

Mentor:
Jorge Meza Aguilar

School:
Universidad Iberoamericana

PROJECT: Brain

Nowadays it is becoming common that children around the world are forced to stop their education and classes because of natural disasters. Brain is a system that brings knowledge, through technology, to children who have interrupted their education due to natural disasters, allowing them to continue their intellectual development.

Brain's system is based on six steps:

1. **Sharing:** Academic collaborators will be able to upload educational materials to our website.
2. **Developing:** An instructional designer and a software developer will work together to translate the uploaded educational materials into interactive applications to be used with Microsoft's Kinect technology.
3. **Situation Analysis:** When a disaster occurs a diagnosis will be conducted (ex: geographical conditions, number of shelters installed, number of children and their ages)
4. **Preparing and Delivering:** Once the diagnosis is reviewed, Brain will be able to choose the pertinent applications that will be stored in the BrainBox. The BrainBox brings these applications to the children in shelters. It is an aluminum and polyethylene box created to resist many environment conditions. It contains a projector, a CPU, a Kinect sensor, and an autonomous power source. This way, the Brain Box will be able to work with the available resources in the disaster zones.
5. **Implementation:** A volunteer will bring the BrainBox to the shelter and will arrange a schedule. The material will be projected and kids will interact with it.
6. **Feedback and Maintenance:** The users will evaluate the didactic material and Brain Boxes will be collected to receive maintenance.

Theme/Millennium Development Goal: Achieve Universal Primary Education

Technology Used: Windows Azure, XNA Game Studio, Visual Studio 2010, Xbox 360 accessory software.

Inspiration: Last year, while we were thinking about what we wanted to concentrate on, in Mexico, many regions of Veracruz and Oaxaca states were affected by the hurricane "Karl". Among the statistics of affected people, we saw the amount of schools that closed and how many kids were left without classes. We saw how they were in such trauma and with no education. That was when we decided that we would create a solution for kids, a service that we could take to them in shelters so they could continue their intellectual development and also be distracted from the trauma they just experienced.

Future Plans: We intend to make Brain an active solution. We will create a foundation dedicated to it and seek alliances with other projects. We know that our project has the potential to partner with schools, universities, socially responsible companies, rescue organizations, education organizations, and all those who are taking care of children around the world. We have created a solution that can be used anywhere. Taking knowledge to children in every part of the world. On the technology side, all the technologies we use, can and will be substituted for new ones, that are more affordable and efficient.

White Light

Team Members:
Ouadie Boussaid, Badreddine Benbrahim, Reda Balkouch, and Omar El Allali

Mentor:
Anas Belabbes

School:
EMSI

PROJECT: WhiteLight

WhiteLight offers to help people suffering from blindness who are at risk each time they travel around a city. One of the major problems the blind always face is the risk of getting lost. Whitelight is a set of applications to guide the blind to get from a point A (their current location) to a point B (theirdestination), using vocal instructions. The solution also offers tools to help family/NGOs stay connected with the blind.

Theme/Millennium Development Goal: Child Health, Help for Disabled People

Technology Used: Bing Maps, Silverlight, Windows Phone

Inspiration: We know that technology even at its summit cannot guarantee people suffering from blindness a life anywhere near normal. We have developed our application to make life less unfair towards people suffering from visual disability.

Olife

Team Members:
Jochem Toolenaar, Tom Verhoeff, and Oana Nitu

Schools:
Rotterdam University of Applied Sciences, Eindhoven University of Technology, Delft University of Technology

PROJECT: City Cloud

As more and more information processing capabilities are embedded throughout the environment, the city is becoming smarter. These new ubiquitous computing devices have the ability to act upon what they are sensing. And as more and more of these "smart objects" connect to the internet they create an "internet of things". With these new developments there will be a huge rise in location-based data, not only from these new "smart objects", but also from other sensors placed throughout a city. Social media and other mobile apps are also creating a huge amount of data. If we want to advance technologically as an urban society, all this data needs to be easily accessible for third parties. If all this data is openly available and easy to access, it creates a new set of tools for innovators. The data could be used in new mobile applications and for city hardware /software needs. The problem however is that a lot of data is still inaccessible. Using different sources of data is troublesome because of the lack of standards. With the City Cloud we aim to solve these problems. By using the powers of cloud computing such as flexible scalability and low costs, we aim to create an environment where developers can easily share data and easily use data. Our goal is also to bring down the barrier of using live location based data, so that developers, scientists and artists can focus on creating technology that will help contribute in creating a smarter city.

Theme/Millennium Development Goal: Global Partnership for Development. "In cooperation with the private sector, make available benefits of new technologies, especially information and communications"

Technology Used: Azure, Windows Phone 7, HTML5, Silverlight, ASP.NET

Inspiration: Our inspirations are the world of ubiquitous computing, the open data movement, urban technologies and urban life in general.

Future Plans: After the Imagine Cup, we want to further develop our City Cloud system. We want to work together with new municipalities, companies and third party developers to deploy the city cloud in multiple cities. And from that grow to create City Clouds all around the world, connecting governments, companies, developers, scientists, artists and citizens to create an eco-system in which new location based and ubiquitous computing technologies can be born.

SOFTWARE DESIGN

NEW ZEALAND

OneBuzz

Team Members:
Edward Peek, Kayo Lakadia, Vinny Lohan, and Steven Kang

Mentor:
Nick Douglas

School:
University of Auckland

PROJECT: OneBuzz

Malaria is one of the biggest problems in our world today. A child dies of malaria every 30 seconds and annually, 300 million people around the world are affected by it with up to 3 million deaths. It not only kills children and families, malaria kills the future. It holds economies back, and for the African economy alone it costs US $12 billion a year. OneBuzz is a system that pulls together disparate datasets including satellite imagery, text messages, and government health, climate and GIS datasets. OneBuzz utilizesall of this information in the data sets to identify areas around the world that are most at risk for malarial mosquito infestation based on recent rainfall patterns and past experiences. Once those areas have been identified, OneBuzz helps optimize stockpiling, transportation, and deployment of anti-malarial measures such as nets, vaccines, and insecticide sprays.

Theme/Millennium Development Goal: Combat HIV/AIDS, Global Partnership, Health

Technology Used: Bing Maps, Internet Explorer, Silverlight, Windows 7, Windows Azure, Other

Inspiration: For the OneBuzz team, this fight against malaria is personal. Vinny's mother had malaria while she was pregnant and Vinny had it as well when he was growing up. The team saw Imagine Cup as a great platform to showcase that technology from the developed countries could be adapted and used effectively to combat malaria in developing nations.

Future Plans: The Imagine Cup is only the beginning of our journey in the fight against malaria; we are committed to making this idea into a reality. We are planning to conduct field trials of our system in India over the coming months, while continuously improving our solution with the help of leading researchers in malaria epidemiology. Among them is Dr. Nick Douglas from Oxford University and Dr. John Marshall from Imperial College London, with whom we are further developing our algorithms to help fight malaria.

SOFTWARE DESIGN

NIGERIA

Nerds Inc.

Team Members:
David Olaniyan, Taiwo Orogbangba, Toluwanimi Kolawole, and Oluwafemi Alaba

Mentor:
Dr. B.K. Alese

School:
Federal University of Technology Akure, Ondo Nigeria

PROJECT: Medicare

Medicare is an application which enables communication between doctor and patient over long distances, where doctors are unable to have physical contact with their patients but can make a diagnosis from the patient's data which is input in the Medicare system.

Medicare helps give any health center or clinic immediate access to a vast amount of medical experts, healthcare educational resources/information, and support from other doctors and also take medical resources and information and share them instantly and seamlessly with hospitals, clinics and health centers anywhere. Medicare will provide the much needed medical services over a long distance and will makes use of the latest cutting-edge technologies using information in form of text, voice, still image and dynamic video simultaneously. We are very optimistic that this software in the future will become a tool in providing the best available healthcare for everyone anywhere. It will usher in the new era of affordable, accessible, and qualitative healthcare for all.

Theme/Millennium Development Goal: Child Health, Maternal Health, Combat HIV/AIDS

Technology Used: Bing Maps, Silverlight

Inspiration: Our project has been largely inspired by the burden to reach over one billion people of developing nations that lack access to healthcare, and to bring to the millions, in despair hope of a second life. And to bring them the quality medical care when they need it most. Our onsite survey and other findings made us realize how quick we have to act.

Future Plans: Our team intends to make Medicare work with evolving diagnostic tools in the healthcare industry. Thereby making it a central platform from where doctors can remotely monitor patients and prevent illness before they take hold. Furthermore, we would improve the deployment of Medicare on mobile phones and continue to develop all the functionalities of its video conferencing. We also intend to make Medicare the central database for all hospitals, health insurance companies and health organizations therefore a patient can get health services in a hospital without the issue of registering in that hospital; a patient can get health services at no cost in any hospital even if his insurance company has no partnership with that hospital; medical test, allergies etc. of a patient can be accessed from any hospital. In one sentence, we would use Medicare to integrate all hospitals, health insurance companies and health organizations; making it one for all.

Edunology

Team Members:
Saud Al Zakwani, Tariq Al Sulaimani, Alwaleed Alrashdi, and Hamed Al-Hinai

Mentor:
Qais Al Arafati

School:
Sultan Qaboos University

PROJECT: Help Me Educate Others

The software acts as a medium between the helper, the school and the student. Information on a student's needs is clearly represented, including the amount required for each class, semester or module. Also, the student's attendance, score cards and class reports showcasing the progress of the student are easily available to the donor.

Theme/Millennium Development Goal: Universal Education

Technology Used: Internet Explorer, Windows 7, Windows Phone, Other

Inspiration: We were inspired by the large number of illiterate children. We also know that children who work at an early age in some countries is often due to their lack of access to education and the inability for those children to go to schools.

Future Plans: At the beginning it is a project based on education but it can expand to what is beyond education such as the establishment of hospitals and health centers and other necessities of daily life. After the competition, we will cooperate with charities to make the project fully active and work where the needy can benefit from the strengths of this project.

V3C

Team Members:
Hussein Sajid, Muhammad Bilal Khan, Murtaza Naqvi, and Yasir Saleem

Mentor:
Kashif Zafar

School:
FAST — National University of Computer and Emerging Sciences, Islamabad

PROJECT: Voice Controlled Cellular System for Special Citizen

From the viewpoint of citizens with special needs, the world is full of various barriers that keep them away from integrating into society. Since speech is a natural means of communication among humans, the voice-operation feature is the ideal control method for the large number of disabled people who cannot operate computers. V3C is aimed at developing a voice-controlled tool for operating a computer. It is targeted for use by physically handicapped and blind users that have difficulties using a standard keyboard and mouse. A relatively deep parsing of the structure and content of the application being browsed is deployed. Structured output is sent to a speech synthesizer. V3C has chosen a mainly message-driven approach. The system runs on Win32 systems and is dependent on the Microsoft C-runtime library using Microsoft Internet Explorer as its browser engine. V3C attempts to alter or translate the visual rendering of MS Internet Explorer/Microsoft Office. However, the user explicitly has to request the visual enumeration (Indexing) by an appropriate command. Visual enumeration is more memorable and teachable than providing different commands which are very difficult for disabled people to remember. In short, voice is the most natural and effective way we communicate. In the years to come it will greatly facilitate how we interact with technology. From disabled to normal people, V3C has become an effective tool for ease of use, speed, cost-effectiveness, and serves in providing communication with the aim of "technology for all".

Theme/Millennium Development Goal: Primary Education for Everyone

Technology Used: Microsoft Speech API

Inspiration: Team V3C believes in "Education for All". In today's world good education is one of most important things that lead to success in one's life. In the context of special needs citizens, they are the one who suffer the most especially when computer is no more a need but has become a necessity. Right from the classrooms to workplaces computers have become an integral part of today's world. Hence special needs citizen (physically handicapped and blind) are mainly our target so that we could help them to move along other people in this fast moving world and empower them to use this powerful tool that will help thousands of them out there to realize their ambitions and goals without any hindrances. This will not only help them to earn their livelihood and achieve their goals but they will also become active members of the society and play a critical role in nation building.

Future Plans: Our primary plan is to apply all those ideas and methodologies which we have learned by interacting with people of different areas and cultures to refine our software. We will deploy our software in the schools of special citizen for initial testing. Through feedback, improve the productivity of our software to make it an effective tool for ease of use, user friendly, faster and cost-effective. As it is voice controlled software, we will enhance in various embedded systems for special citizen. In the few years, normal citizens will also greatly facilitate to interact with technology as voice is the most natural and an effective way. V3C will become a source of inspiration and would bring hope in the lives of special citizen globally.

PALESTINIAN AUTHORITY

vital dream

Team Members:
Mohammad Al-Baba, Diaa Al-Najjar, Ammar Sulaiman, and Fahd Abu-Haikal

Mentor:
Wisam Shamroukh

School:
Palestine Polytechnic University

PROJECT: Infinite PC

This software solution was created for people with special needs. We aim to help them in their life and increase their confidence, while allowing them to be independent. Infinite PC, will give them privacy, and let them use technologies in an easy and comfortable way when using it. This software uses speech recognition, IRIS "gaze tracking", and technologies to translate the user's questions in to text, search for them on the internet, get the answer and then spell it out to the user. This system makes the usage of any software program or electronic device easy and comfortable. It can be used by any person, and even by children or people who are disabled. This project also increases information by providing unlimited updated information in an easy and fun way. In this stage the program supports just the English language but we are developing it to support multi- languages. With infinite PC....Yes You Can ...

Theme/Millennium Development Goal: Achieve Universal Primary Education, Develop A Global Partnership For Development, Helping People With Disabilities

Technology Used: SDK 5.1, 3D WPF Interfaces, Xceed 3D Library, C#.NET, and Visual Studio 2010

Inspiration: Not necessarily that there will be an incident or story in order to make man think to help others. So when there are people who are in need of help, we must help them. This is our view of how we want to help people with special needs in their life and increase confidence in themselves , and allow them to be independent.

Future Plans: We will try to cover all types of disabilities, by developing this project using updated technologies, and reach all people.

PERU

Gedav

Team Members:
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School:
Universidad Católica Santo Toribio de Mogrovejo (Chiclayo - Peru)

PROJECT: Ñawy Harkay

Ñawy Harkay is filling the gap between expensive "eyemouse" applications (applications that operate the mouse with the eyes) and cheap devices with a new solution, that is fully integrated with Windows 7, is not expensive and with minimum effect on one's eyes.

Many of the eyemouse solutions works in their own environments, limiting the activities a user can perform. Ñawy Harkay works very similar to an accessibility extension, so the user can access the computer as any other person would.

Ñawy Harkay is a mixture between software and an external device similar to a pair of glasses tied to a webcam. While using existing libraries, we create a new way to solve the problem using blinks and white lights.

Theme/Millennium Development Goal: Global Partnership, End Poverty & Hunger, Universal Education

Technology Used: Windows 7, Visual C++ .NET, Visual Studio 2010, .NET Framework 4

Inspiration: Motivated by giving access to technology to all the Peruvians, we focused our attention on people with these disabilities (around 11% of the population). We came up with many ideas, but mainly we found that eyemouse projects are a good but not complete solution. The use of too many infrared lights can damage the eyes while the use of proprietary interfaces changes the Windows experience for the users. So we decide to put hands to work this solution, Ñawy Harkay, which is improving the quality of life of people with the necessity of this device.

Future Plans: We have a roadmap that shows how we wish to improve our software in order to help more people in the world. We are thinking about producing Ñawy Harkay massively to help throughout the world.

polymor.ph

Team Members:
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Mentor:
Luigi Dollosa

Schools:
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PROJECT: Polymorph

Polymorph is an end-to-end application designed to solve language barrier which is one major factor that hinders growth of education around the world. Basically, it takes in an educational video spoken in English as an input. Then, it uses Microsoft Speech API in order to recognize the audio and generate its appropriate subtitles. The subtitles are filtered for important keywords, and then the keywords' corresponding Wikipedia articles are queried. The subtitles and the articles are then translated to different languages using Google and Bing Translate Web Services. Lastly, the translated subtitles, Wikipedia articles and the video itself are packaged into a zip file which is ready to be distributed to educational institutions around the world including those without Internet access, in remote areas, non-English speaking areas, etc.

Theme/Millennium Development Goal: Achieve Universal Primary Education

Technology Used: Microsoft Speech API, Bing Translate, Windows Azure

Inspiration: The plethora of educational content in the internet where the majority are in the English language has really helped many students in their learning endeavors. However, students without: English knowledge and internet connection are not able to utilize these contents. We believe that technology can bridge this language barrier and thus Polymorph was created. Polymorph aims to provide students in underdeveloped areas an equal opportunity to education thus shaping them to be the next generation's leaders who can contribute in solving other Millennium Development Goals.

Future Plans: Our solution design deliberated the technology future where sharing will completely be ubiquitous. Thus, our effort for future development of our project will focus on putting up and developing the learning cloud resource, thus strengthening the position of our application in the academic market. Lined with this will be improvement of the translation engine and the application's user interface on learning usability strategizing this on personalized learning.

CodeRaiders

Team Members:
Dominik Dereń, Piotr Jaszczyk, Błażej Rybczyński, and Michał Skuza

Mentor:
Marcin Franc

School:
Politechnika Łódzka

PROJECT: LifeCircle+

LifeCircle+ is a modern system solving the problems that blood centers, the people needing blood, and potential donors face on a daily basis. The main objective of this project is to minimize the problem of blood shortages in blood centers, ensuring adequate amounts in case of emergency, and to promote the idea of donating blood via social networks. The most important feature of our system is a completely innovative approach to the problem of rapidly growing demand for transfusions. Using modern technologies, flexibility, and convenience of mobile devices and the phenomenon of social media, LifeCircle+ creates a communication network between blood centers and blood donors, so that at any moment in time the system knows the position of people with the required blood type. In the case ofan emergency, the employees of a blood center can locate people who are in the area and promptly contact them.

The mobile application for blood donors is a little command center for managing blood donations. A cell phone, which is used every day by almost everyone, will be able to inform users about the current events related to blood donation, it will show where the nearest blood center is and do much more. Moreover, using statistics, achievements awarded for regular donations, and social networks we want to encourage to help as many people as possible. Blood donors will be able to inform their friends about their donations. This way blood donation becomes another topic of conversation and people become more aware of this important issue.

Theme/Millennium Development Goal: Reduce Child Mortality Rates and Improving Maternal Health.

Technology Used: We used various technologies such as Windows Phone 7, ASP.NET, WPF and Widows Azure for communication between parts of our system.

Inspiration: We are active blood donors who are aware of blood importance and its shortages. That is our inspiration.

Future Plans: We plan to introduce LifeCircle+ in Poland and with its help, encourage as many people as possible to start donating blood and solve problems that blood centers are facing nowdays.

RescueMe

Team Members:
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Mentors:
Nuno Rodrigues and Joao Vilaca

School:
Instituto Politécnico Do Cávado E Do Ave

PROJECT: Rescue Me

Rescue Me is a project that takes a step forward and uses Microsoft's technologies to create a specifically designed solution for better disaster response. Solving the current main difficulties identified in disaster response operations, the system promotes better coordination, provides localization, promotes better victim management, provides resource optimization, and it promotes agility.

Theme/Millennium Development Goal: Global Partnership – targeting technological development

Technology Used: Windows Azure, SQL Azure, Windows Presentation Foundation, Silverlight, .NET Entity Framework, Windows Communication Foundation, Linq to SQL, SQL Server and Bing Maps. We also used parts of the HL7 protocol.

Inspiration: The vulnerability of human kind to nature's most powerful events, namely the latest natural tragedies like the ones that occurred in Thailand, Haiti and Japan.

Future Plans: We are very willing to take RescueMe to the market and we have already established a preliminary business plan.

Team A41

Team Members:
Francisco Fernandez, Roberto Durand, and Amarilys Mendez

Mentor:
Pedro M. Maldonado

School:
Universidad Metropolitana, Sistema Ana G. Mendez

PROJECT: All for One Solutions

All 4 One Solutions is a tool that enables scientists, government agencies, organizations and communities to request citizen participation in the gathering of data to help solve environmental problems. All 4 One Solutions is composed of a Mobile and Web application which enables the submission of requested data. After gathering the data the system helps users to analyze data and creating reports. The mobile applications allows the data to be tagged with precise location information by using the GPS system. The system integrates with Facebook and Twitter to capitalize on their user base and to motivate greater user participation. The system also allows the inclusion of educational material which can contain multimedia. The system can be sold as a tool to integrate with an entity's website or can be sold as a service with a pay-as-you-go model.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Bing Maps,Silverlight,Windows Azure,Windows Phone. The system architecture is built on Windows and SQL Azure. Some of the technologies used to develop All 4 One Solutions are Windows Phone 7 Tool Kit, Visual studio 2010, Windows Communication Foundation, Entity Framework, Expression Blend and Expression Design.

Inspiration: We were inspired by some of the everyday problems we see in our beautiful country of Puerto Rico.

Future Plans: We are hoping to get funding from Department of Natural Resources of Puerto Rico and take the application to a commercial level.

SIMPLEX

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Mentor:
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School:
Babeş-Bolyai University Cluj-Napoca

PROJECT: MIRA

MIRA (Medical Interactive Recovery Assistant) is a software platform based on external sensors designed as an adjunct to kinesiotherapy. It was created to assist the medical recovery process which reintegrates socially and professionally the patients with temporary movement disabilities. To recover, patients who suffer a neurologic, orthopedic or rheumatologic pathology, have to go through a long and sometimes painful series of exercises that need specialized observation, which implies time and of course, money. It is medically proven that patients can have a reduced recovery period by 50% to 70% if they make the exercises proposed by the doctors. By using Microsoft Kinect, MIRA makes the recovery of patients faster, easier and much more engaging than ever. It can be used to map a large amount of exercises, determine if the movements are done correctly and give the user a much more interactive experience. Furthermore, MIRA gathers information on how the exercises went so that the doctor can observe the evolution and statistics of the patient. He or she can see the data either on MIRA Desktop or MIRA Mobile for Windows Phone 7 and can recommend new games or applications that imply certain movements to the patient. The greatest feature about MIRA is that it is infinitely extensible with adapted games and applications for the many existing pathologies.

Theme/Millennium Development Goal: Temporary Movement Disability and Recovery

Technology Used: The solution was implemented using the .Net 4 framework and developed in environments like Visual Studio 2010 and Expression Blend 4. We used Windows Presentation Foundation and Windows Communication Foundation to build the desktop application and communication with the database which can be stored through SQL Express, SQL Standard or even SQL Azure. For MIRA Mobile, Windows Phone Development Tools and Silverlight were involved in the progress. To extract information from Microsoft Kinect, we used some Open Software Development Kits like OpenNI and Candescent NUI.

Inspiration: The idea of MIRA came to us after a discussion on how we or our friends had to go at some moment through a recovery process. We realized that this recovery period can be fun and easier for patients by engaging them in interactive applications that offer visual and audio feedback. We came into contact with several doctors and specialized medical personnel and, after seeing that something like this was needed and would be much appreciated, we started developing MIRA.

