SciDev Net

**Putting science
at the heart of development**

NEW TECHNOLOGIES: ICTS

NEWS

Students develop software to monitor unborn babies

Esther Nakkazi

23 May 2012 | EN

[KAMPALA] Three students at Makerere University in Uganda have designed mobile phone software that can monitor foetal movements and heartbeats.

The innovation won Josiah Kavuma, Aaron Tushabe and Joshua Okello of Makarere's School of Computing and Informatics Technology (CIT) this year's Microsoft East and Southern Africa Imagine Cup. The award was presented on 3 May in Nairobi, Kenya.

The software, WinSenga, runs on Windows-operated smartphones. The phone is then attached to a 'SengaHorn', a Pinard Horn — which midwives have used to listen to foetuses for decades — fitted with a miniature microphone to relay the sounds to the software.

A listening 'SengaHorn' links up to smart phones to aid pregnancy monitoring
Aaron Tushabe

The idea, Kavuma said, was inspired by a visit to Mulago Hospital's labour ward, where they saw the suffering of pregnant women. About 50,000 women visit Mulago every year for antenatal services.

"We thought of something we can do to change the world through the mothers," said Kavuma, adding that the three wanted to help work towards the Millennium Development Goal of reducing maternal mortality by 2015.

The SengaHorn, Kavuma said, listens to sounds in the mother's womb and transmits them electronically to the smartphone. The software then analyses the sounds received and produces a simple English read-out that inexperienced midwives and traditional birth attendants can read and apply.

The device will enable health workers to monitor more accurately the baby's position, breathing pattern and heartbeats than a traditional Pinard Horn.

Depending on the price of the smartphone, the gadget will be 80 per cent cheaper than an ultrasound scan machine that costs at least US$3,000, along with the need for maintenance.

"WinSenga makes antenatal diagnosis more effective, timely and, most critically in developing countries, affordable," said Joseph Kaizzi, a software engineer with the software developing firm ThinVoid, who mentored the students.

Users can update the software periodically via the Internet.

Davis Musinguzi, a health systems consultant with the UN Children's Fund (UNICEF), said WinSenga's traditional component will make it easy to use.

"I remember that when I was in medical school you had to have a keen ear to hear the movements [of a foetus] and watch the clock but, [the fact] that WinSenga amplifies the sounds and interprets them is wonderful," he said.

The students will take part in the Imagine Cup global finals in July in Sydney, Australia, competing for a prize of US$25,000.

See below for a ktnkenya video about the winners:

COMMENTS (2)

Eric (Ghana)
28 May 2012

I commend the students this development. We need to take advantage of IT to develop simple, inexpensive but efficient tools so solve the problems faced by developing countries.

Soodursun Jugessur (Mauritius Research Council | Mauritius)
29 May 2012

Congratulations to the young African scientists! We need to believe that we can do it if others can. Good luck in its commercialization. Prof. S.Jugessur, Mauritius

---

http://www.scidev.net/en/new-technologies/icts/news/students-develop-software-to-monitor-unborn-babies.html
Printed on: Friday, December 14, 2012 15:05