

TECHBRIDGEWORLD NEWSLETTER

Summer '07

www.TechBridgeWorld.org



Braille Tutor Progress

Since last summer's field study conducted in partnership with the Mathru School for the Blind in India, students have developed a second version of the tutor hardware and software, which we plan to make freely available under an open source license.

Computer Science undergraduate student Daniel Dewey was awarded an Intel First Year Research Experience grant to continue Braille tutor research in Pittsburgh this summer with Robotics graduate student Tom Stepleton. Noura El-Moughny received an Undergraduate Research Experience Program grant from the Qatar National Research Fund to begin research related to the Braille tutor in Doha.

www.techbridgeworld.org/brailletutor

The TechBridgeWorld Executive Board extends a special thanks to our Sponsors, Partners, Advisory Board Members, Volunteers, and Interns for their valuable support this year!

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Welcome New Advisory Board Members

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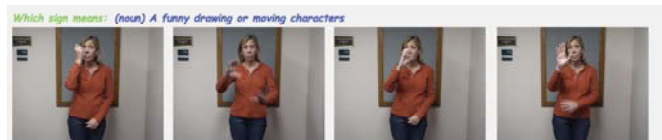
New Assistive Technology for Blind and Deaf

Three V-Unit projects have been in progress over the past two semesters. Robotics graduate students Sandra Mau, Nik Melchior, and Maxim Makatchev developed BlindAid, a prototype portable Electronic Travel Aid (ETA) along with the accompanying radio frequency identification (RFID) localization infrastructure used to equip buildings for indoor navigational assistance technology.

Another two Robotics graduate students, Ling Xu and Vinithra Varadharajan created DeSIGN, an intelligent tutor to reinforce American Sign Language vocabulary for middle school students in collaboration with the Western Pennsylvania School for the Deaf (WPSD).

Finally, a Ph.D. student from the Language Technologies Institute, Andy Schlaikjer, is concluding a project on dual-use speech CAPTCHA to aid visually-impaired web users.

www.cs.cmu.edu/~vunit



Student Consultants in Palau and India

TCinGC is now in its fourth summer—twenty-nine students have participated in the program since 2004, including six students consulting abroad this summer. The program is based on the Technology Consulting in the Community course, which will celebrate its tenth anniversary in 2008.



This summer's student consultants worked on new projects with the Ministry of Health and Ministry of Education in Palau and with PlanetRead, a non-profit organization based in Pondicherry, India that utilizes same language subtitling of music videos for improving literacy.

Qatar Connections

TechBridgeWorld Founder & Director M. Bernardine Dias joined the Computer Science faculty at Carnegie Mellon University in Qatar in Fall 2005. Since then she has been teaching and conducting research at the Doha campus for 5 months of each year. One of her research areas in Doha extends the Braille tutor work in collaboration with computer science student Noura El-Moughny. Noura's research poster on her Braille tutor work was selected as the Best Computer Science Poster at the Doha campus' inaugural Meeting of the Minds.

TechBridgeWorld Associate Director Joe Mertz, Technical Consultant Freddie Dias, and Project Assistant Sarah Belousov visited Carnegie Mellon University in Qatar this spring to explore the expansion of TechBridgeWorld opportunities to our Doha campus. As a result, the Technology and Global Development course will be offered in Qatar remotely in Fall 2007, and Joe Mertz and M. Bernardine Dias will co-teach the Technology Consulting in the Community course at the Doha campus in Spring 2008.

www.qatar.cmu.edu

News from Ghana

Phase II of Project Kane continues through a research collaboration with the Kofi-Annan Centre of Excellence in ICT. Roughly 90 children from three different schools in Accra are participating in this phase of the project, Phase II aims to measure the effectiveness of the automated reading tutor with children from different backgrounds in Accra. At the end of the study, each child will have used the tutor as an after-school activity for 30 minutes each day, over a two-month period.

www.techbridgeworld.org/kane

Two former students who participated in last summer's pilot course at Ashesi University, in collaboration with other colleagues from their graduating class, have launched their own software start-up in Accra. The students are putting their problem-solving and creative thinking abilities to work, and we wish them well in this endeavor.

www.ashesi.org/ACADEMICS/compsci/robotics.html

Conference Participation

20th International Joint Conference on Artificial Intelligence (IJCAI) held in Hyderabad, India.

We conducted a tutorial on "Exploring non-traditional benefits of AI to the Global Society" and presented the following three papers at the workshop on "Artificial Intelligence in ICT for Development":

-"The Electronic State and Stylus" by Nidhi Kalra and Tom Lauwers

-"Statistical Soil Modeling for the Tropics" by Juan Pablo Gonzalez

-"Introductory Robotics Course in Ghana" by G. Ayorkor Mills-Tettey, M. Bernardine Dias, Brett Browning, and Nathan Amanquah (Ashesi University)

2007 IEEE International Conference on Robotics and Automation (ICRA) held in Rome, Italy paper presentation:

-"Undergraduate Robotics Education in Technologically Underserved Communities," by M. Bernardine Dias, Brett Browning, G. Ayorkor Mills-Tettey, and Noura El-Moughny

2007 International Development Conference held at Harvard University in Cambridge, Massachusetts presenters included Rahul Tongia, Ian Rawson, and G. Ayorkor Mills-Tettey

2007 IEEE Global Information Infrastructure Symposium on "Closing the Digital Divide," held in Marrakech, Morocco included Rahul Tongia as a panel presenter on "Challenges in Providing Universal Access to the Global Telecom Network"

M. Bernardine Dias also participated with the Shell Technology Futures Workshop, organized by Shell Group, GameChanger and held in Surrey, England to assess the impact of technology on society over the next twenty years.

**Thank you for your continued interest
in TechBridgeWorld projects!**

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If you would like to learn more about any of our activities please contact us.

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