Future Plans: We are already collaborating with the Recovery Hospital from our home town, and we observed that MIRA is an essential tool for fast medical physical recovery. Thus, our goal is to make MIRA available for any medical institution specialized in the recovery programs. This also means that MIRA will need improvements, new games and applications added to engage all possible patients, from children to elder people and to offer support for all possible recovery exercises.

OriTeam

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Mentor:
Valentin Zaicev

School:
Moscow Aviation Institute

PROJECT: OriCrafter

OriCrafter is origami modeling software for preschool and kindergarten children and for education at home. According to teachers, who work in junior and infant school, origami develops essential skills in children, which have great impact on all their future life. It develops spatial perception, memory, fine motor skills, concentration, learning, creative and research skills. Oricrafter allows you to work with a virtual sheet of paper, as you do with a real one. It allows you to create and save 3d digital origami models and a diagram editor automates the process of creating origami diagrams.

Sometimes, folding a model we can face a challenge and we unprecedented solutions – hints based on the augmented reality technologies. Our mobile application even allows viewing 3d diagram on a mobile device. In addition, we offer a socially-oriented web service. Users can share the results of their creative work, find help asking experienced colleagues and find models in our archives.

We have already conducted a training origami session with children. Both teachers and children enjoyed it immensely, and we have already received proposals to conduct such lessons at other infant schools, kindergartens, including schools for children with special needs.

Theme/Millennium Development Goal: Universal Education

Technology Used: Kinect, Silverlight, Windows Azure, Windows Phone, XNA Game Studio

Inspiration: Nowadays people often lack time to communicate with their relatives, which has especially critical impact on the children's upbringing. Often it turns out that children are left to themselves and have no opportunity for creative development without their parents' support. These early years shape the most important skills, and in many ways determine a person's future. Our team is comprised of origami fans. We were excited to show how useful this art is in preschool education and then we decided to make software that would help children to master this art form.

Future Plans: We plan to continue developing our project.

SOFTWARE DESIGN

SENEGAL

CYAN_Girls

Team Members:
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Mentor:
Ahmath Bamba Mbacke

School:
Universite Cheick Anta Diop De Dakar

PROJECT: PAGEL

PAGEL is a name derived from the combination of terms fisheries, livestock and farming. The solution is to implement a Cloud (SaaS) for agriculture, fisheries and livestock specially designed for synergies with all of their unique needs, but also all of the needs of satellite companies around the same categories. It allows all people in these sectors to interact to reduce extreme Poverty & Hunger, permit gender equality, and to preserve the environment. And for the first time in the Cloud computing, we have combined these three (3) sectors, hence it is a very innovative way of using this technology solution. PAGEL is a SaaS solution that offers a variety of applications as services in the cloud, trying to respond in the most optimal needs of agriculture, fisheries and livestock, and yet also remaining flexible and open in its architecture.

Theme/Millennium Development Goal: End Poverty & Hunger, Gender Equality, Environmental Sustainability, Global Partnership

Technology Used:
- OS Windows 7
- Visual Studio 2010
- Windows Azure Sdk
- Windows Azure tools
- SQL Azure
- Sharepoint Api
- Microsoft Dynamics CRM Api
- Silverlight 4
- Bing Maps
- ASP.NET MVC
- Windows Communication Foundation (WCF)
- Windows Workflow Foundation
- Linq to SQL
- Visual GSM Enterprise Manager
- SQL Server 2008
- HTML5
- Jquery

Inspiration: The introduction of "Imagine Cup Solve This" this and the extreme poverty in the rural world in Senegal and particulary farmers, cultivators, traditional fishermen etc.

Future Plans: CYAN will deploy the Pagel Project with NGOs and others partners in Senegal to combat extreme poverty.

SOFTWARE DESIGN

SERBIA

4k - join

Team Members:
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Mentor:
Aleksandar Erdeljan

School:
Faculty of Technical Sciences - University of Novi Sad

PROJECT: HAUS (Home Automation Utility Service)

Project HAUS is a potential partial solution to our world's problem of environmental sustainability. Current trends in resource consumption are warning us that in the near future energy will become a privilege, and as a consequence, life, a healthy one, will become a luxury commodity. According to the U.S. Department of Energy, households in United States consumed 21.54% of overall energy only during last year. That statistical evidence gave us the main idea of HAUS – cut-down energy consumption starting from each individual household which will result in global grid offloading and better resources management. Goal of the HAUS project is to help all consumers optimize their electrical energy consumption and prevent natural, non-replenishable resource depletion, so as to help consumers manage their monthly energy bills in the process. To achieve such a goal we've provided a solution based on standards in today's home automation systems and Windows Phone 7 platform. A key component of our system is an intelligent controller, able to expand its knowledge base during time by learning from specific user actions and ensure making optimal decisions in overall consumption management. It is important to say that users are allowed to manage their consumption manually by decreasing or increasing home devices priority according to their needs at the moment. Users are expected to set their desired monthly energy price, which is a key factor in working period scheduling for all home devices.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Windows Phone 7, Windows 7, .NET Framework 4, Windows Communication Foundation, SQL Server 2008 R2 Express, ADO.NET Entity Framework, LINQ to SQL, Managed Extensibility Framework, Microsoft Enterprise Library 5.0

Inspiration: The inspiration came from the fact that the world is at an end of fossil fuel supply, and the rate at which the consumption of energy is going needs to be managed at the most granular level, the end user. The distribution networks are constantly working near maximum capacity and the idea is to shift the electricity usage to off-peak hours of the day by having a smart system that works symbiotically with the person living in the household.

Future Plans: Plans are to have this technology developed to the point that it can be utilized when the need arises in the near future, possibly within Smart Grid solutions offered by utilities (electric) vendor. The team also offered this advice for future Imagine Cup competitors: Do not hesitate to give this competition a try, it's been a blast so far for us, and we can't wait for the Worldwide Finals. You will at the least learn something new, and if you get to the Fionals, have the chance to meet hundreds of students that have similar interests to you, and have a lot of fun in the process.

ElderGuardian

Team Members:
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Mentor:
Shaw Wen Yeak

School:
Temasek Polytechnic

PROJECT: Elderly Rehabilitation and Support System (ERSS)

The Elder Rehabilitation Support System (ERSS) is our solution to the problem of high cost and tedious exercises in the rehabilitation process of stroke survivors. The ERSS is using Kinect's technology in providing rehabilitation to stroke survivors from numerous disabilities amongst many other diseases. By integrating the ERSS into their rehabilitation process, we can lower the cost of treatment and rehabilitation of stroke patients Our solution is highly autonomous. With a Kinect in a medical facility, the ERSS guides the patient through various exercises that are designed to rehabilitating them back to health. Another key feature is that families can install the ERSS program in their home so that rehabilitation can be carried out at home with the family members monitoring the patient. Using Kinect, the rehabilitation of stroke survivors can be much more entertaining than just tedious slow exercises thus making the rehabilitation faster and much more enjoyable.

Theme/Millennium Development Goal: Stroke Rehabilitation

Technology Used: Kinect, Windows Azure, iisu, Unity, Silverlight, Visual Studio 2010, SQL Server

Inspiration: The main inspiration for the Elderly Rehabilitation and Support System (ERSS) was the grandmother of Kim, our teammate. Back in 2001, Kim's grandmother suffered a stroke, but due to the high cost of stroke rehabilitation, she was unable to undergo the treatment she needed. Her condition deteriorated over time and after three years, she passed away. Realizing the importance of stroke rehabilitation, we geared the project towards making rehabilitation more convenient and accessible to stroke victims. And with the ERSS, we hope that no one's loved one suffer the same fate that Kim's grandmother did.

Future Plans: The team is planning to continue development on the project and eventually to commercialize it.

Zippers

Team Members:
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Mentor: J
aroslav Porubän

School:
Technická Univerzita V Košiciach

PROJECT: Mapz

Mapz is an integrated system developed to raise living standards of visually impaired people. It helps them in orientation and gives them confidence of always having someone around. The solution was designed to be modular and contains some wonderful ideas. Blind View is a technology that enables visually impaired to "see" the world around them. It's integrated in to a mobile application with a user interface adapted to the needs of blind people. To obtain spatial data, the key element in our system, we have developed crowdsourcing applications for the web and the Windows Phone 7 platform. These applications are using challenges to collect specific points of interest dedicated to visually impaired. To address the biggest problem of blind people and mobility, we have implemented another great idea - the Remote Assistant. It enables a blind user to be guided remotely by another person, using one of our crowdsourcing applications. To make the guidance experience more clear and intuitive, it is supported by a hardware component called Guide Belt, which communicates with the smartphone through bluetooth and is used to provide directions. This way, hearing is retained as the most important sense of a blind individual. The message of our project is simple, yet thoughtful - Imagine a world, where the newest technology brings the light to the ones who need it.

Theme/Millennium Development Goal: Combating Widespread Diseases

Technology Used: Silverlight, Bing Maps, ASP.NET, Windows Phone 7, Android OS, Arduino, Windows Communication Foundation, Language-Integrated Query Extensions, Entity framework, SQL Azure

Inspiration: More than 280 million people worldwide are visually impaired, almost 40 million of them are blind. One of them is our close friend. He told us about problems of blind people living in a world created for people with sight. A person with a serious visual impairments is dependent on others, which leads to limited freedoms. In addition to mobility, not knowing what is around you can bring huge disadvantages into your life. This is how we became interested in the topic and started to search for ways modern technologies can help.

Future Plans: We are already looking for sponsors to support the project. Our goal is to make a real product from something that started as a school project. We really want to help visually impaired people and offer a practical, flexible and modular solution that is not expensive, so everybody can afford it.

2ndSight

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Mentor:
Mateja Verlic

School:
University of Maribor, Feri

PROJECT: 2ndSight

As the mobile technologies are becoming more and more ubiquitous they are rapidly changing the way we perceive and interact with the world around us. Smartphones have enabled us to stay connected with each other over the web, to reap all the benefits they bring, not to mention all other built-in functionalities of these small, but highly capable devices. They provide new ways to use various sensors, from cameras to capture pictures to GPS to establish our current location, and they definitely made our lives much easier. But what about the people who,for example, cannot see and are not able to use such devices? Isn't it ironic that people who would benefit most from the use of smartphones, cannot find much of them because of phones' overreliance on touch screens for user input and visual feedback? We, 2ndSight, decided to change that. 2ndSight is a Swiss army knife for blind and visually impaired. It's a solution based on smart phones that helps blind or visually impaired in their everyday life. 2ndSight is assembled out of various applications, which help blind or visually impaired users in different everyday situations. But here we meet a challenge. There are many sight impairments and each one needs its own set of applications. Soon users won't be able to find most appropriate bundle of applications to suit their need. Solution is a program which recommends most appropriate bundle based on users sight condition and then installs it on a phone.

Theme/Millennium Development Goal: Global Communication

Technology Used: Bing Maps, Silverlight, Windows 7, Windows Azure, Windows Phone, Other

Inspiration: The inspiration for the project came when one of our team member's mother began suffering from macular degeneration. After seeing how difficult it was for her to interact with everyday objects, such as a phone, an idea came to life - 2ndsight. When we planned applications for a particular impairment, we realized many of the applications could be used by users suffering from other conditions as well. Soon we decided the best way for us to help a greater variety of users was to create a whole set of different applications and then develop a way for users to pick ones they need the most.

Future Plans: Returning from the competition, full of ideas, new connections and infused with fresh inspiration, we plan to create a startup business with a focus on solving modern accessibility problems.

Komodo1

Team Members:
Mohammed Irfaan Imamdin, Pieter Roodt, Junaid Parker, and Richard Sadie

Mentor:
Derek Smith

School:
University of Cape Town

PROJECT: HAWK

HAWK is a 3-part aggregation platform, that uses the power of geo-coded data. It provides an open capture and reporting system for disaster management: earthquake, floods, etc. Then it leverages the power of the systems geo-awareness. It knows where emergencies are happening, and which people are closest to them to create an early warning system that can reduce the fatal and damaging effects of disasters. Finally it focuses the crowd-sourcing reporting ability to a neighborhood level, allowing communities who have never met to collaborate via the web, enabling them to report on crime, civic infrastructure, and to drive new conversations on improving areas. We designed our solution in response to the NetHope.org Imagine Cup Solve This challenge, where they were looking for a crowd source emergency response communication system. You can see this "Solve This" challenge here: www.imaginecup.com/student-resources/imagine-cup-solve-this/NetHope Inc-46.

Theme/Millennium Development Goal: Emergency Response and Crowd Sourcing, Develop a Global Partnership for Development

Technology Used:
- Visual Studio 2010 Ultimate
- .NET 4.0
- ASP.NET, C#
- AJAX
- CSS3, HTML5, jQuery, javascript
- FaceBook OpenGraph API, FaceBook Connect API
- Google Maps API, GeoCoder
- Skysa Social, YouTube API, Flickr API
- ReCaptcha, Bit.ly, QR Generator
- Gmail SMTP API, BulkSms gateway API
- JSON, SQL

Inspiration: Seeing Microsoft Photosynth being used to create "greater than sum of parts" information views out of photos, spurred the idea that the information that exists on the various social media platforms can also be intelligently stitched together, and when this is powered by geo-location information, this can create a powerful capturing and reporting tool, that is intelligent enough to bring you relevant and reliable information that you can use to make better decisions which affect lives and livelihoods.

Future Plans: This depends on the feedback received from the Imagine Cup Worldwide Finals. The worst case scenario is to release the source code as Open Source under the Creative Commons, and harness the power and talent of the web to enhance and improve our original vision.

SOFTWARE DESIGN

SPAIN

Software4Life

Team Members:
Gonzalo Rubio, Luis Cañamares Ramos, Pedro González Villanueva, and Cesar Reneses Carcamo

Mentor:
Cristian Manteiga

Schools:
Instituto De Investigación En Informática De Albacete (Uclm), Escuela Superior De Ingeniería Informática, Escuela Politécnica Superior Albacete

PROJECT: WaterSense

Watersense is a social tool. A tool which creates a technological base for everyone who is fighting against water shortage. To make it possible, our project is divided in 3 applications, one for each of the actors involved in this campaign, volunteers, NGOs and people who want donate. The first one, WaterSense Mobile, is for the volunteers who are working in developing countries. They can share their water measurements, indicating the parameters obtained and automatically detecting the GPS position. They also share information about the settlings of the area, their inhabitants, the distance they have to walk to get water, etc. Moreover, they can locate the different projects that are under construction on the areas and they can take photos and videos and share them with the community. The second one, WaterSense NGO, NGOs can view all the data collected by the volunteers. Settlements, areas with water and if it's usable or not, areas with no water, etc. Thus, they can determinate where these projects are more needed, by signalising them on the map. Finally, WaterSense FB, is a Facebook application which enables project viewing on a map as planned by the NGO. We can see the most important information of each project, and give a donation with PayPal. In addition, we can see the developments of those projects, the collection and construction process but also the benefits once the project ends. All the information is provided by the volunteers through Watersense Mobile and by the NGO through watersense NGO.

Theme/Millennium Development Goal: End Poverty & Hunger, Child Health, Maternal Health, Environmental Sustainability, Global Partnership

Technology Used: Bing Maps, Windows Azure, Silverlight, Windows 7, Windows Phone

Inspiration: This is our third Imagine Cup and the inspiration comes, in part, from what we have experienced in these past 3 years. We meet lots of people of different countries and their projects, seen their ideas to make a better world have helped us be more creative. Moreover, with our previous projects we had the chance to meet many people of NGOs and volunteer. The voluntaries shared their experiences, the difficulties of their everyday work and so on. And in most of their stories there was a common denominator: Water. It's the first thing that is needed in those areas. Without water there is no livestock, no agriculture and no progress. That's why we focused on finding how technology could bring water closer to the areas where is most needed. We focused on creating a realistic project. One that could become a reality and could improve people lives.

Future Plans: We have a lot of ideas to improve WaterSense, but we don't want to restrict the project with our own ideas, that is why, based on our experience we know how importantto get user feedback - so that they can contribute their deas. That's why there would be a beta version, so that users can give us their feedback and by joining everyone we can create a stable project that is easy to use. We would also like to get in touch with NGOs, so they can tell us their needs and we could make easier their work in developing countries and the fundraising of their projects. There are several months ahead of us including intensive work but we like to think that we can improve the lives of people and that with the push and visibility from the Imagine Cup we can achieve it.

SOFTWARE DESIGN

SRI LANKA

PeraSoft

Team Members:
Lahiru Senadheera, Dinushan Samarakoon, Lakshitha Herath, and Madusanka Dasanayake

Mentor:
Dhammika Elakaduwe

School:
University of Peradeniya, Computer Engineering, Srilanka

PROJECT: Hear Through Eyes

Project Hear Through Eyes is a communication tool which helps to achieve two way communication for hearing impaired people in the world using sign language. The voice is translated into sign Language and sign language into voice in real time so a normal person can freely express his or her ideas to hearing impaired and the hearing impaired person can do vice versa so he express his or hers ideas.

Primary goals of this project are to achieve primary education for people all around the world especially in 3rd world countries where there are very few numbers of special schools established. Hearing impaired student and a normal student can sit together and learn from the same student and no special teachers are required. We have made available a video player with the sign language translation support to watch movies for these people so they will have access to information and thereby learn and share information. By using Microsoft Kinect we have made it possible for the hearing impaired to express their ideas to public and theirvaluable thoughts will be known. A hearing impaired person is not so impaired after all. Overall with our project, we address about a population of over 500 million and serve their unique communication needs.

Theme/Millennium Development Goal: Education for All and Access to Information for Hearing Impaired

Technology Used: Micorsoft Kinect, Micorsoft Speech sdk 5.1, SQL Server 2008, Visual C#, WPF

Inspiration: We have some friends who suffer from hearing impurities. This will be a help to them and aid them in their education

Future Plans: We plan to customize the software for local language and to introduce it to local colleges and help the education of hearing impaired. We also will make mobile software so that at any time anywhere, our project can be used.

LIFEMAP

Team Members:
Christopher Okhravi, Gustav Spross, Markus Ånöstam, and Joanna Murphy

Mentor:
Jonathan Zaar

School:
Uppsala Universitet

PROJECT: Lifemap

Lifemap simply brings the power of change to the people. Lifemap is a platform used by charity organizations to improve their relationships with their donors. This is achieved by enabling and streamlining the process of providing specific feedback and follow-up on critical donations. With Lifemap, donors can choose the exact cause they wish to support and in turn receive feedback on how that money was put to use, therefore understanding exactly how they helped that cause. Lifemap is built around a web platform, consisting of a website for both donors and charity organizations, and two Windows Phone 7 applications.

Theme/Millennium Development Goal: Support Charity Organizations

Technology Used: Bing Maps, Internet Explorer, Silverlight, Windows Azure, and Windows Phone. Lifemap was coded using ASP.NET MVC3 with C#. Expression Blend was used to work with Silverlight and our Windows Phone 7 apps. The Bing Maps API was used with the Silverlight Control to create visually pleasing GEO-location functionality. Lifemap is deployed in the cloud using Windows Azure to allow for great scalability of the product.

Inspiration: We saw the potential for charity as a tool to allow the people of the world to help reach the Millennium Development Goals. However we also saw how many people distrusted charity organizations and how that was a big obstacle in our vision to empower the people to change the world. It is this problem that planted the seed of what would eventually become Lifemap.

Future Plans: Lifemap has recieved a lot of attention from charity organizations and related entities that are interested in the concept as a whole, as well as our ongoing execution of it. It seems that indeed we are addressing a current problem in time. Consequently we naturally aspire to take Lifemap to the next level, when our participation in Imagine Cup is over. Because in Lifemap, we see the potential of making our visions of a better world come true.

Texting4All

Team Members:
Elsa Friscira, Oscar Bolanos, and Lukas Frelich

Mentor:
Hendrik Knoche (Germany)

School:
Ecole Polytechnique Fédérale de Lausanne

PROJECT: EasySMS

Our project is SMS or text messaging that allows illiterate people to quickly and simultaneously communicate through their mobile phones. About 800 million illiterate people mostly in developing countries, are currently excluded from this communication medium. They live in rural areas where mobile phone coverage and ownership is growing rapidly and SMS are cheap or even free. Our EasySMS application allows these illiterate people to: "read" all the SMSs they receive thanks to the available text-to-speech access on Windows Phone 7. They can understand the meaning of each word of the SMSs they receive and not only the meaning of the whole message. The message is played in a karaoke like style and each word of the message is a playable button. The user can click on each word to hear it. They can compose SMS in two ways: through icons with sound support (these icons are transformed into text messages when sent to the recipient) and SMS re-composition from previous SMSs. Each word of a previous message can be played and re-used through simple drag and drop into new messages. They can also search and manage contacts visually through visual traits of avatars – in addition to typical contact details, (numbers, names and pictures). Finally EasySMS users can browse and filter contacts through avatars and their traits such as hair length, hair color, gender, body type to sort contacts. We are a truly global team: Elsa is from France, Oscar is from Costa Rica and Lukas is from Czech Republic.

Theme/Millennium Development Goal: Education for All and Access to Information for Hearing Impaired

Technology Used: Windows Phone 7, Expression Blend, Visual Studio

Inspiration: Our inspiration started during one of our courses at EPFL: "Personal Interaction Studio". We had to come up with an idea and create a prototype of a mobile application which could help illiterate people in their every-day life. We received interviews conducted in India by researchers from the EPFL's Media and Design lab with farmers. The interviews revolved around the main problems they rural farmers are facing. We also watched lots of videos about the life in rural areas of India. Later, we visited a school for illiterate people in Switzerland: "Lire et écrire" and met illiterate people and their teachers. We interviewed a number of them and realized that none of the existing mobile technologies were suitable for them - since almost all phone's menus are based on "text". A woman from Morocco was particularly touching. She arrived in Lausanne five years ago, she didn't know how to speak French and she was illiterate. "It is very hard for me to keep in touch with family". We wondered if she would like to send SMS to her family and she answered: "I would love to. But it is far too complicated for me ... If I could send them an 'I miss you', it would be wonderful..."

Future Plans: We plan to refine our project and to conduct user evaluations as our Masters project. We will test the application with illiterate users and adults learning how to read and write in Switzerland in collaboration with two schools. We will create different language packages; specifically one for Kannada (language spoken in India) and deploy the application in a field trial with farmers in the province of Karnataka, India. We also want to port the application to other platforms (Android and iOS) and finally we are looking into patenting the idea.

SOFTWARE DESIGN

TAIWAN

Miner

Team Members:
Jerry Liu, Gary Wu, Jim Lin, and Ken Pseng

Mentor:
Dalton Lin

School:
National Taipei University

PROJECT: Adeona

Our project for the imagine cup is called Adeona. Our project focuses on child mortality, and especially children's security. Adeona can help you find missing person efficiently. How does it work? Adeona will get the information about all the moving objects from the camera. Such like cars, people and animals. Adeona analyses the people and get all visual features such as size, shape, color and direction. Next, Adeona saves all visual features into the database. If there are many cameras in this community and every camera has its own database. That's say, a child was lost. How can the police man quickly find the missing child. First, the parents should tell the police man where and when was the last time that they saw their child. Then, the police man can choose a database near from the place, set the time and some parameters. Adeona will show the search result and pop up the candidate matrix. By the candidate matrix, the parents could find their son and choose the candidate. Adeona will retrieve the path of the child.

Theme/Millennium Development Goal: Child Mortality

Technology Used: OpenCV, Microsoft Visual Studio 2008, SQL Server 2008, MFC.

Inspiration: We noticedthat there are a large number of video streams which need to be watched. It is really hard work for so few policeman. So we desired to build a system to help solve this problem.

Future Plans: We could add Face Recognition and License Recognition if the resolution of the surveillance video is high enough. We also have to make the system more stable for a large community.

SOFTWARE DESIGN

THAILAND

NewKrean

Team Members:
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Mentor:
Krung Sinapiromsaran

School:
Chulalongkorn University

PROJECT: Terra Project

Imagine the world where people are helping others. As the large scale of natural disasters are suddenly happening every day, people should beware of themselves and their beloved ones. Terra Project is the project developed for connecting volunteers and victims together to build a stronger community. We have seen how when a large-scale natural disaster comes, there are always shortages in the number of officials [firemen, rescue team, civil workers] to help all the victims in this crisis. Every person with the will to help should be notified where their help is needed. Terra Project is created for connecting individual victims to potential volunteers around them. You can tell people across various your social network sites about what is going on with you and where you are, with just simply one click! With our various functionalities and tools, we ensure that the world where people are helping each other is no longer just in our imagination.

Theme/Millennium Development Goal: Global Partnership

Technology Used: Visual Studio 2010, Microsoft SQL Server 2008 R2, Expression Blend 4, Silverlight 4, Silverlight For Windows Phone

Inspiration: Not long before Imagine Cup 2011 started, Thailand was crushed by one of the greatest floods in its history. Over a million households were damaged. However, only those villages that made it on the news were acknowledged and thus received the huge amounts of aid, while the others were completely ignored. Our team had a chance to visit one of the 'less acknowledged' villages on a university trip. Help did not come to this village, even as there were millions of volunteers willing to help. This was because the volunteers and this village were not connected to each other and there was not enough information. It took courage for our tour guide to lead us to this region. From this trip forward, we wish to create an application that will be the epi-center for each volunteer and each victim to communicate to each other in times of natural disasters. No one shall be unacknowledged anymore.

Future Plans: We believe that everyone can be a part of our better world if we work together to achieve it! Therefore, we will make Terra Project the groundwork that ultimately will be used to integrate and unite all people into the world largest community of volunteers. We have seen how mankind has overcome disasters when we work together, and from now on, we will make it much easier to unite and bring together people together in face of natural disasters, with just one click and social networking.

Codec

Team Members:
Raees Rahim, Jasmine Farley, and Donald Modeste

School:
University of the Southern Caribbean

PROJECT: EduVatec—"Education Elevated through Technology"

While much is being done to provide infrastructure for students around the world, the education system still suffers from continuing school dropout rates, poor personal development and illiteracy skills among many othereducation related issues. EduVaTec aims to alleviate the shortcomings of the education system and its current uses of technology using innovative and natural user interfaces to help guide teachers, parents and students in the direction of holistic development while simultaneously motivating them. Using concepts founded on educational psychology, Eduvatec creates a customized solution for everyone based on the behavior profiles of students. Teachers can easily record these behaviours, and also get "eAdvice" on best practices for teaching a class of that type. Parents get daily updates about their child's behaviours in convenient ways, as well as eAdvice on how to deal with their child. Students have a platform which engages their intrinsic motives and encourages them to learn and participate. Additionally it provides a platform upon which school management at any level can use the data for its various needs. It is created in a very extensible way making it possible to continuously update and evolve the solution as the country sees fit. It also provides a means for community and corporate involvement by advertising and goodwill, which further helps Eduvatec's sustainability. Eduvatec therefore improves the channels of communication among the major stakeholders in education, thus taking education into the modern era.

Theme/Millennium Development Goal: Universal Education

Technology Used: Silverlight, Windows Azure, Windows Phone

Inspiration: We have recognized the need, not only in Trinidad but around the Caribbean and around the world for an improvement in the way technology is used in education systems. In our modern society there is a need to effectively utilize the convenient communication methods available. We envision the education system being elevated by these technologies. The process of identifying behavioural problems in children are tedious and quite extensive, but can be made simpler for the everyday person. This improves the pervasion of best practices in parenting and teaching. We felt that we have a great insight into what engages students, as we ourselves have only recently been students at those levels. We also have a great idea of how technologies are currently being used by different types of people in varying ways, and our vision of leveraging technology for this purpose was enough to get us started.

Future Plans: We plan to continue development of our solution and have it ready for deployment worldwide. We also plan to capitalize on the extensibility of our platform and use this to reach new markets and functions.

14 Development

Team Members:
Mohamed Heni Najar, Ahmed Baratli, Amine Msakni, and Manal Lamine

Mentor:
Ikbel Azaiez

School:
National Engineering School of Gabes

PROJECT: SIGHT

A voice browser called "SIGHT" is our project. On one side, this browser can control by voice commands with multiple languages choices. On the other side, the display is no longer responding to traditional methods but it has rules for syntactic and semantic interpretation and an appropriate reading of the displayed stream. The browser allows converting the displayed text to Braille language which will allow the user to print it using a Braille printer. This browser is not only for the visually impaired; it can also be used by regular people, the elderly and those who have special needs and may have difficulty with accessing information.

Theme/Millennium Development Goal: Provides Communication Assitance for Disabled

Technology Used:
- Microsoft .NET Framework 4.0
- Visual Studio 2010
- Microsoft Expression 4
- Microsoft Visual C#
- Microsoft SQL Server 2008
- XML Web Services.

Inspiration: After the Tunisian Revolution, we had the chance to visit the City of Kasserine (a neglected city by the previous president) and there we met Fatima who is a visually impaired 6 years old girl. Seeing how she suffers on a daily basis (not to have the chance to have a normal life, doing normal activities, going to school etc.) pushed us to look for a way to help her and the other disabled people and the illiterates in Tunisia.

Future Plans: We already have an agreement with a company (Neusta Holding) to help us with the development of the application. They will also help us purchase very expensive voice recognition libraries and also assist us with the marketing of the project. Besides that we are willing to transform our voice browser to a Plugin so the user can install it to his navigator and this way he can benefit from browsing with voice commands without giving up his old browser

SOFTWARE DESIGN

TURKEY

co2ncerned

Team Members:
Onur Yazıcı, Ünal Akyüz, and Gizem Aktürk

Mentor:
Sureyya Akyuz

School:
Bahcesehir University

PROJECT: CO'2'ncerned

The problem of global climate change, due to the increase of the releases of greenhouse gases, seriously threatens our world and our future. While our project CO2ncerned aims to reduce the effects of this problem, it also presents a new solution proposal in terms of social responsibility. In CO2ncerned we allow individuals and corporations to calculate their own greenhouse gases emissions due to their own activities. Users can then have the chance to balance their calculated greenhouse gas releases by donating to the environmental based projects. This donation is voluntary but will educate them as well. While all of the projects in CO2ncerned platform were created collectively with NGO's, they are projects in fields of renewable energy, education, and health. CO2ncerned is a common platform where the environmental sustainability, social responsibility and the source of renewable energy comes together into a solution successful because of technology.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Internet Explorer, Silverlight, Windows 7, Windows Phone

Inspiration: Global climate change threatens our way of life and nowadays its effects becomes more noticeable. Unfortunately,we the human race are responsible for this , in that case everyone of us has to do something about it. That's why we created this project. With CO'2'ncerned project we call millions of people to fight together with this problem.

Future Plans: We are going to establish a company and we are in the period of making some agreements with companies and NGOs.

SOFTWARE DESIGN

UGANDA

Quest0

Team Members:
Joshua Kaizzi, and Lutalo Joseph Willrich

Mentor:
Joseph Kaizzi

Schools:
Makerere University College of Science; Makerere University College of Computing and Informatics

PROJECT: CRIMEX

CRIMEX is a desktop, mobile and web based application that focuses on crime pattern analysis in developing countries. For business to thrive in a given area, it is important that the crime rate is low. Law enforcement and crime investigation units in East Africa are under-staffed with little or no experienced crime analysts. The crime departments resort to manual data analysis from field reports, and witness testimonies to predict patterns. CRIMEX provides a unique solution for both law enforcers and civilians ranging from crime pattern recognition to facial recognition capabilities, biometric analysis; and personal security notifications for civilians. CRIMEX can also be linked to international crime databases where need be. CRIMEX solves no goal in particular but attempts to create an environment for the achievement of the MDG's. The rule of law (often referred to as the "missing MDG") in society is a key factor in achieving the UN Millennium Development Goals.

Theme/Millennium Development Goal: Create an Environment for the collective achievement of all Millennium Development Goals. This rule of law (often referred to as the "missing MDG") in society is a key factor in achieving the UN Millennium Development Goals

Technology Used:
- Silverlight
- Windows 7
- Windows Phone
- WEKA

Inspiration: There's an alarming crime rate in East Africa (corruption, theft, vandalism, etc.) that makes it difficult to achieve any of the UN Goals by 2015. The high crime rate is mainly attributed to the inefficiencies within the various law enforcement bodies around the region. Crime analysis is mostly a manual process making it impossible for the police officers to detect crime patterns overtime. There was need to develop a tool that will not only aid law enforcement in executing their duties but also serve as a personal security advisor for civilians; hence creating a conducive environment for achievement of the goals.

Future Plans: To further improve the intelligence and functionality of CRIMEX and to promote its use for crime pattern analysis in East Africa.

DashPoint

Team Members:
LevgeniiI Pavlii, Dmytro Gorodnytskyi, and Kateryna Pinchuk

Mentor:
Oleksii Tumanov

School:
Computer Academy "Step" Odessa

PROJECT: DashPoint

DashPoint - is a new way of transferring information. We've created an interface that can interact with the user not only visually or also by sound, and tactile perception. Simple desire to learn something new from a textbook or read some fresh news for a deaf or blind person is a unreachable dream. With DashPoint - it's already a reality. Our software and hardware complex allow those who are deaf or blind to study using tactile perception. And it's not necessary to use expensive Braille displays and software. DashPoint is a new instrument for learning and communication. It is efficient and cheap. That's why DashPoint is the best choice today. By the way, the deaf and blind do not need to practice before using our complex. We have opened new windows into the world for those where previously it was unavailable. Almost all the functionality of DashPoint is made in a modular way. In our mind such modules are gates. We have already developed:

1. **Education Gate**—using it, the deaf and blind can receive education information in digital form.
2. **Information Gate**—allows one to access actual information from all over the world.
3. **Communication Gate**—allows the deaf and blind to use MSN.
4. **Social Gate**—using it they can access social networks like Facebook.

We are working on developing additional gates.

Theme/Millennium Development Goal: Universal Education

Technology Used:
- Microsoft .NET Framework 4.0
- Microsoft DirectX
- WPF
- Microsoft SQL Server CE
- Windows Phone developers tools

Inspiration: On October 24th our team mentor went to Brussels on the United Nations Organizations day. There he spoke with volunteers and realized that there is a big problem of education for deaf and blind people. Our team decided to help these people. We'd like to make their life better. So we've started the development of DashPoint

Future Plans: We are going to connect Kinect to our solution. Also this autumn we are going to release our own controller on the market.

The Hex Pistols

Team Member:
Shawn Frank

School:
University of Wollongong in Dubai

PROJECT: momEcare

momEcare is a solution consisting of 3 modules a mobile app, a website and a server. At the U.N. 70% of maternal deaths can be treated without any technology as they occur from the most primitive causes. The mobile app will assist medical staff in developing regions in carrying out proper checkups and recognizing the symptoms as well as treatment of the most common causes of maternal deaths. The app is connected to the momEcare website where medical experts from all over the world will review anything posted here. Medical staff in 3rd world countries can record concerns, or post images of things like infected areas or blood samples and get video or audio feedback. Despite having a lot of functionalities, the app has been carefully designed to be used by people with little or no education. Finally all information such as: the images and concerns asked along with the replies, the number of medical staff in a region and their skill level, the number of pregnant women in a region and their medical information through checkups, and GPS location. All of the above information is stored in the 3rd module that is the server at the U.N and mapped on a server side application called the momEcare hotspot. This twill show which regions have an unstable doc-patient ratio or a low skill level of doctors and these areas will show up as alerts on the hotspot. This will allow the U.N. to allocate its needs to areas where they have the most need for better maternal health. So with momEcare, let's save our mothers today.

Theme/Millennium Development Goal: Maternal Health

Technology Used: Bing Maps, Silverlight, Windows Phone, Other

Inspiration: Improving maternal health has shown the least progress among all of the Millennium Development Goals with only combatting HIV being lower. Only 17% of countries are on track to meet their goals set for 2015 and it is already 2011. Help was needed.

Future Plans: The project relies on having a large base of medical experts so the first step would be to try and get medical experts from all over the world related to gynecology and obstetrics) involved. Once this is done I will probably plan to engage in the U.N internship program which I heard about at the regional Imagine Cup Finals. This is where the U.N works with you to help make a project - a reality. With their help, the first step would be to test the solution in isolation with one village to see what works and what changes can be made to create the perfect system.

Project OVE

Team Members:
Damo Walsh, J.P Lacerda, and Sam van Lieshout

Mentor:
Simon Harper

School:
The University of Manchester

PROJECT: Project OVE

Project OVE (Open Volunteer Exchange) is a distributed platform to enable volunteering organizations to exchange volunteers. The aim of Project O.V.E. is to enable people to quickly organize events requiring a workforce of volunteers with specific skills. We entered Microsoft's Imagine Cup as we thought that the theme presented an interesting project from both a philanthropic and technical viewpoint. One of the benefits of our project's unique design is its reliability — this is particularly important when volunteers need to be rapidly mobilized in times of emergency. We are using a peer to peer based system: if the network is affected adversely, peers can still communicate with each other, allowing for the continuous exchange of volunteers. The competition has given us the opportunity to transform this original idea into reality.

Theme/Millennium Development Goal: Multiple Millennium Development Goals

Technology Used: Visual C# 2010, ASP.NET, Windows Server 2008, IIS

Inspiration: After the team reviewed this years theme and the Millennium Development Goals, we decided to develop an application that would not tackle a specific goal, but rather provide a framework that facilitates working on all goals. Volunteers are essential to efficiently solving many of the worlds problems: Project OVE aims to allow volunteers to be rapidly and efficiently mobilized, allowing organizations to harness their ideal workforce.

Future Plans: It is our aim to deploy Project OVE shortly after the Imagine Cup Worldwide Finals. The initial phase of the project consisted of contacting volunteering organizations, tailoring the design of our application to fit their needs — this has generated ample amount of interest and expectations for our project, which we wish to fulfill. Project OVE will be successful, and as such we will consider getting additional developers interested in the project, expanding upon the existent feature-base (i.e. to internationalize the project, which will require translators).

Team Note-Taker

Team Members:
Michael Astrauskas, David Hayden, Qian Yan, and Shashank Srinivas

Mentor:
John Black

School:
Arizona State University

PROJECT: Note-Taker

To take notes in class, students with visual impairments must rapidly switch between writing their notes (a near-sight task) and viewing a board at the front of the classroom (a far-sight task). Current assistive technologies provide magnification for near-sight tasks, or for far-sight tasks, but none support rapid switching between the two. Alternatives such as human note-takers and audio/video lecture recorders force dependence on others, and do not facilitate the student's interaction within the classroom. The Note-Taker Project solves these problems by combining a custom-designed pan/tilt/zoom camera and a Tablet PC that supports both pen and multi-touch input. Users simultaneously view live video and take notes on a split screen interface. The camera may be aimed and zoomed by dragging and tapping on the Tablet PC display surface. Users can also jump back a few seconds with a simple swipe gesture, should the professor get in the way of the blackboard. Notes can be typed and/or handwritten, and video or audio of the lecture can be recorded. Currently the team is engaging several dozen students with low vision in user studies to improve the software and hardware to better address the students' needs. By making the lecture presentation accessible to students with visual disabilities (in the form of a zoomed video on the Tablet PC screen) the Note-Taker allows students to take their own notes – a process that is well known to benefit retention. The Note-Taker requires no adaptation of lecture material, or reliance on any support personnel. It is portable, it can be carried in a backpack, and it can be set up within one minute.

Theme/Millennium Development Goal: Universal Education

Technology Used: Windows 7, Windows Touch, Other

Inspiration: The Note-Taker Project began when our legally blind team leader David Hayden was unable to keep up with note-taking in his upper-division undergraduate math courses. Determined to complete majors in computer science and math, he sought out commercially available assistive technologies. None were sufficient and so, with support from the Center for Cognitive Ubiquitous Computing, a prototype Note-Taker was developed. Thanks to that prototype, David finished the course work for both degrees!

Future Plans: Future plans for the Note-Taker include synchronizing recording audio and video with the handwritten or typed notes, allowing a student to play back the portion of the lecture recorded when certain notes were written or typed, or have their notes highlighted as the recording is played back. Perspective correction will be added to compensate for distortion from not having the camera centered in front of the board. Early considerations have been made into marketing or licensing the Note-Taker technology to make it available students around the world.

UCV-IDEA

Team Members:
Karina Pedrique, Daniel Romero, Jorge Ramirez, and Vanessa Arévalo

Mentor:
Robinson Rivas

School:
Universidad Central de Venezuela

PROJECT: Interactive Whiteboard and Table Revolution

Our project is focused on two interactive devices, a tabletop and a interactive whiteboard. These can be used in any classroom for teachers and students. The key of these devices is that are made of low cost elements, compared with commercial devices which aren't accessible for most schools in the world. With these devices, classes can be more dynamic and fun for students, motivating them to learn and teach each other, creating a collaborative atmosphere, and working together while they learn. However, a problem that teachers often face is how to prepare the class to be suitable for these types of interactive devices. In order to simplify this task, we created a website where he or she can search, share, rate and recommend interactive material online with other teachers. Additionally, we developed a small pool of applications that are best suited for the devices, and while the system is getting more accepted, we will be start adding new applications to keep the system updated and more user-friendly. Our vision is to start implementing this system in primary schools, and then expand them to high schools and other educational environments.

Theme/Millennium Development Goal: Universal Education

Technology Used: XNA Game Studio, Other

Inspiration: The use of computers and internet has been beneficial to both students and teachers. The internet has unlimited resources to different topics in a classroom. There are powerful tools for teaching and learning, as interactive whiteboards and tabletops. However, most schools in the world still use conventional methods, like using a common blackboard and chalk. Due to the current situation, we created this project in order to bring new ways for teaching and learning in to as many schools in the world.

Future Plans: Our goal now is to run a pilot study with a small number of schools in Caracas. Each school would have an interactive classroom which contains an IWB and several tabletops. We would regularly visit these schools to monitor the use of the equipment and depending on how the pilot goes, we may then look forward to expanding it throughout the city, and perhaps the country.

MiGi

Team Members:
Tiến Nguyễn, Nghia Minh Le, and Thuy Dang

School:
Ha Noi University of Technology

PROJECT: Million Gifts (MiGi)

Million Gifts (MiGi) is a website for people to use things in a more eco-friendly manner. Someone can give away an old thing to another who really needs it rather than throwing it away. They can also request something they need without buying it as a new product. MiGi will help to connect these people based on the item information they share on the website. We want to turn unused things into presents when they are shared around the world.

The MiGi project is also designed to support donation events. Organizations can create events on MiGi and ask for attention from everyone all over the world. As soon as the event is on, people can immediately donate things they are currently sharing on the website with no further registration. The more things are shared, the more people are helped and the faster they are helped, the better world we are making.

Theme/Millennium Development Goal: End Poverty & Hunger, Environmental Sustainability

Technology Used: ASP.NET, MVC, SQL Server 2008 R2, ADO.NET Entity, SilverLight, Window Phone 7, Bing Maps

Inspiration: Every year there are billions tons of waste are thrown to the environment. People throw away old items (which are still usable) without any hesitation or store them until they are expired. At the same time, we also buy a lot of new things, not all which are really in need. Sometimes we buy it just for the future use. The more we buy, the more we discard. This really causes bad effect to the environment when the recycling rate in fact is lower than what we can do in reality. Besides, those thrown away things are still precious to people with poor living conditions. There are still many so-called waste-pickers who live on waste!

Future Plans: MiGi is developed in our last year at the university. It is one part of our study assignment. But now it is not only a working project but also our dream to contribute to making the world a better place. We decided to take part in the Imagine Cup in order to tell everyone "Lets' use things more wisely!"Thus, after the competition, we all want to continue chasing this dream.

We are now working with organizations in our country, Vietnam, to hold events of exchanging old things. Our latest book event on March 2011 received a lot of rattention and support from students in many universities. We are also doing research on a low-price device that can detect location and send SOS message for people in our central part, where they have to go through severe floods every year. The device is designed to find them and provide necessary things to them in the shortest time. Moreover, we are still seeking for the chance to work with international associations to help more and more people in the word.

EMBEDDED DEVELOPMENT

They're smart. They're powerful. And people around the world use them every single day. Yes, we're talking about embedded devices. Imagine Cup 2011 finalists in Embedded Development took embedded technology to the next level with their solutions.

Embedded Development finalists unleashed their creativity and built amazing embedded solutions using Windows Embedded Compact 7 and a provided embedded device. With the 2011 Theme as a guiding light, these students worked carefully on creating tomorrow's technology. They used their creativity to build complete hardware and software solutions that will solve the world's toughest problems!

ALGERIA

Green Schtroumpfs

Team Members:
Abdelmoumen Bouabdallah, Tahar Zanouda, Sohaib Afifi, and Zoubir Ameur

Schools:
Ecole Nationale Supérieure d'Informatique, Institut National De Formation En Informatique D Algerie

PROJECT: I'mPowering

Our lifestyle is becoming more and more sedentary and is the main cause of obesity and many related diseases worldwide like Type II Diabetes. We're not pushing people to do a sport in order to generate electricity, rather harnessing their unused energy to make electricity. We are recycling the kinetic energy wasted during a workout in a gym or household or on a rotating door in hotels and dormitories. We offer an embedded solution along with a desktop application and a web platform for different kinds of installations (households, gyms, prisons, buildings, etc.). We provide also a low cost installation using cheap or recycled components or just the embedded system to facilities using retrofitted exercise equipment to harness human power. Each one of those things only generates a modest amount of energy, but if we harness a phenomenon known as "crowd farming", the collective impact of small contributions from a mass of people, the potential is great. Imagine if bicycles, gym equipment, stadium chairs and rotating doors were to generate power for two hours a day. That would give about 300,000 Megawatts which is 1% of the renewable energy. What if we consider the educational and health impact of the project? Our software makes ones contribution to make a better world visible and traceable. The CO2 reduction for the planet is the philanthropic aspect of our solution. We give the opportunity to companies and green installations (including green gyms) to do something for the planet, reducing or even cut out the electricity bill and improving its image and market shares with a "Green and Eco-friendly" label. Our solution has also a good impact on the health of the individual. It helps the user to burn more calories and to reduce the electricity bill while working out. The solution gives a personalized journal, advice, tips and evaluation.

Theme/Millennium Development Goal: Universal Education, Environmental Sustainability

Technology Used: Bing Maps, Internet Explorer, Silverlight, Windows 7, Windows Embedded, Windows Phone

Inspiration: Global warming and environmental change have become big issues not only with governments and corporations, but with all of us. That's why we should all seek out new ways to green up our daily activities. We know that electricity generation depends 80% on the combustion of fossil fuel and this is one of the toughest problems. We saw around us the amount of energy humans waste in their daily activities or while working out in gyms or indoors. We thought about harnessing that power to make electricity out of it, doing our bit to reduce the CO2 footprint, educating people indirectly by making them realize how much effort is needed to generate a fair amount of electricity.

Future Plans: We will launch our start-up and work on a palette of personalized products for different types of installations. We're also going to develop a human-powered laptop charger.

BRAZIL

Embedded Brain

Team Members:
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Mentor:
Francinildo Kleyson Dos Santos

Schools:
UFPE – Federal University of Pernambuco, Universidade De Pernambuco

PROJECT: FirstCareTaker

FirstCareTaker is an embedded system that monitors patients' vital signs while they wait for medical care. When it detects critical conditions it alerts the staff so they can take action. The set of hardware + software can be used in different situations and settings: treatment rooms (emergency), ambulances or even in tents or other common situations in case of large accidents, or natural disasters or other scenarios of great proportions. We have built fairly precise and low cost devices to gather biomedical signals such as a electrocardiograph, a digital thermometer and an oximeter that are used in conjunction with a set of common devices such as an accelerometer and a microphone, all of them sending this collected data to a control server via a wireless network. By checking a range of patients' signals the system can make a pre-evaluation of their health status, determining critical situations and helping doctors on decision making and case prioritization. The process is quite simple: whenever a patient arrives at the hospital (or improvised emergency rooms which are very common in war conflicts or natural catastrophes situations) they are immediately guided by a nurse or assistant to a chair or a stretcher equipped with a FirstCareTaker embedded system. After our device is correctly placed, FirstCareTaker will continuously monitor the patient and send messages to the FirstCareTaker display (a common personal computer or a any PC compatible device) in which all FirstCareTaker units' data can be visualized.

Theme/Millennium Development Goal: Child Health, Maternal Health, Other

Technology Used: Internet Explorer, Windows Embedded, Other

Inspiration: We believe health is the most valuable "asset" one has. We thought "what if we build something that would have immediate impact in people's lives? What if this creation can help people when they must need it – when they are either sick or injured? How come we have so many Smartphones, internet connection, and small and powerful notebooks but we still have to sit unassisted while waiting for medical care?" It is all about believing in something and stepping up to the challenge of making it real. We believe that medical care can be more efficient and human through the use of technology. This is where we really got inspiration from, people. Before technology, before software, before anything we thought about who we wanted to help. FirstCareTaker is more than a project, more than competition or business. It is about helping the largest number of people we can and we want to do it now and in an effective way.

Future Plans: We will work in fundraising and finding solid partners so we can have a better structure to get our solution to the market.

EMBEDDED DEVELOPMENT

CHINA

Harmonicare

Team Members:
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Mentor:
Pin Tao

School:
Tsinghua University

PROJECT: Harmonicare

We have invented a new embedded system based device (Harmonicare) which successfully converts the boring respiratory training into an entertaining way. With our device, user could directly play any available harmonica music without training. This device not only can improve user's health situation, but also can bring the user great fun and sense of achievement. If commercialized, our device might be connected to the internet and therefore help the user keep in touch with friends and get useful medical care suggestion from the internet doctors.

Theme/Millennium Development Goal: Child Health, Other

Technology Used: Silverlight, Windows Embedded

Inspiration: Three members of our team suffered from respiratory system diseases as children. We know from doctors that if people are persistent in doing exercises to improve pulmonary function, the risks of many common diseases related to pulmonary will be reduced greatly. We wanted to find a solution to help people be persistent in doing respiratory training.

Future Plans: We hope we can make our Harmonicare more robust and expand the music library.

COLOMBIA

Freakin' Mind

Team Members:
Catalina Sierra, Sebastian Londoño Salcedo, Luis Miguel González, and Juan David Muñoz

Mentor:
Andrea Ramirez

School:
Universidad Icesi

PROJECT: S8VER

S8VER is a technological tool that aims to address the high mortality rates when natural disasters occur. Currently the tools to search for survivors in a disaster situation are not efficient and do not take advantage of available resources, which becomes a big problem because in such situations these resources are scarce and people die because the lack of timely assistance. S8VER is a device that can fly over the areas affected by natural disasters being able to identify survivors that need to be rescued. It is a low cost solution that is capable of reaching difficult access areas and of informing relief agencies the exact location and living conditions of identified victims. Finally it presents an overview of the affected areas allowing the relief agencies to design an efficient rescue plan. S8VER is small, lightweight and independent from technology infrastructure device that is able to collect solar energy for its operation. S8VER combine different technologies such as geo location, visual pattern recognition and sounds processing that make up an embedded system that works under Windows Embedded Compact 7 OS. The device can be controlled from a desktop application on a computer but considering the portability of the solution and the context to which it applies, it can be controlled via a Windows Phone 7 device. The application on the phone delivers rescuers S8VER camera flow in real time and processed information from its location and identification functions.

Theme/Millennium Development Goal: End Poverty & Hunger, Child Health, Other

Technology Used: Bing Maps, Silverlight, Windows Embedded, Other

Inspiration: Just between 2010 and 2011, earthquakes in Haiti, Chile and Japan reported about 350,000 deaths and several millions of displaced people, causing economical, nutritional and medical problems, and showing the importance that different fields of knowledge can contribute to providing a solution for survival. Many of the people involved in this disaster situations survived, but then died because the lack of timely assistance, including thousands of children who remain vulnerable with the chaos of a disaster situation. One of the causes is that relief agencies have insufficient resources to assist all affected people and also some affected areas are not easily access and the mechanisms used to identify victims are primitive and inefficient. Thinking of making these rescue processes more efficient and reducing the high number of victims left by natural disasters, we developed S8VER, an intelligent device that can fly over areas that are difficult to reach during a natural disaster, being able to identify affected zones and deliver information to relief agencies about the victim's location and its condition.

Future Plans: S8VER will continue as an investigation project in ICESI University. While we are open to many ideas, we hope to get research and business oriented proposals. We also hope that S8VER can be implemented in several organizations in Colombia in order to test their functionality as a tool in natural disasters. Due to the flexibly of S8VER, this device can not only be useful for disasters, it also has other kind of purposes such biodiversity observation trough augmented reality and real time interfaces. These new features will be developed as an investigation project and hopefully tested by different organization in Colombia.

EGYPT

ideas 4 u

Team Members:
Mary Raymond, Michael Gamal, and Samuel Shahed

School:
Ain Shams University

PROJECT: Now I See

This device serve as an extra set of eyes to a visually impaired person as it describes to them the objects and the colors in front of them using two modes for helping the user.

Theme/Millennium Development Goal: Other

Technology Used: Windows Embedded

Inspiration: We were inspired by the story of a visually impaired friend who suffered a lot in his life because of his disability.

Future Plans: We have many ideas to improve our device to be more helpful for the users. We also intend to make it a helpful tool in the field of education of the visually impaired persons by assisting them in reading.

FRANCE

Give Me 4

Team Members:
Edgard Ghislain Mbayen, Thomas Guillard, Franck Achkouyan, and Mouham'mad Chafi Cassim

School:
EFREI (École FRançaise d'Électronique et d'Informatique)

PROJECT: LinkTV

Recent studies show that isolation and loneliness are aggravating factors for high blood pressure and many other health issues. Our project reduces the number of isolated seniors by enabling them to communicate with family and friends, and thus lowers the risk of catching one of these diseases. The Internet and other related technologies change the way we communicate and share personal files. Until today many elderly people do not have access to these new tools which they consider too complex for them. This is why we conceived LinkTV specifically to their needs and abilities. In terms of components it is only a TV, a webcam, a Box and a remote control. The software that is included on the eBox is composed of 4 modules: the first one enables seniors to receive and send text messages and emails. The second one allows them to receive photos and videos. And finally, the last module permits to speak and see their relatives through the TV. To simplify the configuration of the box we also conceived a web access for the family. It is accessible easily on through a webpage.

Theme/Millennium Development Goal: Other

Technology Used: C# .NET compact framework for the software included in the eBox, Windows Server 2008 to manage any kind of messages, Zigbee for the remote control, Directshow to play videos and videos conference.

Inspiration: For the past two years each of us had been thinking of Imagine Cup. One team or more from our school EFREI (FRANCE) has participated at the competition, and each year we followed, as well as we could, their path through the French final and more sometimes. Finally, last year we decided to follow our predecessor in this adventure. We started thinking of how we could help the world with software. Many ideas came up, included the one we will show at the World Wide Final: LinkTV.

Future Plans: We are still discussing the idea of a start-up after Imagine Cup but nothing has been decided yet.

EMBEDDED DEVELOPMENT

GERMANY

JofNet

Team Members:
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Mentor:
Prof. Dr. Andreas Judt

School:
Duale Hochschule Baden-Württemberg, Ravensburg

PROJECT: JofNet

JOFNET is an automatic job adviser for day laborers especially designed for the poorest people in developing countries living in so called slums or townships. It connects those people searching for jobs and those offering them, providing advantages for both sides. By an internal selection of the workers it is possible to guarantee a fair distribution and to find the best candidates for the jobs. JOFNET saves time and money getting rid of long waiting periods at meeting points.

Theme/Millennium Development Goal: Poverty & Hunger

Technology Used: Embedded e-Box 3310A, Microsoft Silverlight, Windows Embedded Compact 7

Inspiration: The idea was born in South Africa during a business trip to Capetown. Seeing so many people living in slums without jobs, education, and without any perspective inspired us to start this project.

Future Plans: After finishing our studies in September 2011 we hope to find a financial partner to make JOFNET a reality. Starting in South Africa we want to use JOFNET in its full potential and then implementing it all over the world.

INDIA

Drushti

Team Members:
Shailesh Lohia and Amit Kulkarni

School:
Ves Institute of Technology

PROJECT: Project iRIS

Lack of effective education and computer accessibility techniques leads to insecurity and makes the life of a visually impaired vulnerable and cut off from the society. Project iRIS provides the visually impaired users, a natural way of interacting with a computing device and thus, facilitates ease of access. With ease of access, the users can learn and work better thus improving their standard of living by providing means of education and employment and becoming self-sufficient.

Theme/Millennium Development Goal: End Poverty & Hunger, Universal Education, Global Partnership, Other

Technology Used: Windows Embedded

Inspiration: We happened to meet a visually impaired student looking for donations to fund his education. During interaction he told us the various difficulties he faced while studying especially when it came to graphics. How he would make use of matchsticks, strings and glue to make the diagrams just so that he could study them once before his exams. This inspired us to develop a device to help the visually impaired in their education, which could be portable, reusable and easy to use.

Future Plans: For the future, we feel the device has a lot of scope for development and improvement. We would like to test our device, research the needs of the visually impaired more and continuously improve our project so that we can actually go about helping the visually impaired in our little way.

EMBEDDED DEVELOPMENT

INDONESIA

MACARA

Team Members:
Alfan Presekal, Ednaz Hermawan, Reza Bhaskoro, and Aditya Rinus P Putra

School:
University of Indonesia

PROJECT: EDCOS (Environment Digital Controlling System) Project for Algae Cultivation

We are trying to present a solution for the problems of food, energy, and matters relating to the global warming problem. The solution is to use algae as a powerful plant. We are hoping to use a touch of embedded technology in the breeding process of algae to increase the amount of algae production. The embedded technology would also ease in the controlling and monitoring of the algae growth.

Theme/Millennium Development Goal: End Poverty & Hunger, Environmental Sustainability

Technology Used: Internet Explorer, Windows Embedded, Other

Inspiration: We were inspired by the efforts of algae cultivation research that has been conducted at the Department of Chemical Engineering, University of Indonesia. Knowing that algae is something that has great potential in the future, we tried to give it a technology touch by using embedded technology inside it. We hope through the combination of various disciplines to provide benefit to mankind. In this project the technology we use is not something new and sophisticated because we believe that "appropriate technology is better than the advanced technology" -BJ Habibie

Future Plans: Our future plans are to implement EDCOS to the large scale of algae cultivation so the EDCOS system algae production can be optimized.

Sun Donation

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Mentor:
Takeshi Uchida

Schools:
Kyoto University Graduate School, Osaka Municipal College of Design, Institute of Information Security

PROJECT: Sun Donation

Project Sun Donation solves the problem of a TIGHT BUDGET that is common to most of organizations that support developing countries. By approaching the problem, we will achieve the MDGs No.4 and 6. Sun Donation is a brand-new digital collection box using digital signage. Users (donators) do not directly put their money into the box but touch the digital signage located in town (e.g. cafe) and watch an advertisement instead. In other words, the users can donate indirectly since a part of the advertisement income will be donated to the supporting organization such as UN, UNICEF, and NPOs. In Japan, both companies and individuals want to make donations to big organizations. That's because they feel that big organizations are reliable. They expect big reliable organizations to use donated funds effectively in a right way. However, there is a case where small organizations can use donated funds more effectively. Their strength is their mobility. But, unfortunately, it is difficult for small organizations to get a lot of donations. Sun Donation also solves this problem. Just like the sun shines on all, Sun Donation gives equal opportunities of getting donation to big organizations, small organizations, and even individuals. Our project Sun Donation can collect donation efficiently by providing advertising space on both personal and enterprise basis and support the organization or group that are helping to reduce child mortality.

Theme/Millennium Development Goal: Goal 4: Reduce child mortality, Goal 6: Combat HIV/AIDS, malaria and other diseases (especially Target 6b, 6c)

Technology Used: Windows EC7, Windows Azure, Silverlight

Inspiration: Originally we had questions and complaints such as "Where is my money used?" and "The ways of donation are limited." We were thinking about the new, easy way of donating and found Imagine Cup and started developing this project. However, our biggest inspiration came from the earthquake that struck eastern Japan on March 11. We felt frustrated that we could have collected donations more continuously and effectively if our project had been already widely available. We met with experts of digital signage companies and asked for their advice to make our project more practical. That is how our project "SunDonation" was born.

Future Plans: After Imagine Cup, we will improve the functions and UI of our digital signage and complete the multi-device support. At the same time, as a first step, we will place the prototype of SunDonation in a beauty salon to collect data. Then, we will exhibit SunDonation at the promotion exhibitions. On the web and the signage, we will also report how our donations are used. Currently, we work together with volunteers and NPOs that play an important role in the earthquake affected areas of eastern Japan to share the local situation. We will also use our signage to show the latest information about the disaster. Finally, we will operate SunDonation on a larger scale.

Link Your Passion

Team Members:
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Mentor:
Sun Hyung Kim

Schools:
Carnegie Mellon University, KAIST, Seoul National University, Yonsei University

PROJECT: Know Your Water

Know Your Water system is composed of three modules and each has purpose of monitoring water quality, informing the people of water location and sanitary level, and educating people of necessary hygiene. Most organic pollution increases BOD(Biological Oxygen Demand) index, that means gross Oxygen required by microbes to discompose all organic compounds. There are much more indices to test 'drink- ability' of water, but concerning about all of them is unnecessary since Africa region is not industrialized enough. Our system implementation includes BOD and electro conductivity sensor. COD and other some useful indices are not included due to maintenance and supply issues. The system will be deployed to hard-to-reach regions thus robust design is required. Basic concept of single system is that runs Windows Embedded Compact is located at center of system, that collect and process data to judge quality of water. The result can be shared by ad-hoc networking feature, to find nearest 'fine' water source. System also guides basic water safety such as how to boil water using sunlight for alternative choice. In some deployments, central data center and Internet connectivity point may be included. It is used for simple data collection for statistics, or real time alert for basis of emergency aid purpose. Centralized data can be provided to government, NGOs, and other related parties through Open API.

Theme/Millennium Development Goal: Reduce Child Morality in water-deficient regions by providing monitored information to clean water source.

Technology Used: Windows Embedded Compact, Windows Server, SQL Server, Bing Maps

Inspiration: Single letter demonstrating the hardness of getting clean water source from a friend participating volunteering project in Malawi, Africa.

Future Plans: Project roadmap is composed of three phases, and we are on the 2nd stage where enhancing public understanding and envisioning geological sanitary map. We do believe each of Know Your Water system can be a part of single node in smart water grid network thereby engaging in increasing of water usage efficiency after the Imagine Cup, as a 3rd phase.

PAKISTAN

The Pioneers

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Mentor:
Nauman Zaffar

School:
Lahore University of Management Sciences

PROJECT: CleverGrid

Project CleverGrid caters for lack of a cost-effective, proactive energy metering, power-distribution and management infrastructure in the developing world. It attacks various prevalent problems associated with energy crisis, as electric power short-fall, load-shedding, rolling blackouts, electricity-thefts, commercial losses and asset-destruction due to load-constraint violations, power-factor non-maintenance along with associated low economic productivity, low industrial throughput and social dysfunction. It implements load-thresholding enabled embedded smart-meters (for load usage management) in active communication with an embedded system, performing power-monitoring, energy-usage regulation and data-analysis (for theft-control, distribution-asset protection) on the electricity supplier's end.

Theme/Millennium Development Goal: End Poverty & Hunger, Global Partnership

Technology Used: Windows Embedded, Other

Inspiration: To be honest, it's the realization of constant interruption and frequent dysfunction in socio-economic life brought by electric power short-fall that we experience on a daily basis. The chain of events is surprisingly expansive: We can't get our things done, be it the petty household errands, academic, social or professional commitments; industrial dysfunction renders thousands jobless, followed by reckless inflation in commodity markets, followed by increased energy prices to aggravated recession. For developing countries like ours, it's the staggering chain reaction of problems initiated by energy-crisis that we live through. Think if we get ahead of this big, multidimensional challenge, by managing and conserving our energy resources to begin with, think of the magnitude of impact, of the scale of development. We have just begun to contemplate.

Future Plans: We are pretty hopeful about the space for potential design upgrades in the infrastructure. We intend to explore the construction of optimized networks of communication and information exchange, for energy-management policy design, customized for specific distribution areas and consumer demand. Also how these power systems are cascaded or inter-connected to form bigger meshes and webs.

EMBEDDED DEVELOPMENT

POLAND

WCY_TEAM

Team Members:
Marcin Cieślewicz, Kamil Krajewski, Artur Stachurski, and Marcin Perka

School:
Wojskowa Akademia Techniczna (Military University of Technology)

PROJECT: COP4CE – Compact Operating Package for Critical Engagements

Compact Operating Package for Critical Engagements – COP4CE is an advanced embedded system mostly dedicated to police; however it is versatile and can be also adapted by rescue units. COP4CE terminal is a wireless compact computing device designed to support users working in field operations or patrols. This solution allows remote transmission of operational materials such as search warrants, patrol paths, information about missing people and any other quickly changing and/or unknown ahead of time important information. With this device the officer obtains superior operational capabilities and becomes an integrated part of the police system. The system is designed to assure data confidentiality and integrity also in the case when the device falls into the wrong hands. COP4CE terminal and its peripherals are powered by external battery pack which provides high mobility and convenience.

Theme/Millennium Development Goal: Other

Technology Used: Windows 7, Windows Embedded

Inspiration: Old Town in Warsaw. Early afternoon. Suddenly a woman's scream is heard and after a while people begin to flee in panic. "What's happening?" asks one of the passersby. "It's nothing special," replies to the second, "there was a jeweler robbery again." In this situation police did not react immediately. They followed standard, long procedures: verified the alarm, sent it to the appropriate unit, and in the long run they arrived to the crime scene – all these allowed criminals to escape. Why can't such procedures happen faster? In crisis situation immediate response is necessary; there is no time for formalities. Why at such a rapid development of technology, no one has a reliable and efficient system for responding to such events? We know that our project would not eliminate crime in the world, but it can help fighting against it.

Future Plans: After Imagine Cup Finals, we plan to enter into cooperation with a security agency, perhaps with our university, where they are hired for carrying out daily protection and security tasks in the area (guarding entrances, patrolling, etc). We count on a fruitful cooperation where the agency receives a free-of-charge prototype of our system (both terminal and command center application) which could be of help for them, while our team gets valuable feedback on important changes (in hardware and software) and new functional modules needed. The result would be a rebuilt version of the prototype, in a stable configuration tested in near-operational conditions.

Endeavour_Design

Team Members:
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Mentor:
Dobrea Dan Marius

School:
Gh. Asachi Technical University of Iasi, Romania

PROJECT: autoRobot – An Autonomous Robotic System

Robotic search and rescue operations, car safety systems (CSS) and robotic space missions all revealthe need for integrating a local autonomous behavior in order to achieve their specific goals. What these applications have in common is that they all are externally controlled by a human operator (HO). Usually, the HO is also in charge of all the movement execution including avoiding static and moving (unexpected) obstacles. Due to many influences such a robotic system (RS) can lose communication with its HO and the mission can be compromised, the injured humans can die and/or lots of resources and efforts can be lost. But, a RS with local autonomy and an integrated goal of finding a radio signal covered area can help the HO to regain control. Our solution, the autoRobot, is a new designed and implemented autonomous RS that brings with it both a bio-inspired obstacle avoidance learning algorithm and the integration of this learned behavior into more complex behaviors like those that are radio controlled.

Theme/Millennium Development Goal: Other

Technology Used: Windows 7, Windows Embedded

Inspiration: To design an autonomous robotic system that behaves like humans is the dream of any passionate robotic scientist. The image of a child experiencing his first bump into a wall or other unexpected things, followed by his more and more improved successive approaches to avoid collision inspired us. Avoiding obstacles is not one of the innate reflexes a baby is born with but, instead, he has to learn it. How the unskilled child succeeds, through trial and error, to learn autonomously and in real time to avoid collisions continues to be still a debate in the psychology community.

Future Plans: For now, our system generates autonomously a reflex behavior that takes over control of the system over the radio command but only in the critical situations. In imminent (unexpected) collisions where a fast reaction is needed the reflex behavior only takes out the robot in a safe zone leaving to the human operator to regain trajectory and continue his operation. So, one first future plan regards the integration of the obstacle avoidance new learned behavior into higher abstract movement goals like that of automatically regaining the initial trajectory. Thus, the operator will have more time for analyzing and decision making processes.

Calvus

Team Members:
Grigoriy Zernov, Georgy Bystrenin, Evgeniy Korobko, and Sergeev Sergeev

Mentor:
Petrov Dmitriy

School:
Saratov State Technical University

PROJECT: Automated Complex For Breeding And Rearing Of Larval Axolotl

Our project features a device that controls conditions to create a suitable environment for larval axolotl, a kind of animal used in stem cell research. Breeding axolotl is a complex task since they require very specific environmental conditions. We use an embedded device based on Windows Embedded Compact 7 to automate breeding and rearing of these animals.

Theme/Millennium Development Goal: Child Health, Other

Technology Used: *We used so many different technologies:*

- Microsoft Visual Studio 2008
- e-box 3310A
- Windows Embedded Compact 7
- Windows SDK
- Microsoft Visio
- Microsoft Movie Maker
- Microsoft Office 2010
- Bing Maps (http://maps.bing.com)
- TraceMode (http://adastra.ru)
- Windows XP SP3
- Windows 7 Basic

Inspiration: We wanted to develop a project inspired by the idea of creating a permanent source of cheap stem cells. This will provide a cheap and affordable cure for many diseases.

Future Plans: We plan to launch a large-scale production of axolotls. To this end, all the conditions are met, but we do not have enough sponsors. If we can start production, we can show the entire whole world that our project is cheap and quality way to help with cancer research.

Skynet

Team Members:
Lee Yew Joe, Sim Jing En Lester, Ayden Koh Yang Jun, and Victor Ho

Mentor:
Malcolm Murugan S.

School:
Nanyang Polytechnic

PROJECT: L.O.C.U.S

L.O.C.U.S is short for Low Cost Unmanned Surveillance. It is a low cost means of gathering and monitoring environmental data from a post disaster area by deploying robust standalone sensor modules into a harsh environment situation.

Theme/Millennium Development Goal: Global Partnership

Technology Used: Windows Embedded

Inspiration: With the recent rise of natural disasters, we feel that there is a need to ease the pain and suffering of the people affected by natural disasters around the world. We came up with the solution L.O.C.U.S which sole purpose is to speed up the process of search and rescue and relief work post-disaster.

Future Plans: We hope that this project can evolve to a state which can do more than just surveillance and data retrieval post-disaster. L.O.C.U.S has the potential to provide a much greater use in different areas and sectors around the world such as traffic control and land security. We believe in the near future, L.O.C.U.S can evolve to provide a means of global network and Wi-Fi capabilities regardless of locale.

Argitech

Team Members:
Aitor Akizu Santacruz, Josu Lopez, and Javier Sierra Navarro

Mentor:
Xabier Mardaras Pujana

School:
Mondragon Unibertsitatea

PROJECT: Smart Light

The energy power needs and electric consumption in general are increasing, as the growth of the population and the usage of more and more electronic gadgets increases. There is a need for generation of more energy power. Intelligent Lighting System (Smart Light) is a public street lighting management system. This management consists in collecting data from the status of the street and lighting it according to the specific needs (not only by the time of the day as it's done usually) getting a reduction of power consumption as long as people needs are completely fulfilled. The system is based on sensors located in each lamp post gathering data of street status, a management system collecting all sensor data and making decisions according to them and the light of the same lamp posts commanded by the management system. The management of public street lighting with Smart Light would reduce the energy consumption, reducing pollution, public expenditure and creating more sustainable and greener cities. Our cities waste too much power energy, where street lighting systems are switched on, in most cases, just following a clock during day and night.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Windows Embedded

Inspiration: We were inspired by the daily waste of electrical energy at night.

Future Plans: We want to take it to the streets.

NTHUCS

Team Members:
Che-Yi Hung, Shuo-Hung Chen, Yi-Cheng Chen, and Hsiao-Mei Lin

Mentor:
Hsin-Wen Wei

School:
Taiwan National Tsing Hua University

PROJECT: RIGHT!! This Way

According to the latest annual report from the World Fire Statistics Centre, fire has caused millions of deaths and economic losses. Our project aims to save lives in the event of a fire emergency. By connecting a network of wireless sensors to a well-designed e-box, the e-box becomes a 24-hour guardian angel in every building. On a fire emergency, the e-box could plan a safe escape route for everyone in the building using the most up-to-date information, and guide them to safe exits using conspicuous signals and laser beams. Most existing maps of fire escape routes displayed on building walls today just show the nearest fire exits. However, in the real events of building fires, fire and smoke could go anywhere and block the designated fire exits, making them hazardous and life-threatening. The maps become misleading and unreliable. With our system, the e-box could compute the safest escape routes according to the real situation detected on the wireless sensor network in real time. With such a system, many lives could be saved because they don't have to guess which way to go, but only need to follow the directions provided by the e-box with LEDs and laser beams.

Theme/Millennium Development Goal: Other

Technology Used: Windows Embedded

Inspiration: There was a major building fire in Taiwan in 2010. Many people died in that accident because they didn't know the building was on fire and the heavy smoke also kept them from finding the fire exits. This and many similar incidents around the world motivated us to think that, if we could embed some kind of "intelligent agents" in the building and use them to guide people in real emergency situations, many lives could be saved.

Future Plans: We plan to extend our ideas to other emergency events. We also need to find a good way to reduce the cost of our system. Our goal is to make this system easily adoptable, low cost, and save as many lives as possible.

Cycling Into Trees

Team Member:
Kevin Pfister

School:
University of York

PROJECT: Child Sleep Safe

By combining multiple sensors on and around a child, advanced trend analysis algorithms and connection to a variety of different home automation systems such as X10, Child Sleep Safe is an active monitoring and response system designed to reduce the chance of Sudden Infant Death Syndrome (SIDS) occurring while a child is asleep, and also to enhance a child's overall quality of sleep.

This is achieved by continually adjusting the room's environmental conditions to maintain a consistent and safe level for the child to sleep in.

As part of the response system, Child Sleep Safe includes a warning system to alert parents to any abnormal conditions using alerts sent to an app on their Windows Phone. Parents are able to monitor their child's sleeping patterns over time by using the Child Sleep Safe PC software, which visualizes the mass of collected sensor data into easy to understand graphs and tables. To help charities further understand the causes behind SIDS, parents can upload anonymized sensor data to a web interface that can then be further studied.

Theme/Millennium Development Goal: Child Mortality

Technology Used: Windows Embedded Compact 7.0, .NET Micro Framework, .NET Compact Framework, X10 Home Automation, .NET 4, MSMQ networking.

Inspiration: Looking at what already existed to help combat the problem, I realized all the necessary technology was there. Something had to be done and change comes about with big ideas, so I thought why not?

Future Plans: I hope to continue working closely with my charity and embedded technology partners to see in what way I can continue to enhance the Child Sleep Safe platform and move the prototype to a marketable solution.

UNITED STATES

Syntax Errors

Team Members:
Dale Laizure, Bill Vetter, Gary Kelley, and Hayden Donze

Mentor:
Ron Kessler

School:
Santiago Canyon College

PROJECT: F.R.E.D. — First Responders Embedded Device

F.R.E.D., the First Responders Embedded Device, is a turnkey solution that provides enhanced logistics management for first responders in disaster relief efforts. The system catalogs, manages, and tracks resources in real time using GPS and RFID technologies. At the heart of our self-contained package is a database driven records management system that will allow rescue personnel easy access to information about vital resources.

Theme/Millennium Development Goal: Other

Technology Used: Internet Explorer, Silverlight, Windows Embedded, Other

Inspiration: Recent disasters such as the earthquake in Haiti and Hurricane Katrina in New Orleans inspired us to evaluate opportunities to develop a solution that would improve global disaster relief efforts. Subsequent disasters such as the earthquake and tsunami in Japan reinforced our belief that global relief efforts could be significantly improved with the addition of enhanced asset tracking and management capabilities for disaster relief supplies in the field, especially within the initial 24 to 72 hours immediately following a disaster. Evidence indicates that success or failure in relief efforts rests upon the ability of first responders' assessment of the situation and their ability to mobilize manpower and resources. First responders in a disaster relief area need the ability to communicate to a centralized command center to coordinate rescue efforts. The responders need to communicate the specific needs in their specific area. They also need to be aware of the resources nearby, have the option to locate and dispatch emergency equipment and personnel or request assistance through the chain of command. These are the reasons we developed F.R.E.D., the First Responders Embedded Device.

Future Plans: After the competition, we plan to refine the project by extending its capabilities beyond our current scope. One possibility is to expand the device for use as a general purpose stand alone inventory control device specifically tailored for being deployed in harsh and hostile situations where asset management and inventory control are desired. The goal here would be to expand the targeted markets to include more potential buyers such as private sector small businesses. Locations that are immediately apparent as ideal subjects for the application of F.R.E.D. include any place that has exposure to the elements, extreme conditions, a lack of reliable electric power or even just a lack of climate control. Another alternative application of the technology might be the tracking of the location of personnel such as fire, police and rescuers working in harsh or dangerous environments such as those encountered by first responders immediately following a disaster. The use of the device in the harsh environments of a mine to track the location of miners is another conceivable application of the technology.

GAME DESIGN

Game On!

The finalist teams, profiled on the following pages, were given the choice to build their games in one of three Game Design competition tracks: Windows/XBox (XNA), Web (Silverlight) or Mobile (Zune/Phone). We put them all to the ultimate test: create a game that is not only entertaining but also illustrates the 2011 Theme.

The Game Design competition is seen by industry and students alike as a terrific opportunity for learning and advancement towards an important step in these team's budding careers either as a game developer or as an entrepreneur in the game business.

3-D or 2-D. Multi-level or single player. The structure of the games was up to each finalist team. But the goal was related to one central thing: use technology to help solve the world's toughest problems. Games accessible for folks with disabilities, or that helped children learn about the environment. The Game Design competition made changing the world just a little more fun!

Close World Mobile

Team Members:
Norbert Tran Phat and Xavier Cliquennois

Mentor:
Mathieu Anthoine

School:
Epitech

PROJECT: Hilomi

Hilomi is a little child living on a peaceful planet along with other species, one of which doesn't pay attention to the planet. She cannot accept it and thus decides to change their behavior. The game is a puzzle-platform running on Windows Phone 7. The touch screen is used to interact with the game elements and solve the puzzles.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Windows Phone, Windows Touch, XNA Game Studio

Inspiration: Our main inspiration was our reflection. We worked a lot on the game play thinking all the time: "Is it fun?", "Does it make a good game experience?". At the beginning, we wanted to make an adventure game with the powers of nature (fire, earth, water and wind). But we have gradually changed the game design, to have Hilomi today.

Future Plans: We need more time. After Imagine Cup we will begin working full time so it will be better if we can develop our project with our company to have more time and more resources. And if we can find an editor, it will be so great!

Geekologic

Team Members:
Remy Royer-Adnot, Paul Lillo Esquerré, Romaric Breil, and Nils Velay

Mentor:
Pohlm Studio

Schools:
Ingesup, Supinfogame

PROJECT: Brainergy

Brainergy is a Windows Phone 7 Serious Puzzle Game in which the player has to solve different challenges axed on renewable energy. Immersed in a realistic universe, the player has to use strategy to win through each level. From the beginning of his adventure, he is confronted with a polluted world; he has to use renewable energy to clean it. Each level is a district where the player has some objects at his disposal: converters and deflectors. He needs them to bring energy particles all the way to a target in order to supply the district with renewable energy. He places and rotates these objects so as to make them work with each other. The available objects represent the challenge of a district, and they provide to the player a way to manipulate up to seven energy types. The goal is therefore to collect, convert, and transport energy, in order to supply, first districts, then cities, and ultimately the whole wide world with energy. During the progress of the game the player sees the clouds disappear and becomes aware of the influence he can have on the world if he changes his habits.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Windows Phone, XNA Game Studio

Inspiration: Our first objective in Brainergy was to use game play to give the player a deeper understanding of the mechanics of renewable energy, with the goal of making a more environmentally conscious individual by playing our game. Our second main objective was to attract a maximum number of players, with not only a fun and accessible game, but also a challenging game that demands the lead player to use his 'brain' to solve puzzles in the different levels.

Future Plans: With the help of Pohlm Studio, this summer we will continue Brainergy's game production in order to put it on the market in October of 2011 on three platforms: Windows Phone 7, iPhone, and Android.

Fomis Phone Team

Team Members:
Hector Diaz, Marco Vela, Campos Serapio, and Juan Carlos Furlong Acevedo

Mentor:
Ana Luisa Solis

Schools:
Universidad Nacional Autónoma de México, Benemerita Universidad Autonoma de Puebla, Preparatoria Instituto Suizo de Gastronomia y Hoteleria

PROJECT: Chronicles of Balam

The Chronicles of Balam is a 3D adventure game where you assume the role of Balam, a young jaguar who wants to earn the Millennium Insignias and to do this he must help make his world a better place. The first level of the game tells the story of how rice breeders in Africa have been able to improve their crops and income generation using biotechnology. Balam must help harvest the rice from the fields in a mini-game against time. In another mini-game, Balam must carry a baby panda to his mother across a dangerous slide in the forest, while ensuring the baby does not starve. This level is intended to raise awareness about the need for proper nutrition to prevent child deaths.

Theme/Millennium Development Goal: End Poverty & Hunger,Child Health,Environmental Sustainability

Technology Used: Windows Embedded Compact 7.0, .Net Micro Framework, .Net Compact Framework, X10 Home Automation, .Net 4, MSMQ networking.

Inspiration: The Imagine Cup is the perfect opportunity to express our passion for game development and do it for a noble cause. Using the power of videogames to reach out to children, we intend to show them how technology can help solve the toughest problems. Our game embarks the player upon a quest to solve problems like hunger and child mortality.

Future Plans: After the Imagine Cup we want to polish and finish our game so we can publish it on the Windows Phone Marketplace. We believe it is a good game and people will enjoy it. We have poured our hearts into it.

RUSSIA

CRS

Team Members:
Alexander Vovnenko, Alexey Balchunas, and Mariya Bookharina

Mentor:
Denis Gladkikh

School:
Yaroslavl State University Demidov

PROJECT: Cleaney

In our days there are a lot of world global problems which we just can't ignore. These include the rapidly growing of human population, terrorism, natural resources running out, the imminent danger of worldwide war with using of nuclear weapon, misery, famine and other, and others. In this list one of the most disgusting is the problem of pollution and global warming. And though many people know about this problem and realize the necessity to resolve it, just a little part of society is trying to change their own lives for this purpose. "Think global work local" – this idea can be useful also in way of reducing pollution. If each person would not litter on the outside, our world will be cleaner as well. If each plant or factory would reduce their emissions, we'll breathe better. Kids from age 2 to 5 years old learn about the world around them through our game. They learn to communicate with each other and how to treat the surrounding world and nature. On the cases, this is true concerning the adults too, but, may be, in less degree. If player would pick up the trash and try to make game world more cleaner, maybe in real world he'll have more causes not to litter. This is the certain idea of our game.

Theme/Millennium Development Goal: Child Health, Environmental Sustainability, Other

Technology Used: Windows Phone, XNA Game Studio

Inspiration: It was quite interesting to implement a good game idea for solving a global problem. Imagine Cup is a great opportunity to do this. In addition, I found a couple of friends, who were also inspired by this contest so we decided to try ourselves.

Future Plans: Our game project is quite finished already and we intend to submit it to the Windows Phone Marketplace soon.

UNITED STATES

Team Dragon

Team Members:
Jungwoo Lee, Veronica Burkel, Chase Sandmann, and Pierre Elias

Mentor:
J. Warren

School:
Rice University

PROJECT: Azmo the Dragon

Asthma is the most common chronic illness in children and costs the US $19.7 billion annually in avoidable ER visits and lost productivity. Today's asthma care paradigm is seen as a chore by many children. The tedium of daily asthma logs as well as the inconsistency of peak flow readings has led to adherence rates hovering around 50% for over two decades. But what if youth were compelled to play a more active role in managing their illness just because it was fun? Azmo the Dragon is a step in that direction. Youth play as a dragon visiting different worlds. RPG elements allow you to level skills. Tear through castles using melee attacks and prepare for the final battle with your fire breath. Fire is blown by correctly using a spirometer, a portable lung volume measurement device, which records children's lung functions for review by a physician. Once civilizations are destroyed, Azmo must wait 8-12 hours real-time for them to rebuild. These valuable lung function measurements help pulmonologists understand the progression of a child's asthma (or cystic fibrosis) and deliver better care. Children in even the most remote areas of Africa have access to mobile phones. Spirometry readings can be sent wirelessly to the closest doctor and analyzed to determine if the child needs to visit a hospital. Children play an active role in their health simply by enjoying a game on their phone. We present our take on the future of healthcare communication, where technology helps solve the toughest problems.

Theme/Millennium Development Goal: Child Health

Technology Used: Windows 7, Windows Phone, XNA Game Studio

Inspiration: Pierre Elias worked at the Abramson Center for the Future of Health where he was given the challenge to find a unique way to better engage children with asthma. Working with physicians who have dealt with poor adherence to prescribed regimens, he set out to find an innovative system that could captivate youth and improve the diagnostic information doctors would receive. He pitched the idea to Chase, Eric, and Veronica who came up with the concept of a dragon that could breathe fire and created the world that Azmo lives in today.

Future Plans: We plan on continuing to improve the hosting capabilities between the phone and the spirometer. Our hope is that we will be able to soon apply for grant funding to continue this project on an academic track. If it continues to show promise, we would work towards commercializing the game and hardware.

GreenWorld

Team Members:
Bobi Rakova, Lazar Nikolov, Nasko Tsvetkov, and Petar Valkanov

Mentor:
Emil Stoychev

Schools:
Faculty Of Mathematics and Informatics, Sofia University, Sofia, Bulgaria, University of Hertfordshire, Hatfield

PROJECT: GreenWorld

Our game is focused on challenging you to be the best you can be! It reminds you how important it is to recycle every day. Just consider how much good YOU can do only by throwing away a piece of paper in the right bin. Learn to cooperate and play together as a team while completing world-saving quests. These quests come in lots of flavors. There is always something to be done. You can choose to go around, learn interesting facts and recycle rubbish or you can be social and start cooperating with the other players. Every time you do something to improve the world's health you receive a rewarding badge. When you stay passive for a while the world's health goes down and your experience points are also decreased. Therefore you should always be active and take part in the various quests. There are all sorts of quests – they are like little challenges you can take on your own or with your team, depending on the type of the specific quest. This is your chance to make a difference and show yourself that you can complete the challenge. Go and fight against oil spills and bad tractors, do your share for a better world.

Theme/Millennium Development Goal: Universal Education, Gender Equality, Child Health, Environmental Sustainability, Global Partnership

Technology Used: Silverlight, Windows Azure, Windows Phone

Inspiration: "Why bother? Nothing will ever change. These problems are too big to solve. Why are you wasting my time? I give up!" Unfortunately these are the words that you are most likely to hear when you ask people what they are doing to make our world a better place. As this is indeed a very difficult question, we do believe that everyone is capable of one small step towards the great idea we all have in our minds. We wanted to inspire children to learn how easy it is to take this small step which will make them better prepared to be a part of a changing world. We also wanted to remind everybody about how important it is to recycle and be a part of the global movement for a better tomorrow.

Future Plans: Very soon we will make Green World available online and will spread the news through the popular social networks. We are also working on a Windows Phone client application for the game which will allow you to play from your phone together with your friends playing from the browser.

Signum Fidei

Team Members:
Thomas James Tiam-Lee, Jenina Chua, Jeriah Miranda, and Kev Hernandez

Mentor:
Lesley Abe

Schools:
De La Salle University - Manila, De La Salle University - Manila

PROJECT: Conjunct!

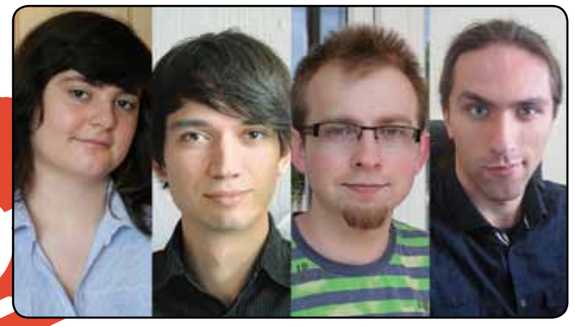
Conjunct! is a puzzle game that can be played on a browser. In the game, players have to complete puzzle boards that resemble an actual social problem in the world with Millennium Development Goal pieces that represent the solution to the problems. As the board gets filled up, the completed portion flips to reveal desirable picture portion. The game has different kinds of challenges, each of which give the game play a twist. Conjunct! not only entertains, but also sparks awareness and inspire taking action on the world's problems on the part of the players. Conjunct! can also be used as a medium of communication between the people and the organizations that try to help solve the problems of the world.

Theme/Millennium Development Goal: End Poverty & Hunger,Universal Education,Gender Equality,Child Health,Maternal Health, Combat HIV/AIDS, Environmental Sustainability, Global Partnership

Technology Used: Internet Explorer, Other

Inspiration: Every member of our team was inspired by family, relatives, our mentor and peers to use technology to solve the problems that we see in our country and in the world. Our sense of social responsibility to our nation and the world motivates us to engage in this endeavor to make the world a better place to live for our present and future generations.

Future Plans: We intend to continue improving the project by adding new features and CONJUNCTing (tying up) with partner organizations that help solve some of the social problems in the world.



Cellardoor

Team Members:
Krzysztof Żarczyński, Oskar Szulc, Rafał Szekalski, Aleksandra Łukasiak

Mentor:
Tomasz Gdala

Schools:
Uniwerstytet im. Adama Mickiewicza (UAM) w Poznaniu, XXXIV LO. im. Miguela de Cervantesa, Warsaw

PROJECT: The Book of Elmy

The "Book of Elm" is an inordinate old tome where you are presented with an interactive story. It offers a unique experience of interacting with the game world using shadows dropped either by an object held in front of a web camera or controlled on the screen. The game supports multi-touch devices to provide an intuitive user interface. The main goal is to make people look at books with a fresh look, making them more willing to read for fun and learning. The second goal, accomplished by the story, is to teach about caring for the environment in everyday life. The story is mainly addressed towards children. We teach them that everyone can participate in saving environment by undertaking simple actions, such as reducing expenditure of water and energy. Our game refers to the concept of 3Rs: reduce, reuse, recycle, while not speaking about them literally.

Theme/Millennium Development Goal: Universal Education, Environmental Sustainability, Other

Technology Used: Silverlight, Other

Inspiration: When creating the game we drew the inspiration from our surroundings: kids in a kindergarten and our mentor's little daughter, Zosia. Their simple and bright way of chatting about books and how they can care of environment helped us survive the long hours of rhyming, and kept us motivated during the works on our project. It is said that people, notably children, read less and less these days. When it comes to entertainment, it is difficult for books to compete for young people's attention against television or computer games. On the other hand, books remain very important in education. However, the more young people associate books with their school duties, the less likely they are to read for pleasure, so it becomes harder for them to read to learn. As a result they read even less. Furthermore, the chances that they will read to their children are drastically decreasing. Things go full circle. We want to interrupt this circle and encourage adults to read to children, and children to read, by introducing a new way of perceiving a book. Our intention is to show kids it is fun to play with their imagination. As the saying goes: As the twig is bent, so grows the tree. Not only is the way you tell the story important but so is the story itself. In most of the fairy tales there is a moral and it is in our game as well - everyone can participate in saving environment by undertaking simple actions.

Future Plans: More chapters, for example one about plants, watering and caring of them. More books, not only about the environment. Elm teaching about numbers, animals and social situations. More languages, we want to prepare texts from the book in a translation-friendly format along with tips about how to record the reader so everyone interested to add their own translation to the project. Better readers, while we are happy we have sorted out recordings in two languages we are aware that the quality of the reader is not very good. We dream of getting some professional readers interested. Book index - web feature. We put emphasis on the reading 20 minutes a day and on the importance of reading to children, and so naturally the next question is "What should we read?" The quality of what you read is important and our book index will address this problem by giving hints and suggestions about your daily reading session.

Quegee Team

Team Members:
Karol Rástočný, Vladimir Mihal, and Eduard Kuric

Mentor:
Michal Tvarozek

School:
Slovak University of Technology in Bratislava, Faculty of Informatics and Information Technologies

PROJECT: The Green Game

The Green Game is an online multiplayer strategy game developed using Silverlight. The players' goal is to solve the common environmental issues of a town such as air pollution or growing energy demands. Instead of traditional and well known solutions to problems, our game focuses heavily on new exciting technologies, intelligent devices and unusual ideas. However, these solutions with all their consequences are not directly available to players, as they themselves have to discover hidden positive and negative consequences of the provided solutions. Real world problems are addressed in the game, but they are simplified and made more attractive with the primary goal being environmental awareness and user enjoyment. Players can play the game in classical strategy game mode, where they develop their game worlds, or they can try to solve predefined tasks and face new challenges, discover new technologies, explore possibilities, unfold players' abilities to cope with disasters, but most importantly have fun. They can solve tasks cooperatively by exchanging resources, experience and knowledge with other players. Players can also utilize funny challenges that help them to solve difficult problems not only with their minds but with swift actions too. Players' games continuously run on the server, so games do not end when players leave the game. Players discover consequences of their actions in time and they can continue their games wherever they are. While they are away, their games are safe from disasters and their game worlds continue to progress the way players left them.

Theme/Millennium Development Goal: Universal Education, Environmental Sustainability

Technology Used: Internet Explorer, Silverlight

Inspiration: The combination of education and fun was a great challenge, which inspired us to develop a game, which would increase the ecological awareness of players. However, players should not perceive the game as an educational tool, but rather become subconsciously educated by playing the game. We were also greatly inspired by amazing new technologies, which could revolutionize our world. We thus aimed to create a game that could continuously provide novel possibilities and "never-ending" entertainment, so that players would always return to play the game again.

Future Plans: We hope to develop product-grade version of the game, filled with many interesting solutions and provide both loads of fun, experience and inspiration to players all over the world.

GAME DESIGN WEB [SILVERLIGHT]

UNITED STATES

ICsquared

Team Members:
Ashley Alicea, Evan Marinaro, Corey Jeffers, and Marc Howard

School:
Ithaca College

PROJECT: Embryonic

Embryonic is a compilation of mini-games created in HTML5 that together address the health and safety issues regarding a developing infant within its mother's womb. In the game, the player serves as a doctor employing the use of advanced nanobot technology to assist women with pre-natal health complications. The player assists and protects fetuses in various stages of development from dangers such as diseases, malnutrition, and genetic disorders. However, the player needs to act quickly and cautiously in all scenarios. Harm will come to the baby if the player is not quick enough or if they are too reckless with their actions within the womb. With its enthralling gameplay and gorgeous artistic style, Embryonic hopes to provide an entertaining way to promote the discussion and awareness of pre-natal health issues.

Theme/Millennium Development Goal: Child Health, Maternal Health

Technology Used: Internet Explorer, Other

Inspiration: As a team, we immediately knew we wanted to create a game centered around pre-natal health. We felt strongly about the topic and we felt it was an issue that has never received enough attention. We find it devastating that 2.6 million children are stillborn and over 350,000 women die from pregnancy complications every year. In our opinion, these avoidable deaths cause the entire world to suffer. It loses people who could have made the world a better place in the future. We created our game with the hope that it would educate people about the importance of this serious issue and, hopefully, result in some lives being saved in the future.

Future Plans: We hope to release Embryonic for free because we want to spread the word about the importance of pre-natal health. Our game residing on the web lends itself to being a great educational tool because it is accessible and fun.

GAME DESIGN WINDOWS/XBOX [XNA]

BELGIUM

CrashGames

Team Members:
Wannes Vanderstappen, Vincent Van den Heede, Maya Goedert, and Sam Verschraegen

Mentor:
Mike Ptacek

School:
Campus karel de goedelaan Howest,Hogeschool West-Vlaanderen Departement Pih

PROJECT: Global Green

Global Green is a fun and easy to play cartoon-styled arcade game. In this game, you learn about many global problems while having a lot of fun trying to achieve the highest score for saving the world! In Global Green you save the world by controlling an airplane that delivers valuable resources to areas in need of help. The problems range from pollution and need for medical care, to starvation and drought. You need to make sure that you deliver the right kind of aid package to the right areas and as close to them as possible, as this will get you more points! Your score also depends on many other things like your score multiplier and problems you solved entirely. Besides scoring points, you also learn a lot about the global problems. Before every run, you see a description of the situation in that level. At the end of each run, you will get detailed information about which solutions you used/didn't use to solve these problems, and what the consequences of these actions are (e.g. How much you reduced the global CO_2 emission by replacing polluting energy sources with renewable energy). You also get visual information about the problems as the areas change shape when you save them (e.g. Tent camps with medical aid turning into a hospital). The goal in each level is to reach the target score and solve as many problems as possible! Global Green: Saving the world, one package at a time!

Theme/Millennium Development Goal: End Poverty & Hunger, Child Health, Maternal Health, Combat HIV/AIDS, Environmental Sustainability, Global Partnership

Technology Used: XNA Game Studio

Inspiration: There are a lot of games that teach people things like math or a foreign language. Other games are just for fun and amusement. We decided to accept the challenge to create a game that has both of these properties. We took inspiration from other great arcade games, mixed it together with the 2011 Imagine Cup theme and had Global Green as the result!

Future Plans: We will brush up the graphics as much as we can and add some more levels. This way, we will be able to raise awareness of the situation to as much people in the world as we can. The level editor of Global Green enables other people to make levels in other situations, motivating others into making the world a better place.

Replay

Team Members:
Camilla Avellar, Michelle Oliveira, Luca Bezerra, and João Gabriel Gadelha Xavier Monteiro

Mentor:
Vinicius Ottoni

School:
UFPE - Federal University of Pernambuco

PROJECT: HopeBlocks

HopeBlocks brings a fun, exciting and fast-paced game that allows you to take steps towards changing the world. Using match-three mechanics with a twist, the game puts you in charge of organizing people so that they work together and improve their surroundings bit by bit. HopeBlocks represents people with a passion -- and combining them in groups of three or more unites their forces so they can do their part for the world. You should also pay attention to where you combine HopeBlocks -- people working together are always great, but they REALLY make a difference when you group them where they are needed. Move HopeBlocks in order to make combinations, and make these combinations over specific board sectors to provide aid in the Millennium Goals. There are three countries to play in, and four special power ups that give you even more power in changing the world. That is the HopeBlocks way for achieving the Millennium Goals: Helping people get together where they are needed, always. Now let's build a better world -- block by block!

Theme/Millennium Development Goal: End Poverty & Hunger, Universal Education, Gender Equality, Child Health, Maternal Health, Combat HIV/AIDS, Environmental Sustainability, Global Partnership

Technology Used: XNA Game Studio

Inspiration: Educational games are such a challenge to make, because they must teach and bring fun at the same time. This challenge became a great motivation for us, and we decided to follow a tangential learning philosophy, giving people a great experience laced with a great message. The Imagine Cup gave us the opportunity to try our best and see if we were up to the task. At every step of the development, we were amazed about how we could add elements to the game in order to make it even more fun, without losing the educational purpose. While it was challenging, it was also a learning experience for all of us, and that pushed us through the whole process.

Future Plans: Developing this game made us realize the fun and addictive potential it has. Regardless of the Imagine Cup results, we're surely going on with this project. We already have plans (and some work done) to make it playable on the Xbox. Also, we've received some great feedback from the IC judges regarding the possibility of making a mobile (Windows Phone) version of our game, so this idea is definitely going to get our attention once the competition ends. Some extra game features that we couldn't finish on time for the Imagine Cup are also in our plans for the future, together with the release of Xbox Live and social networks versions.

GAME DESIGN WINDOWS/XBOX [XNA]
BRAZIL

Signum Games

Team Members:
Rafael Kaminenko, Rafaela Costa, Thiago Ribeiro, and Fernanda da Costa Fonteles

Mentor:
Rafael Sales

School:
Universidade Positivo

PROJECT: UCan (You Can)

UCan is an exiting strategic game where you need to solve the problems of your city. You don't have to do it on your own, because with your good deeds certainly you will get volunteers and together you will be able to solve the millennium challenges. With fantastic graphics, inspired in famous HQ's you have the sensation to be in a story, and you will find out that this story goes farther than you imagine, it is the story of our planet. Every game needs a different strategy to solve the city problems including health, education, and environment. Smartly use your resources, plant trees, train volunteers, help people and you will have a happy and clean city, but be advised, sometimes unexpected things can happen. Be ready!

Theme/Millennium Development Goal: Universal Education,Combat HIV/AIDS, Environmental Sustainability, Global Partnership

Technology Used: Windows 7, XNA Game Studio, Other

Inspiration: We were very happy when we learned about Imagine Cup. It was a great opportunity to do what we like and help people, especially children because they are the future of our world. We started with research of the many successful cases of people who helped families near where they lived. We tried to understand the situation they had, the problems they faced and how they solved these problems. We also wanted to break the standard of educational games. Usually they use as a main objective the solution of something that's related to the game, not to clear education messages. We worked hard to create something where the message was directed at the player, to really inspire people and teach them how they can help and work together.

Future Plans: We plan to build more levels, starting with smaller maps and fewer problems to be solved, and gradually increase the size and difficulties. After we finish it, we would like to spread the game to all public schools in Brazil for free reaching our objective of giving a direct educational message to all children in a fun way. And if it works well, why not spread to the world?

WickedTeam

Team Members:
David Jozefov, Michal Zachariáš, and Martin Wilczák

Mentor:
Rudolf Kajan

School:
Brno University of Technology - Faculty of Information Technology

PROJECT: FireFighters: Whatever It Takes

Firefighters: Whatever It Takes is a real-time strategy game which focuses on wildfires prevention. A player is supposed to extinguish fire as fast as he can and thus save the largest area of forest possible and all civilians threatened by the fire. It's up to the player to find the optimal strategy on how to fight the fire by utilizing several different types of firefighters and vehicles. Each unit's firefighting abilities can be boosted with purchased upgrades. The player decides which upgrades are the most suitable for every mission. The game features our own powerful 3D engine built on the XNA framework. This enabled us to incorporate elements like realistic water, fire spreading, large detailed terrain and intelligent units' behavior into the gameplay, which enhance player's gaming experience. This way we are able to spread knowledge about the danger wildfires present to the environment and show the risks involved in saving the forests.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Windows 7, XNA Game Studio

Inspiration: The targeted goal is Ensuring Environmental Sustainability. Every year large wildfires devastate vast forest areas. During the burning process, emissions of carbon dioxide diffuse into atmosphere and cause increase of greenhouse gases amount. Many plants and animals living in the forest are threatened by reduction of their natural habitat. Trees' roots hold the soil together and prevent landslides on hilly terrain during heavy rains, thus preventing floods. It's alarming that the majority of wildfires are caused by humans. By spreading information and teaching responsible behavior we hope to reduce these numbers.

Future Plans: We would like to polish the game, focus more on balancing its mechanics and adding more levels. This will allow us to distribute the game using various distribution channels.

JubJub Team

Team Members:
Nicha Jaijadesuk, Manusporn Srimake, Wasin Thonkaew, and Akara Supratak

Mentor:
Srisupa Palakvangsa Na Ayudhya

School:
Universidade Positivo

PROJECT: Junk Master: The Journey to Junk Lord

Junk Master: The Journey to Junk Lord is a creative and innovative game with challenging and fun game play; moreover, it can educate the player about garbage classification and 3Rs (Reduce, Reuse and Recycle). The player will be a "Junk Master" who is going to collect the garbage around the world and face with exciting obstacles to bring back the green peaceful world from the bad "Junk Lord". Garbage is one of the most crucial factors that strongly introduce pollutions, health problems, climate change, and greenhouse effect. Garbage classification is an important starting point that everyone can do to save the world from these problems. Garbage Classification helps reducing greenhouse gas, waste, consumed resource, cost of garbage disposal and cost of recycling; in addition, it also helps prevent rise of diseases from bad environment. Moreover, garbage classification helps prevent water fouling and enhances sanitation which leads to the better life quality. Junk Master's design is based on easy-to-understand game play integrated with learning- by-doing concept. Therefore, with Junk Master's game design, a wide range of players are able to play the game and efficiently learn garbage classification along with its exciting and fun game play. As the result, everyone can apply the knowledge gained from "Junk Master" to classify the garbage correctly and become a part to sustain the environment and the fertile world.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: XNA Game Studio

Inspiration: We all, as human, are facing with the most terrifying problem ever recorded in the history of human race - "Global Warming". One main cause of global warming is garbage, as it will be contaminated once it is dumped off. There will be a chemical reaction that produces methane which has 33 times the impact on temperature of a carbon dioxide emission over the following 100 years. Garbage classification is a basic action that everyone can do in everyday life. It is also a basic step into 3Rs or so called reduce, reuse, and recycle. These three steps are the fundamental process that will reduce a large amount of garbage and implicitly reduce methane emission which can finally prevent global warming from happening. Garbage classification can be easily taught by using games as a medium, since both fun factor and learning process can be simply incorporated into the game.

Future Plans: We plan to develop Junk Master on multiple platforms in order to spread the core message of this game to the people around the world. Right now, we have developed one version on Windows Phone 7 named Junk Master: The Quest to Glory which is going to be published as a free game on Marketplace. Also, Junk Master is also going to roll out to Facebook with the project Junk Master: The Mission of Recovery which is going live in early July.

DIGITAL MEDIA

Digital media is everywhere and around the world people use it to share their thoughts and perspective. The 2011 Digital Media finalist teams stepped up to the challenge to enlighten people around the world about major global issues.

Sure, people post photos online for friends to view and every day millions check out the latest viral video clips, but these Digital Media duos went beyond simple media sharing, and used art, design, and technical video editing skills to communicate their unique point of view, on solutions to the world's toughest problems.

From concept to footage and editing, the Digital Media finalists put it all together in a compelling and original way. Unique perspectives and creativity abounded in their process. The videos they have brought to life have a strong purpose and meaning inspired by the world around them. Take a few minutes to learn more about each of these talented Digital Media finalists.

Quarentaedois

Team Members:
Caroline Guilherme, Pauline de Moraes Guilherme

School:
Universidade Estadual Paulista (UNESP)

PROJECT: Dreamers

We wish that people never stop dreaming of a better world. It is through dreams that the technology expands and diversity and innovations arise in the world.

Theme/Millennium Development Goal: Environmental Sustainability, Global Partnership

Technology Used: Windows 7, Windows Live

Inspiration: Our inspiration was, no surprise, the dreams, the surreal world where we can play God and make things as we wanted to. It would be wonderful if all the world's problems could be solved like this and some of the technologies we have today were nothing but crazy dreams years ago. This was the idea that inspires us to create this project: maybe one day that mad dream we have now will be true.

Future Plans: We hope to bring technology and digital inclusion to the poorest and the elderly, allowing a new world full of new opportunities to open up for them. We believe the changes we want to cause in the world would be more possible if everyone had access to these resources.

Green Uno

Team Members:
Lalitha Ashok, Aroshaliny Godfrey

Mentor:
Vikash Singh

Schools:
Madurai Kamaraj University, The University of Birmingham

PROJECT: Talking Trees

Flora and fauna which nature has provide for mankind in a myriad of dimensions, is in fact speechless and defenseless against man's aggression. As a definite step towards afforestation, the following counter measures would increase increased green cover.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Windows 7, Other

Inspiration: It is indeed something disgraceful, yet undeniable that man's insatiable appetite for power and money has permeated to nature's bounty of forests as well. Although his needs are met, his wants seem to burgeon unabatedly. The simplest way to make the world a better place to live is to make everyone realize the importance of flora and fauna. So we created a viral short video which inculcates the idea of modern day technologies with the need to meet the underestimated world issues.

Future Plans: Our plans are to translate the idea into an achievable idea of realism.

Brothers Forever

Team Members:
Salim Alharbi, Osama Aladawi

Mentor:
Malik Alkindi

School:
Sultan Qaboos University

PROJECT: Brothers Forever

The video is about a great invention that can help the pollution problem, It's the most powerful filter which can take any smoke and toxics and return a healthy Fresh air. The story was told by a man from the future, he described our life and showed us how is the future turned to be with this great innovation.

Theme/Millennium Development Goal: Other

Technology Used: XNA Game Studio

Inspiration: Today's problems with pollution (factories, cars, etc.).

Future Plans: Make the dream come true for a better life.

M.N.A.

Team Members:
Ciprian Maxim, Razvan Diaconu

Schools:
NW College London, Universitatea Bucuresti

PROJECT: A Chance For Change

Our project illustrates a way that technology could help poor people to live a better life. In our short movie we told the story of a poor guy who gets a phone from a mysterious man that changes his life. This phone itself is not the important part, but what is stands for: better technology, better standards of living. It offers the main character food, education, a new job, a new family, a new future.

Theme/Millennium Development Goal: Eliminating Poverty and Hunger with Technology

Technology Used: *Recording:* Canon 5dmkII + L85mm, L70-200mm, 100mm, L24-70; *Post-production:* Adobe Premiere Pro, Adobe After Effects

Inspiration: Seeing so many homeless people on the streets opened our eyes and made us think of ways that we can help them. How can we improve their way of living so they could achieve childhood dreams or just have a meaningful life. Seeing so many people desperate to find a job so they can raise their children, worrying about food, water, clothes. This wretched image inspired us.

Future Plans: I don't think that our idea of a "magic phone" could be implemented soon in mass production, but we will try to convince as many people as we can that technology is a way to help other people and that the evolution of technology could lead to a brighter future where all people, rich or poor, will benefit from it.

CottonCandy

Team Members:
Ching-Ling Lee, Shiu-Ju Chang

Mentor:
Lai-Chung Lee

School:
National Taipei University of Technology

PROJECT: CottonCandy

Today, many species are dying out, or becoming extinct at top speed because of the "HIPPO dilemma." We wish we can still see all the lovely creatures when our children grow up. The extractive camera can save the DNA of endangered species until people find the perfect environment for them and proceed breeding program in the meantime. The bio-map can show the detailed status of plants and animals to help biologists in research and conservation. We hope that we can live with all the plants and animals together for our world needs all them to maintain the eco-balance.

Theme/Millennium Development Goal: Environmental Sustainability, Global Partnership

Technology Used: Bing Maps, Internet Explorer, Silverlight, Windows 7, Windows Live

Inspiration: The inspiration is from our love of animals and plants, and the curious heart of nature. Recently, we learned the news of the wetland has reduced year by year, and many species are dying out, or becoming extinct at top speed. We were very worried about that, so we appealed to the public to treasure this land and animals by making this film.

Future Plans: We will participate in the "SWAN: Society for Wildlife And Nature" of the Republic of China, and in the meantime keep fostering the knowledge of ecological conservation.

DIGITAL MEDIA

UKRAINE

Digital Dream

Team Member:
Vladyslav Shyrobokov

School:
IT Academy "Step", Kharkov

PROJECT: White Story

Imagine Cup is a competition of ideas. And all of these ideas have to help people from` different countries to solve their toughest problems. We know what these problems are due to the United Nations Millennium Development Goals. Our choice fell on the problem of child injury prevention at home. It is not accidental, because a great amount home injuries causes to child invalidity or even death. We believe it is important for every parent to understand the need to create a safe home for their child. If the idea of a "Safe House System for every child" is actually implemented, we will be happy that at least one, ten or even a hundred children can thank their parents and the newest technologies for allowing them to become happy and successful people.

Theme/Millennium Development Goal: Child Health

Technology Used: Other

Inspiration: Our message is simple - we want to protect children from the dangers of everyday life. This idea was suggested by one doctor - a surgeon who works in the burn center. Every day he sees children with terrible burns. Most of these injuries occur in our everyday life - from the boiling water, electricity, irons, etc. We imagined that it is possible to change this situation by one person - a parent of the child who is able to create a system of detectors. Maybe now it looks a little fanciful, but such dreams can be viable in the 21st century, in the era of information revolution and digital dreams.

Future Plans: We hope our project will inspire engineers to take care of the health and welfare of the children of the world. We are looking forward to new ideas, projects and great movies.

WINDOWS PHONE 7

Mobile XAP Applications are "all the buzz" today. Windows Phone 7 finalists are some of the first developers – ever – to build an XAP Application for the revolutionary Windows Phone 7 platform. This competition was all about originality, appeal, and being out-of-the-box. The teams were challenged to create an XAP Application that people will love having on their Windows Phone but that also would help solve the world's toughest problems.

These XAP applications that are featured at the Worldwide Finals definitely scream originality, have major consumer XAP appeal, and integrate unique mobile-oriented features. These Windows Phone 7 finalist teams have proven that their technical ability and innovative ideas are worthy enough to bring them to New York City.

Learn more about each of these innovative Windows Phone 7 teams today!

Digitron-WP7

Team Members:
Sobraj Van Zeebroeck, Bert Van Eeckhout, Carsten Demeulenaere, and Isabelle Boeve

Mentor:
Brecht Kets

School:
Campus karel de goedelaan Howest

PROJECT: Dregon

The goal of the game Dregon reflects the main theme: combating widespread disease. The Dregons of Dregontown, a race of cute little creatures, are beset by a dreadful disease. Unlike your fellow citizens, you have miraculously escaped it, but not for long. To save yourself and your fellow Dregons you must go on a quest to find the potion to cure all the sick. The Dregons of Dregontown are poor and have no "potion making-tree" to make the required medical potions. You volunteer to help Dregontown. You have to find the ingredients first before going to Dregonville, a wealthier village, possessing a "potion making-tree" and willing to help the village. This reflects the sub-theme of our game: developing a global partnership for development. The wealthy village, Dregonville, helps the poor village, Dregontown, with its problems: an outbreak of disease. A problem which could be disastrous for the development of Dregontown without your help. The story of the game is a metaphor for how difficult it is for a poor village, for example, in Africa to find help when needed and the difficulties they meet on the road. The rich aren't always unwilling to help. The call for help doesn't always reach its destination. There are many dangers on the road. Unique game play features of the game are the ability of the level to rotate on different axes and therefore playable on multiple sides of the level

Theme/Millennium Development Goal: Combating Widespread Disease and Developing a Global Partnership for Development

Technology Used: Windows 7, XNA Game Studio, Other

Inspiration: When I was thinking about what game we should make I saw a fly landing on the desk in front of me. He walked towards the wall and started walking on the wall without any problem or difficulty. I was thinking that every time you are on another side on a wall, it should create an entire new perspective of the same world. Interesting for a puzzle game, no? People get lost very easily in such a world, I imagined. A cubic world is the easiest way to make the game (for programmers). And it creates a lot of artistic freedom to create great views and perspectives. Also we heard about "doctors without borders" and heard about the problems many face in Africa. Remote villages without hospitals or doctors, sick people who have to walk many hours to find a doctor. The rich aren't always unwilling to help. The call for help doesn't always reach its destination.

Future Plans: We are going to develop it further for future release if it's possible.

HOMERUN

Team Members:
Pilju Bae, Go-Woon Choi, and Heesang Roh

Mentor:
Hyeon Cheol Pak

Schools:
Dongguk University, Sangmyung University, Chung-Ang University, Kwangwoon University

PROJECT: Peekaboo

Peekaboo is a fun application for communication between family members. Peekaboo enables members to send messages efficiently without limits of space and time. It is a system that combines a treasure-hunt game with a private network dedicated just to your family. Peekaboo is a user-centric UI and has a usability that can be accessed in a variety of devices, and is composed of a variety of monsters and characters that can be created by you. We hope family members can develop a loving and closer bond by using Peekaboo.

Theme/Millennium Development Goal: Other—To make families grow closer!

Technology Used: Windows 7, Windows Phone, XNA Game Studio, Other

Inspiration: We have been planning this application because we have experienced the difficulty of communication in a family. We are MSP members, and we have met so many office workers who have also often experienced communication problems within their families. This paved the way for our application project.

Future Plans: Except the ability Peekaboo currently has, a photo gallery and voice message function will be provided. We will also make our application upgraded to improve the communication abilities. With these progressed factors, we plan to develop Peekaboo as a detailed business model. Ultimately, Peekaboo will become a business. Our hope is that Peekaboo becomes a friend to all children in the world.

Zipi Zigi

Team Members:
Kyung-Taek Cho, Chan Heo, Dan-Bi Kim, and Yoon-Jung Lee

Mentor:
Jin-Young Lee

Schools:
Soongsil University in Seoul, Korea University of Technology and Education, Seoul National University of Ewha Woman's University

PROJECT: Hot Potato

"Spot it, and solve it" Hot potato is an application that shows a simple path for users to follow to solve global issues spontaneously. It is a new media with raw information from all over the world, which help reduce public indifference and provides a space where users can participate directly or indirectly. Through the spots on the Bing map, a user can see both 15 most important issues and 3 new ones. The spot's size will vary depending on the degree of the public interest, letting users to know the relative importance. Every spot has a special meaning which is a 'history'. Each spot is like a history book of that one independent problem. The design like a book, will give people an impression that their small act such as donating, writing comments, uploading information, and doing volunteer work is becoming a part of our history. Through the cumulated information on the timeline, more and more users can learn about the problem and see the problems progress. Hot Potato is an application that records the present and makes the future. We hope the users gain consistent interest in global matters and learn about the facts properly. Know the issues, be the history and share your concerns through our application. The change will start from you.

Theme/Millennium Development Goal: Ending hunger and poverty, combating widespread disease, ensuring environmental sustainability.

Technology Used: Bing Map API, Location Awareness (GPS), Location Based Service, Camera, Push Notification, Link With SNS

Inspiration: There are a lot of unsolved problems all over the world. However people don't know much about them or do not know how to deal with these problems. Our team made the application Hot Potato based on these present situations. We designed Hot Potato to raise public interest, and to provide users with both direct and indirect measures to help solve global issues.

Future Plans: We will expand our categories in Hot Potato. We will insert new categories that are related to serious global issues and concerns. We will also try to contact more NGOs and relief organizations to corporate in to Hot Potato.

WINDOWS PHONE 7

SINGAPORE

Code Instincts

Team Members:
Low Kah Yuan, Arvin Evangelista Kim, Wong Kin Seng, and Yu Zheng Yuan

Mentor:
Yeak Shaw Wen

School:
Temasek Polytechnic

PROJECT: Recyclocator

Recyclocator is a Windows Phone 7 application that makes recycling more convenient on the go. It works by locating the nearest recycling facilities/bins for the users. Recyclocator makes it fun as users can compete for titles, earn points and even badges when they recycle. The points earned can be used to exchange for vouchers or merchandise. Socially, Recyclocator brings like-minded people together and enables them to share their experience via their favorite social media thus helps in perpetuating recycling to a wider network of people around the world. Recyclocator hopes to make recycling more convenient as well as to raise awareness among users about the importance of recycling in preserving a clean and better environment for everyone.

Theme/Millennium Development Goal: Environmental Sustainability

Technology Used: Bing Map, Facebook Graph, Microsoft .NET Framework 4.0, Microsoft SQL Server 2008, Microsoft Visual Studio 2010, Microsoft Windows Phone 7 SDK, Windows Phone 7, WCF Data Service, Windows Azure & ZXing.

Inspiration: The frustration we feel when we could not locate any recycling facilities/bins when we needed them. As a result, people just dispose of their waste instead of recycling. Precious resources can be saved and be more effectively used if people recycle. We want to tap into the convenience provided by technology to help resolve one of the most pressing problems in the world – environment pollution and depletion of resources.

Future Plans: We will continue development to ensure that our application is compatible and is able to take advantage of the new Windows Phone 7 (Mango) update. Also, we hope to be able to officially deploy our application and to perpetuate recycling to everyone around the world.

WINDOWS PHONE 7

UNITED STATES

The Lifelens Project

Team Members:
Wilson To, Tristan Gibeau, Cy Khormaee, and Jason Wakizaka

Mentor:
Helena Xu

Schools:
University of California, Davis; University of Central Florida; Harvard Business School; University of California, Los Angeles Anderson School of Management

PROJECT: Computer-assisted Mobile Microscopy

Lifelens introduces an innovative point-of-care Windows Phone 7 application to address child mortality rates caused by the lack of detection and availability of treatment for malaria. The solution has immense potential to reduce the cost of diagnosis and enable children around the world to be treated with the current amount of funding. The particular magnitude of malaria in child mortality rates is staggering. With a mortality of 15–20%, there are over one million deaths per year due to malaria, 85% of fatalities occurring with children under 5 years of age. Lifelens hopes to directly address the major problem of reducing child mortality rates throughout the world by providing a robust mobile diagnostic solution for malaria patients. The premise of Lifelens project is to digitally characterize blood cells and parasites, and provide computer vision analysis of cells through single image acquisition of low-volume blood smears by peripheral finger pricks.

Theme/Millennium Development Goal: Child Mortality

Technology Used: Bing Maps, Windows Phone 7, Silverlight Framework, MySQL, C#/PHP, Web Services, Geocoding, Apache

Inspiration: The Lifelens team truly believes in using their expertise to better society on a larger, global scale and motivate students to commit their time to change the way technologies can be used to develop high-impact solutions. After being exposed to the needs in global health during the 2010 Imagine Cup Worldwide Finals in Warsaw, Poland, members of the Lifelens team felt an urgency to help address the problem of malaria in low-resource communities. By combining the unique backgrounds and diverse academic disciplines from each of its members, an innovative point-of-care solution was introduced to effectively untether healthcare and enable the practice of care anywhere in the world. The team firmly believes that the potential implication of the Lifelens project will be measured not in the dollar amount generated from this solution, but rather the number of lives saved.

Future Plans: The Lifelens team is working aggressively towards bringing this point-of-care tool to market. Both the team and project have been nationally recognized in a number of different competitions, such as the Imagine Cup. The team is in the final round of funding talks with the Artuitive and NCIIA Venture's VentureWell Groups to secure early stage funding to conduct extensive in-lab testing and on-field pilot studies. Lifelens has laid a solid foundation and fostered appropriate relationships in order to continue moving forward towards taking this project to market.

INTEROPERABILITY CHALLENGE

The Interoperability Challenge is sponsored by the Microsoft Interoperability Strategy Team in the Developer and Platform Evangelism organization. The Challenge award is designed to recognize the software application that best leverages out-of-the-box Microsoft technologies and blends them with other technologies to connect people, data, or diverse systems in a new way. The ability to build technical bridges and blend technologies from different vendors, including free and open source software, has great value in the industry. The experience the teams gain by participating in this Challenge will help students and their peers build important technical skills that are highly valued in the job market.

Bells Team

Team Members:
Daniel Ferreira, Lucas Mello, Amirton Chagas, and João Paulo dos Santos Oliveira

Mentor:
Flavio Sobrinho

School:
UFPE - Universidade Federal de Pernambuco

PROJECT: #ProDeaf

#ProDeaf is a mobile application that aims to allow a fluent real-time communication between deaf and non-deaf, anytime and anywhere. It converts any speech sounds into sign language and vice versa. With it a deaf person will be able to talk with non-deaf people, understand what a teacher is saying in a regular classroom, watch TV shows, and know what a YouTube video is talking about, for example. #ProDeaf also allows the hearing impaired person to use their cell phone as everybody else does. They can also use it as a "remote communication" device (sending/receiving SMS text messages and making/receiving calls), and it will always convert texts and voices received into sign language.

Theme/Millennium Development Goal: Universal Education, Other

Technology Used: Silverlight, Windows 7, Windows Azure, Windows Phone, Other

Inspiration: 3.7% of the world population carries some high level of hearing impairment, disabling them to communicate through speaking and hearing. 1.8% are completely deaf. Since primary education, schools are weak on dealing with deaf people, thus, they suffer from the beginning for not be able to get a quality education and socialization. As a result, they live on sub-employments and governmental help, being unable to ascend socially. Deaf people often only communicate among themselves, communicating through sign language. There is a communication barrier that separates deaf people from the rest of the population. And this is the barrier that inspired our team; this is the barrier that we want to break. Thus, we designed #ProDeaf.

Future Plans: Our team is already studying the possibility of launching the project into the market. To achieve this, we are working together with deaf people and we also have local government support. Little by little, we are making the necessary adjustments to submit the project to government financial subvention programs or even find capital investors. We will transform our Imagine Cup's project into a commercial product.

alaniarides

Team Members:
George Karakatsiotis and Vangos Pterneas

School:
Athens University of Economics and Business
Dept of Informatics

PROJECT: Touring Machine

Touring Machine is an innovative platform designed to offer a new kind of experience in culture for adults and children. It is a personalized, highly customizable tour guide which conforms to the visitor's characteristics and demands. Our platform uses a powerful description engine which generates descriptions on the fly taking into account elements such as the user's history, language, age and amount of desired information. Additionally, Touring Machine provides multimedia content, optimized for a number of different clients. It is available in three editions and all editions support features such as advanced question answering, social networking and text-to-speech. The editions are: The Mobile Edition targets those visiting an archeological site. Using the phone's GPS, it detects the nearby exhibits and presents them to a list, according to their relative position. When the GPS is inactive, image recognition is used to recognize the exhibit. The Web Edition delivers a rich experience by virtually reconstructing the 3D space using photographs of the exhibits. The Augmented Reality edition is designed to make cultural education more engaging for young students. It virtually replaces predefined symbols with 3D models of the corresponding exhibits, transforming a classroom into a virtual museum.

Theme/Millennium Development Goal: Touring Machine is considered to be a great cultural education assistant. It turns cultural education into an accessible, engaging, and personalized experience which helps children and adults learn according to their age, language and preferences.

Technology Used:
Microsoft: .NET Framework 4, Windows Server 2008 R2, IIS 7.5, Windows Communication Foundation, Bing SOAP API, ASP.NET, Silverlight & Silverlight for Windows Phone, XNA sound libraries, and DeepZoom (SeeDragon)

Non-Microsoft: J2EE, GlassFish Application Server, Java SOAP services, RDF-XML Web Ontologies, CIDOC-CRM standard, MySQL database, Twitter REST API, RSS and OAuth, and JME

Inspiration: We have visited many archeological places and museums where either there are either no descriptions or the descriptions are too short. Also, most of these sites are inaccessible by people with disabilities. We wanted to create a system that was able to offer a new kind of experience in cultural education.

Future Plans: Touring Machine has been presented to the Minister of Culture and the Prime Minister and is highly supported by the official authorities of our country. Our platform has also been covered extensively by most media (television, radio and web). As a result, our research team is working hard on improving the natural language generation engine in order to support different formats and languages. The mobile edition has been enhanced with some brand new tours of Athens and will be submitted to the Windows Phone Marketplace in a few days. More mobile clients are under construction. Last but not least, Microsoft Hellas is helping us to create our startup company via BizSpark program, technical support and valuable marketing assistance. Coming soon to a mobile device near you!

DemosceneSpirit

Team Members:
Lukasz Michniewicz, Szymon Majewski, Marek Banaszak, and Magdalena Dudarska

Mentor:
Tomasz Gdala

Schools:
Adam Mickiewicz University in Poznań, Poznań University of Arts

PROJECT: Trident

Trident is a project which helps with problems related to floods. It consists of three modules, each corresponding to different aspects of floods: *eLevee* is a dyke monitoring system which uses DeltaT PR2 soil moisture probes currently used in agriculture. Those probes allow experts to exactly pinpoint dyke's segments that most likely fail due to saturation with water; *TRIPS* (TRIdent Parallel Simulations) is a fluid simulation module, which allows simulation floodings of large areas; *PeoplesQuest* is Trident's third module. By using Facebook authentication and Silverlight Bing Maps, we were able to deliver solutions for establishing contact between flood victims, charity organizations and volunteers willing to help. Seasonal water level rise usually results in devastating floods with global losses and tens of thousands of people affected by these tragic situations. However, this kind of threat can be countered by effective management of anti-flood infrastructure, and continuous inspection and computing simulation of floods. Levees are constructed to prevent even floods but they lie under layers of soil moisture and hydrostatic pressure which can deteriorate a levee's internal structure and in consequence cause dyke break. Soil moisture sensors installed in sensitive points of the dykes, guarantee successive control of this condition. Simulation of fluid substances enable us to approximate dynamics of water on given terrain where height fields are taken from NASA SRTM maps. Those simulations provide sufficient information for evaluating crisis event scenarios including full city evacuations, chances of flood on the given terrain or even searching to find safe evacuation spots. Many of the people are ready to help others carry on after floods. PeoplesQuest is created with a way to establish fast contact for those who are in need and their helpers.

Theme/Millennium Development Goal: Other

Technology Used: Windows Azure, Azure Storage, Azure Drive, NASA SRTM MAPS, Bing Maps API, ATOM, RSS, Silverlight, ASP MVC 3, WCF, REST API, HLSL shader model 2.0, ADO.NET, Samsung BADA, Facebook API, OAuth 2.0 protocol, Delta-T API, Ecma Office Open XML File Format, GIS file format: CADRG, KML, Microsoft SQL 2008

Inspiration: Last summer, during the Imagine Cup Worldwide Finals in Warsaw, Poland was dealing with a great flood. Almost every year our country suffers from minor floodings but what happened last year was an enormous disaster. In 1997, we faced a flood as extensive as the one from last year and our country was just as unprepared then as well. So this year our mission at the Imagine Cup was to show a way of dealing with this flood problem. We wanted to show that technology for flood prevention and flood risk management is already there and needs to be utilized. Moreover we wanted to give people a way of communicating and organizing during these hard flood times – especially when they are on their own. It took us 8 months of experiments, consultations, and development to achieve Trident. We worked at the expense of our studies and social life but now we are happy to see all of the recognition that our product has already generated.

Future Plans: We want to take it further and create a public API for water flow computations with essential use of Windows Azure, which would be used by private companies for their own research. We find accessibility to flood simulations to be a key factor in building consciousness of threats related to floods.

IT CHALLENGE

Yes, technology is everywhere. The IT Challenge set out to connect with those students around the world that had the brainpower and the intimate technology knowledge to run massive enterprise infrastructures while managing diverse customer needs and scenarios. The IT Challenge definitely put these world's brightest technical minds to the test!

The IT Challenge competition highlights the art and science of developing, deploying, and maintaining IT systems that are efficient, functional, robust and secure. Often IT professionals have a base set of tools and techniques, but they still have to work their way through custom needs and configurations that require an intimate understanding of how it will all fit together. They also have to understand how far the systems can be pushed before they might break. This means that every business, organization, university, and government agency requires IT professionals who are proficient in these skills and abilities. The finalists in the following pages have already demonstrated great proficiency in the science of networks, databases, and servers, along with their keen ability to analyze and make critical decisions in the implementation of these technologies.

Xuewen Tian

School:
Huazhong University of Science & Technology

Your Imagine Cup Experience: It has been nearly one year since I took part in the IT Challenge last year. The IT Challenge lets me use technologies to solve corporations' problems and provide a high available, secure, and manageable IT environment. IT pros change the world and in the process we change ourselves!

The Most Rewarding Part: I learned so much from the IT Challenge. What inspired me the most is that I gained invaluable skills with finding the issues and solving the problems. By facing the problems and solving them you gain confidence and courage. I felt a little depressed that was difficult when I finished my proposal in Round 2 of IT Challenge. But later I realized that this depression can not help me with the problems and finding the proper answers. So I started to face it and find out the problem in my way to obtaining success. It just takes confidence and courage. I have to believe that no one can stop me to the success that I work to achieve! I did it! And this will make me succeed in Worldwide Finals!

The Most Challenging Part: The most challenge part was figuring out how to make all the products closely linked and in a way that would serve the corporation well.

Plans After the Imagine Cup: I want to get practical training in a company and then serve people with my technologies instead of playing in the lab.

Advice for Future Competitors: Think of this competition as an real job in a company. It will help you learn more from the experience.

Anything Else You Want To Tell The World? Use the power in your hands to change the world! Believe in yourself and you can do it!

Jean-Sébastien Duchene

School:
Supinfo International University

Your Imagine Cup Experience: Imagine Cup is a great experience and a way to really challenge yourself. What could be better than thinking to help people. You also realize that behind technology, there are fundamentals to life such as sharing and openness.

The Most Rewarding Part: The most rewarding part of the IT Challenge was being selected to represent my country! It means a lot for me. This is perhaps the most important challenge of my life.

The Most Challenging Part: The most challenging part is to think globally. All IT professionals have preferred products. We all know that we cannot be the best on all technologies. IT Challenge has made me to expand my skills.

Plans After the Imagine Cup: This is my chance to be a part of the Imagine Cup. I finish my studies this year. The Imagine Cup definitely pushed me to increase my skills. The goal I have is to provide my insights and knowledge to serve users throughout the corporate world.

Advice for Future Competitors: My advice would be to remember to be passionate! In my opinion, it's the only thing that cannot be taught. Remember too that if you fail one year, get up and try again in the next one

Anything Else You Want To Tell The World? I live in the cloud.

Alexander Wachtel

School:
Karlsruhe Institute of Technology (KIT)

Your Imagine Cup Experience: An Imagine Cup Student Technology Conference was organized by Henrike Röse, the Microsoft Academic Event Manager, and it took place on the 4th and 5th December 2010 in Frankfurt, Germany. This was the starting point of my Imagine Cup experience. During the event I heard sessions about .NET 4.0, Web Development and Windows Phone 7. At the end of the event, Henrike Röse informed the participants about the IT Challenge competition and I decided to participate and test my knowledge of different Microsoft technologies like Active Directory, Exchange Server etc.

The Most Rewarding Part: The most rewarding part of the IT Challenge is, of course, the travel to the Worldwide Finals in New York. I am sure it will be an unforgettable experience and I am looking forward to meeting the other students and also the Imagine Cup team. Furthermore, I am interested to see what the students in other competitions have developed to get to the Finals. Last but not least, I am excited to compete in the final competition of the IT Challenge and also have fun in New York during the free time.

The Most Challenging Part: The most challenging part of the IT Challenge was Round 2, where I had to write a case study of 5000 words for the given scenario. It was very exciting and interesting to work on this paper and to give my recommendations for communication, security, and configuration of the systems.

Plans After the Imagine Cup: I am at the end of my computer science study at the Karlsruhe Institute of Technology (KIT), so I plan to finish it in a few months after the Imagine Cup Finals.

Advice for Future Competitors: Think of this competition as an real job in a company. It will help you learn more from the experience.

Anything Else You Want To Tell The World? Try it, you have nothing to lose and can win a great travel opportunity, plus the possibility to challenge yourself with other competitors and gain a lot of experience.

Błażej Matuszyk

School:
Poznań University of Technology

Your Imagine Cup Experience: I have been interested in the Imagine Cup competition since I started my Computer Science studies, 3 years ago. In 2009, I decided to become a competitor and took a Round 1 quiz, in the IT Challenge category. Although I wasn't prepared for the quiz, to my surprise I managed to advance to the Round 2, but with no further success. However, thanks to this experience I knew that the IT Challenge was the right category for me! Throughout the next year I intensively prepared for the next Imagine Cup. In Round 1 of IT Challenge 2010 I did very well and after Round 2, I almost got into the Finals. I was in 4th place, but unfortunately another competitor from my country had better results so he became the Finalist. After that event I was fully convinced that I had a real chance to be the Worldwide Finalist the next year, in the Imagine Cup 2011 competition. I continued to learn about IT in order to be very prepared for the IT Challenge 2011. And guess what? All my hard work eventually paid off! I've become the 2011 IT Challenge Worldwide Finalist! I am on my way to New York City!

The Most Rewarding Part: The opportunity to represent Poland and compete with students from other countries at the Worldwide Finals is what is most exciting to me.

The Most Challenging Part: By now, the most challenging task was preparing the Round 2 proposal. I needed to make it as complete as possible but still meet the 5000 word limit restriction. This was tricky.

Plans After the Imagine Cup: I'm going to continue my Computer Science studies and after that I am planning a career at some large international company in the computer industry. Microsoft, maybe....

Advice for Future Competitors: First of all, if you qualify to Round 2, don't resign from writing your Round 2 proposal. At the beginning, you may feel a bit overwhelmed by the amount of work you need to do to prepare a good proposal, but it's worth the effort! You won't win if you don't even try to participate! Moreover, it is very important to have knowledge as wide as possible about IT and Microsoft solutions for IT. Absolutely nothing that concerns IT should be considered irrelevant.

Anything Else You Want To Tell The World? Apart from IT, I am also interested in software development. I publish my most interesting projects on my personal website.

Sinescu Ionut

School:
Alexandru Ioan Cuza University

Your Imagine Cup Experience: I found that the Imagine Cup delivers not only a greater opportunity but it is also a means to access all of my ambitions. Preparing for this competition, I researched new things and I achieved even greater knowledge in the field of networking. I enjoyed every single step and every problem because I knew that reaching a solution can come with a great reward. To sum it up, my Imagine Cup experience was one to remember, it has been dynamic and filled with many challenges.

The Most Rewarding Part: The rewarding part of IT Challenge was coming up with solutions and seeing all the work become a whole. The knowledge that I achieved in Round 1 was transferred in Round 2 and I managed to achieve a greater understanding on the subject of IT all around.

The Most Challenging Part: Round 2 is for now the most challenging part, because I had to research all new technologies to understand how they would all fit together. You cannot just snap your fingers and achieve it all. It takes work and ambition. Some days I found those could be rare.

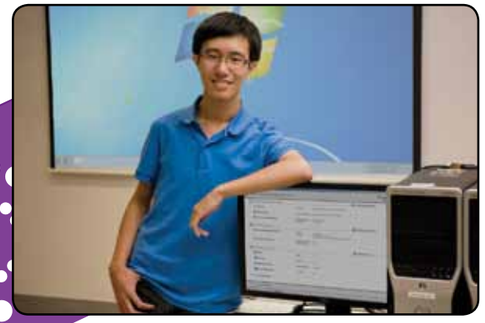
Plans After the Imagine Cup: I plan to enhance my skills by researching further the Microsoft technologies and networking in general. Mostly because I'm passionate about this area and I want to improve myself year by year.

Advice for Future Competitors: I consider that all students should have the opportunity to experience this amazing competition if they are truly passionate and desire to persevere in a certain IT area. It takes motivation and work, but in the end it is all worth it. My advice: Go for it!

Anything Else You Want To Tell The World? I'm truly fortunate to have this opportunity at the Imagine Cup Worldwide Finals and I plan to deliver my best. I represent my country in the IT Challenge and I couldn't be prouder and in the same time a little afraid. I hope that my performance represents my country and my fellow students in an eloquent and representative manner.

IT CHALLENGE

SINGAPORE



Yunheng Mong

School:
Nanyang Polytechnic

Your Imagine Cup Experience: My Imagine Cup experience was multifold. It was a long journey that helped me learn many new technological skills and concepts along the way. I was inspired by Hu Zhengbin, who was from the same school as me and won the third prize in the Imagine Cup IT Challenge in Poland in 2010. I leveraged my own experience from last year's Imagine Cup IT Challenge, researching different Microsoft products to understand the various features of each product so I can make a well-informed and better decision when writing my proposal. When the scenario for Round 2 came out, I put all my previous months research together and came up with my proposal. I also tested the proposal with the lab equipment that my mentors have graciously helped me find. My mentors (Mr. Gary Lim, Ms. Viridis Liew, Ms. Lim Ai Huey and Mr. Kravitz Hwang) have been very helpful; they have assisted in getting research materials for me and helping me gain access to lab equipment so that I can work on and test my proposal.

The Most Rewarding Part: The most rewarding part of IT Challenge is the fact that I got to know so many new technologies and how to interconnect the best of their functionalities to serve the dynamic business needs of an organization. The knowledge and experience that I have based on this experience is invaluable.

The Most Challenging Part: The most challenging part of the competition has been the conceptualizing and substantiating of a technically feasible and accurate proposal for submission. It was a long learning process which brought about many learning points. Valuable knowledge has been acquired throughout the entire process.

Plans After the Imagine Cup: I intend to promote and showcase the latest Microsoft technologies in my school to allow people in to learn about these technologies and take home this knowledge. I also hope that this will inspire my schoolmates to participate in the Imagine Cup, just as my friend inspired me. Hopefully their experience will be as fulfilling as mine has been.

Advice for Future Competitors: Perseverance is key! The learning journey is a challenging one; however, it is also a rewarding one too. All the knowledge and experience you reap at the end of the day definitely makes you technically more sound.

Anything Else You Want To Tell The World? I am a third year student currently pursuing a diploma in Information Security. I have also been given the opportunity by my school to be Microsoft's ambassador as a Microsoft Student Partner in NYP. Apart from Imagine Cup, I've also participated in the WorldSkills Singapore competition in 2011 and was one of the six finalists for the web design trade.

ORCHARD CHALLENGE

Orchard is an up-and-coming open source CMS platform based on ASP.NET MVC that is designed from the ground up to support modular extensibility. Challenge competitors were asked to change the world, one website at a time. They were some of the first to define an indispensible Orchard module.

A module can add new features to an Orchard-based website – for example, a shopping cart and checkout system, a media gallery, maps/geo-location, or social interactivity. Orchard users can easily discover and download Challenge competitor's modules in the online gallery and incorporate them into their own websites. So not only were these Challenge competitors the first to use this new CMS platform, they might just see their module used on websites around the world! **Meet the Orchard Challenge First Place Winning Team!**

1ST PLACE WINNER!

MPBrun

Team Members:
Peter Sandberg Bru, Mads Sandberg Brun

School:
Aarhus University

PROJECT: AT Tools

The AT Tools module for Orchard is a collection of accessibility and translation tools, with a primary goal to help people who cannot read or write well to understand content on a website just like everyone else. On a website with our module it can make content accessible both as text and sound. The module is also featuring easy translation of content into any other language, so that website administrators and editors can easily make their content available in other languages. For those people who cannot write well, the module also includes a feature called "Voice Commands", which let users execute commands on a website using their voice. You can, for example, let users click on the microphone and say "Search for earthquake" and the website will make a search for "earthquake". If a user wants to comment on a blog entry their microphone and voice can also be used to achieve this goal.

Theme/Millennium Development Goal: Universal Education,

Technology Used: Orchard, HTML5, Microsoft Translator

Inspiration: The project started with a simple question: How can we make websites around the world more accessible for people who cannot read or write well? From there we looked at the possibilities we had with current technologies and browsers today, and developed the AT Tools module for the Orchard CMS.

Future Plans: Our plans with the AT Tools module is to keep it up to date with the newest browser technologies and Orchard, and keep adding new useful features.

WINDOWS 7 TOUCH CHALLENGE

Touch to remove barriers to accessibility. Touch to create an experience that is so natural that users don't even think about the implementation and focus only on their experience. Technology that allows people to use their computer in a more natural, accessible, and interactive way. We encouraged Windows 7 Touch Challenge competitors to develop solutions that used Touch technology while expanding the possibilities of how a user can interact with a computer to help make the world a better place. **Meet the Windows 7 Touch Challenge First Place Winning Team!**

1ST PLACE WINNER!

India Rose

Team Members:
Anthony Froissant, Martins Fonseca José

Mentor:
Frederic Moal

School:
Université d'Orléans

PROJECT: India Rose

Autism is a disorder of neural development characterized by many signs ; among those are language impairments, hyperactivity or hypoactivity, violence against others or oneself (self-injury), anxiety or latent frustrations. Although a tenth to a fourth of autism cases are due to genetic conditions, the causes are still unknown for a vast majority of autistic people. Communication, for many individuals with autism, is hard and in some cases reduced to next to nothing. The advent of computer science, especially Touch Screen technology, provides new means to make communication more accessible to children and lessen the burden on parents. Thanks to a system based on pictures, the child can interact with its environment and be understood by everyone. One becomes an active player, and starts evolving, structuring, and constructing their self. The child expresses their needs using pictograms ordered by categories : objects, actions, people, etc. The selection is made using an intuitive touch interface, which is fully customizable to the children's handicap. A voice synthesizer reacts to the child's gestures. The graphics and sound association allows him to pair words and images, further developping his oral skills. It also serves as a warning for the adults, whose attention is required at this point. "I'm building an application for my child, and it accompanies us everywhere, everytime."

Theme/Millennium Development Goal: Child Health

Technology Used: Windows 7, Windows Touch

Inspiration: It all began with a meeting. A meeting between a family with autistic children (and lots of needs), and technology. On the one hand, children who suffer with communication problems, and on the other hand, more and more innovative information and communications technologies. When these two worlds unite, the technology fades out and the child becomes able to communicate. The project was developed with the help of families committed to the cause, who made the application their own by their contributions during design time (especially regarding the graphical user interface, the customization, the sharing and connectivity aspects). India Rose is the bridge between their needs and technology. For the children ... and for their parents.

Future Plans: After Imagine Cup, we have many plans for the project. Among those, we mainly want to establish a community around the application, a community of users who will be able share their pictograms and get help. It is a very important goal, because autistic people need a lot of care and parents often find themselves alone. We want to bring them closer to their child, but also to other people who face the same difficulties.We also want to establish a partnership with a company interested in this matter. This would enable parents to have help the acquiring the necessary hardware. We plan to make the source code open, allowing people to help us improve it, for example by providing translations or rewriting the code to make it work more efficiently.We will also port the application to other platforms, for starters iOS or Android.

MICROSOFT WOULD LIKE TO THANK THE FOLLOWING JUDGES FOR THEIR SUPPORT OF THE IMAGINE CUP 2011 WORLDWIDE FINALS

SOFTWARE DESIGN

Captain		
Rob Miles	*Lecturer in Computer Science at the University of Hull*	United Kingdom
Judges		
Dennis Anderson	*Chairman and Professor of Management and Information Technology at St. Francis College, New York City*	United States
Kulbir Arora	*Chief Technology Officer, Fixed Income and Global Derivatives Technology, Goldman Sachs*	United States
Reem Bahgat		Egypt
Jose Barata	*Professor at the New University of Lisbon*	Portugal
Guillaume Belmas	*Product Manager at vNext*	France
Maria Bielikova	*Full-time professor in the field of software and information systems at the Slovak University of Technology, Bratislava*	Slovakia
Ahmad Yusoff bin Hassan	*Vice Chancellor at Universiti Teknikal Malaysia Melaka (UTeM)*	Malaysia
Sandra Regina Boccia		Brazil
Sally Buberman	*Co-founder of Wormhole IT*	Argentina
Tiago Oliveira Machado de Figueiredo Cardoso	*Professor at the Electrical and Computer Engineering course from the New University of Lisbon*	Portugal
Nannette Cutliff	*Vice President and Chief Information Officer at Pacific Service in Walnut Creek, California*	United States
Anil Dhawan	*Software Developer with the Startup Business Group at Microsoft Corporation*	United States
Jonathan Doochin	*Assistant Dean of Kirkland House at Harvard College*	United States
Bryan Duggan	*Lecturer in the School of Computing, Dublin Institute of Technology*	Ireland
Barry Dwolatzky	*Professor of Software Engineering at the University of the Witwatersrand, Johannesburg*	South Africa
Ann Gates	*Associate Vice President of Research and Sponsored Projects at the University of Texas, El Paso*	United States
Tadeusz Golonka	*Manager, software architect, consultant, and an academic lecturer in Information Technology*	Poland
Jürg Gutknecht	*Head of the Computer Science Department at ETH, Zurich*	Switzerland
H. Altay Guvenir	*Professor and Chairman of the Computer Engineering Department at Bilkent University in Ankara*	Turkey
Edward G. Happ	*Director at Nonprofit Technology Network, Global CIO and Head of ISD at International Federation of Red Cross and Red Crescent Societies and Chairman at NetHope*	Switzerland
Felliene Hermans	*PhD student turned entrepreneur*	Netherlands
Adam Herout	*Associate professor at Brno University of Technology, Faculty of Information Technology*	Czech Republic
Edward Hooper	*Business Development Manager at the travel start-up rome2rio.com*	Australia
Kenrie Hylton	*Chairman of the Computer and Information Sciences Department at Northern Caribbean University*	Jamaica
Masahiko Inami	*Professor in Graduate School of Media Design, Keio University (KMD)*	Japan
Viktor Kauk	*Ph.D. Professor at Kharkiv National University of RadioElectronics*	Ukraine
Martin Kulov	*Microsoft Evangelist in Propeople*	Bulgaria

SOFTWARE DESIGN *continued*

Guo Li	*Professor and Supervisor of Graduate Student Program in the Research Center of Information Theory and Technique at Beijing University of Posts and Telecommunications*	China
Ignacio Lopez	*CTO and one of the co-founders of Wormhole IT*	Argentina
Kotaro Nakayama	*Assistant Professor at the University of Tokyo*	Japan
Elena Navarro	*Assistant Professor in Graduate School of Computer Science, University of Castilla-La Mancha*	Spain
Brett O'Riley	*CEO of the NZICT Group*	New Zealand
Kerem Ozsu	*CEO at i-con technologies*	Turkey
Raydelto Hernández Perera	*Professor in INTEC University, UNIBE University and Las Americas Institute of Technology*	Dominican Republic
David Platt	*Teacher, Programming .NET at Harvard University Extension School*	United States
Uday Kumar Reddy	*Assistant Professor in Computer Science at the Indian Institute of Science, Bangalore*	India
Gregory Renard		Belgium
Riadh Robbana	*Professor in Computer Science at the National Institute of Applied Sciences and Technology (INSAT) and the Tunisia Polytechnic School (EPT)*	Tunisia
Jon Rokne	*Professor at University of Calgary*	Canada
Walter F. Tichy	*Professor and Chair of Programming Systems, Karlsruhe Institute of Technology (KIT)*	Germany
Etienne Tremblay	*Associate Director in charge of the Microsoft Technologies Center at Fujitsu Canada*	Canada
Andrey Ustyuzhanin	*Associated Professor and Computer Science Chair at Moscow Institute of Physics and Technology*	Russia
Bronwen Zande	*Director for Soul Solutions*	Australia
Li Zheng		China

EMBEDDED DEVELOPMENT

Captains		
Gitte Lena Andersen and Olivier Bloch	*Microsoft Windows Embedded*	United States
Judges		
Tien-Fu Chen	*Professor in the Department of Computer Science at National Chiao Tung University, HsinChu*	Taiwan
Mike Hall		United States
Thierry Joubert	*CTO and co-founder for THEORIS*	France
Sam Phung	*Vice President of Sales and Marketing for ICOP Technology*	United States
Erwin Zwart	*CEO of GuruCE, Embedded Technologies Experts*	Netherlands
Anshul Kumar	*Professor at the Department of Computer Science and Engineering, I.I.T. Delhi*	India

GAME DESIGN

Captain:		
Andrew Parsons	*Microsoft*	United States
Judges		
Kostas Anagnostou	*Adjunct Lecturer at Ionian University, teaching Videogame Technologies*	Greece
Lea Bartlett	*Head of School – Programming, Academy of Interactive Entertainment*	Australia
Gordon Bellamy	*Executive Director, IGDA (International Game Developers Association)*	United States
Tracy Fullerton	*Associate Professor, USC School of Cinematic Arbs, Director, USC Game Innovation Lab, EA Endowed Chair in Interactive Entertaiment*	United States
Julian Gerighty	*IP Development Lead for Ubisoft Entertainment*	France
Hsin-Chien Huang		Taiwan
Patricio Jutard	*Founder, Three Melons, a videogame development company*	Argentina
Frank J. Lee	*Associate Teaching Professor, Co-Director, Drexel Game Design Program and RePlay Game Lab, Drexel University*	United States

GAME DESIGN *continued*

Tetsuya Mizuguchi	*Founder, Q Entertainment, renowned Video Game Designer (latest, Child of Eden for Xbox Kinect released June 2011)*	Japan
Marina Pospergelis	*Computer Gaphic Interface Developer at InfoWatch*	Russia
Andy Phelps	*Director, School of Interactive Games and Media, Rochester Institute of Technology, New York*	United States
Peter Raad	*Director, Linda and Mitch Hart eCenter and Executive Director, The Guild Hall, Southern Methodist University, Texas*	United States

DIGITAL MEDIA

Captain		
Paolo Tosolini	*Enterprise Social Video consultant with Microsoft*	United States
Judges		
Beata Bochinska	*President of the Institute of Industrial Design, in Warsaw*	Poland
Drew Keller	*Award-winning television producer, editor, web developer and educator*	United States
Andrea Swift	*Chair of Documentary Program at the New York Film Academy*	United States

WINDOWS PHONE 7

Captain		
Dan Waters	*Academic Evangelist, Microsoft*	United States
Judges		
Nick Randolph		Australia
Stephanie Reimann		United States
Rene Schulte	*Microsoft Silverlight MVP and well-known developer of Windows Phone apps*	Germany

IT CHALLENGE

Captain		
Rand Morimoto	*President of Convergent Computing*	United States and Romania
Judges		
Chris Amaris	*Chief Technology Officer and co-founder of Convergent Computing*	Singapore
Valy Greavu	*Lecturer Professor at "Alexandru Ioan Cuza" University of Lasi*	Romania
Gwen Tan	*Co-founder of SGEntrepreneurs.com*	

INTEROPERABILITY CHALLENGE

Captain		
Jas Sandu	*Technical Evangelist on the Interoperability Strategy Team at Microsoft*	United States
Judges		
Dennis Anderson	*Chairman and Professor of Management and Information Technology at St. Francis College, New York City*	United States
Rob Miles	*Lecturer in Computer Science at the University of Hull, United Kingdom*	United Kingdom
Tiago Oliveira Machado de Figueiredo Cardoso	*Professor at the Electrical and Computer Engineering course from the New University of Lisbon*	Portugal

Imagine Cup 2011 Worldwide Finals Judges Confirmed on June 15, 2011

COOL PROGRAMS FOR STUDENTS

On your long journey to the Imagine Cup 2011 Worldwide Finals, you've probably already met some of us on the Microsoft Academic Team. We are a worldwide team of over 150 people who spend our days working with students and faculty to develop Microsoft's relationship with academia.

Our mission is to empower student technologists to achieve their hopes and dreams in both their personal and professional lives. The Imagine Cup is just one of the programs. **Other programs include:**

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Best of luck here at the Imagine Cup 2011 Worldwide Finals. We hope that you have a great experience!

The Microsoft Academic Team

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Orchard

Orchard

Orchard is a free, open source, community-focused project aimed at delivering applications and reusable components on the ASP.NET platform. **www.orchardproject.net**

Windows 7

Windows 7

The Windows 7 platform enables developers to create new experiences that go beyond simple mouse pointing, clicking, and dragging. The new Touch API supports gestures, such as pan, zoom, and rotate, as well as raw touch data inputs and advance manipulation and inertia.

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I wish there had been an Imagine Cup when I was growing up.
It gets people involved in seeing that software is changing the world.

Bill Gates, Chairman, Microsoft Corporation

Next year Imagine Cup celebrates its ten-year anniversary! The Imagine Cup has grown to be a truly global competition focused on finding solutions to real world issues.

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Message from **Sydney, Australia**

Rich with natural resources, a temperate climate, and culture of innovation built from geographic isolation, Australia has always had a certain mystique. Evocative and alluring, even the name Australia conjures images of a faraway land and all of the adventure that waits. Given this context, perhaps there is no more fitting place than Australia from which to hold the 10th Anniversary of the Imagine Cup Worldwide Finals.

Australia is a country that so fondly exists in the imaginations of millions around the world, built by a generation of settlers who could only imagine Australia's future through the sweat of their invention and ingenuity.

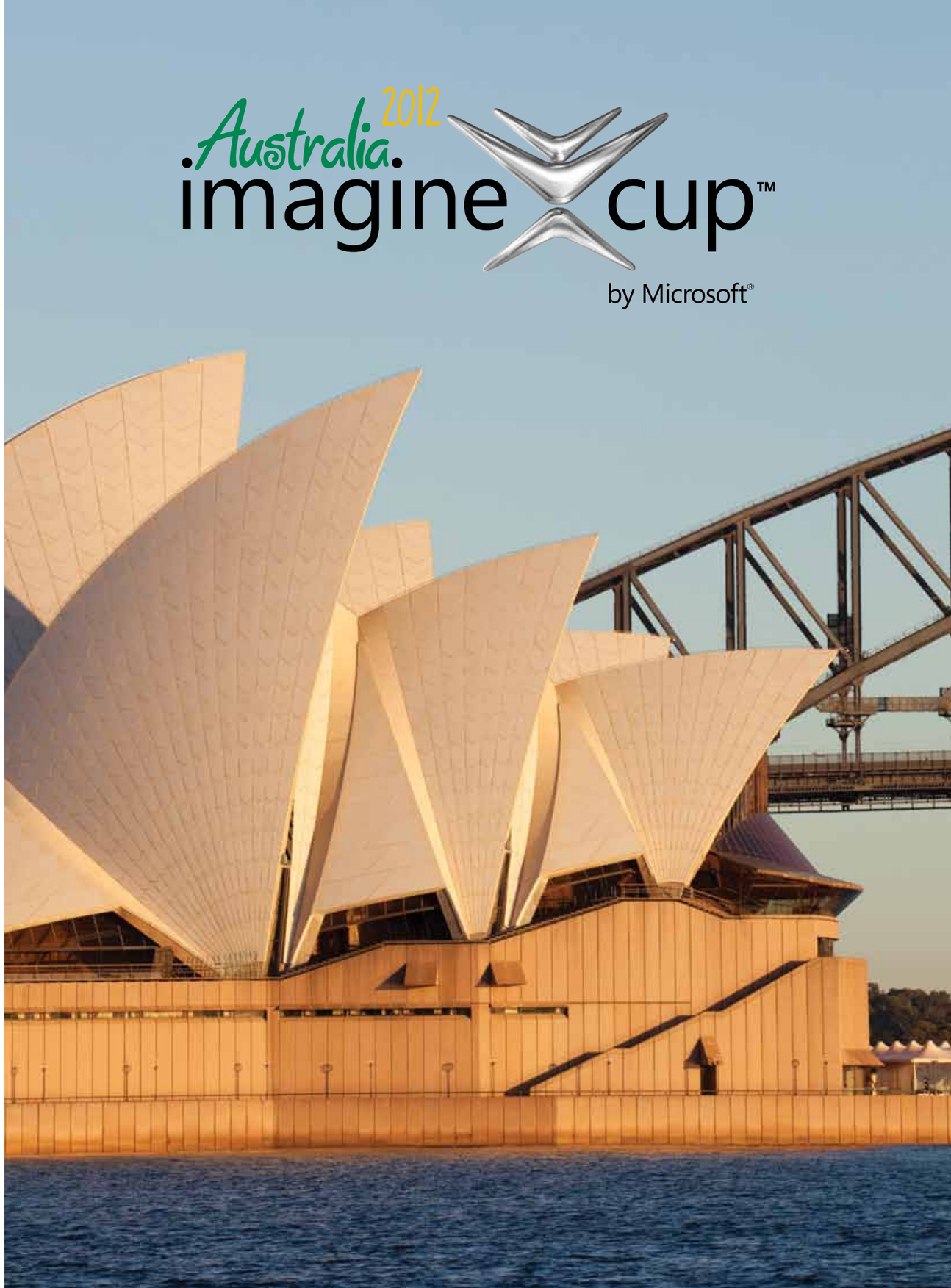
Though many may still think of the Outback or the dusty red monolith that is Uluru, modern Australia continues to contribute science, technology, and art that is regarded the world over. From the first pacemaker (in 1926), to the cochlear implants which give the gift of hearing, Australia's innovations are used by hundreds of millions of people around the world.

Innovation and inventiveness; collaborative citizenship and entrepreneurialism; optimism and a strong belief in a better future enabled by technology – these are the values which led to Australia being selected as the destination for the Imagine Cup 2012 Worldwide Finals. Sydney is excited to take center stage as the host city for this event.

Imagine Cup is all about harnessing the power of 'what if'. Thanks to technology, we now have the power to bring that 'what if' to life in ways previously unimagined. We have seen many bright and talented competitors showcased at the 2011 Worldwide Finals in New York City and, we look forward to seeing what the future holds. What breakthrough ideas will, in turn, inspire new generations of inventors and imagine-makers?

I wish you all the best as you compete at the Imagine Cup 2011 Worldwide Finals! I hope to see you, your teammates, mentors, and others from your country/region at the Imagine Cup 10th Anniversary celebration at the 2012 Worldwide Finals in Sydney, Australia next year.

Pip Marlow
Managing Director, Microsoft Australia



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