

## Quantum Bits

*A quantum bit is the smallest amount of energy that can carry useful information* Feedback welcome to [quantumbits.vt@gmail.com](mailto:quantumbits.vt@gmail.com)



### Crowd sourcing helps Plain of Jars Project fund its programmes

New technologies have meant the end of many old ways of doing things. The internet has been an incubator for many such new methods.

Businesses that had small one-off jobs either had to maintain an expensive staff that were not always fully occupied or had to go out into the expensive casual labour market to find the required expert amongst a limited pool.

Then around 2005 Jeff Howe and Mark Robinson, editors at Wired Magazine, noticed how businesses were using the internet to outsource work to individuals.

They coined the term 'crowd sourcing' to describe how they were 'outsourcing' to a much larger crowd of potential workers who individually tender themselves for one-off assignments.

The term has now expanded to include a wide range of activities both via the internet and more traditional methods and is difficult to define. But they all have the common element of an institution appealing to a large network of people to undertake a task as an individual or a group, either for payment or some other reward.

Crowd sourcers generally benefit because they can get tasks completed or problems solved relatively quickly and inexpensively, while crowd responders are rewarded by having a diverse choice and gain financial reward or some other form of personal satisfaction.

Examples of crowd sourcing outside of direct labour include appeals for collecting data or opinions, using the idle time of personal computers (distributed computing) to solve complex problems, seeking solutions to problems or canvassing creative designs.

Citizen science projects often come under this umbrella where a large group of volunteers work on a particular problem, like gathering biodiversity data.

A growing area is the crowd sourcing of funds by entrepreneurs who cannot get financing from traditional sources.

Online websites have proliferated to allow the outsourcer to connect with the crowd. Examples include sites like Freelancer, where candidates bid for a wide range of work related tasks, and CrowdSpring, which is a crowd sourcing platform that specialises in design, writing and naming.

Another use of crowd funding is appealing for money for charitable works in return for token rewards offered on the basis of the size of the donation.

A good example in Laos is the efforts of the Plain of Jars Project, which is an NGO that works with young people to educate them about the dangers of unexploded ordnance but also gives them the broader skills and education rise out of poverty and access greater economic opportunities.

The website <http://startsomegood.com/plainofjarsproject> is designed to collect and administer funds for the project.



**A UXO-Lao team describes the dangers of the unexploded ordnance still lying in the rice paddy behind.**

### UN highlights value of wastewater biogas

Many governments are scrambling to find ways to meet the growing energy needs of their citizens and biogas from waste and wastewater could be a solution, experts say.

In the UN's latest World Water Development Report, biogas technology is highlighted as a promising way to provide energy, especially in rural areas.

Anyone who has passed by a pig farm will quickly hold their nose at the unpleasant smell. But mixed up with that smell is energy-rich methane and other gases that can be burnt as fuel.

Just about any organic waste can be broken down by bacteria to form biogas but intense animal husbandry like pigs and poultry or agricultural processes like sugar manufacture produce exceptionally large quantities of waste and water.

Initially contained in tanks to trap the gas which is produced, the wastewater that is eventually released is less polluting and any solids left behind make excellent fertilizer.

"In developing countries, particularly in warm climates . . . generating biogas from wastewater can be very useful," the report reads. "This is now a widespread practice in many cities in Africa and in Asia."

"This is an opportunity for developing countries to access energy in a way that's sustainable for the environment."

Mr Kyle Schutter is the founder and managing director of Takamoto Biogas, a Kenyan start-up that provides biogas to farmers.

"Biogas is a big opportunity because basically what we have the chance to do is to give people modern energy without using crude oil and other sources that are unsustainable," Mr Schutter said.



**Audience members wear 3-D glasses to watch a movie using 4DX motion picture technology at a theater in Moscow.**

## Mobile vs. cinema

**Park Hyong-ki and Shin Ji-hye, Korea Herald, ANN**

The movie industry is facing an uphill battle against new emerging technology that makes home entertainment more attractive for consumers.

Smart devices such as smartphones and tablet PCs, as well as smart televisions with quality sound and high resolution, offer the same kind of experience as one could get at movie theaters.

Viewers use handsets to download and watch music videos and movies, and a new breed of TVs, including curved ultrahigh-definition sets that can connect with mobile handsets, lets consumers comfortably enjoy shows at home.

This may pose a threat to conventional theater operators and movie producers. At the same time, it has offered new opportunities to change, innovate and provide more quality content, as seen from companies such as Netflix, DTS and CJ CGV's 4DPlex.

Netflix, the US-based video streaming tech firm, has thrived amid an increase in connectivity and online viewing, while challenging

home movie channels such as HBO.

DTS, known for the theater surround sound technology introduced in Steven Spielberg's *Jurassic Park*, has been realigning its business to focus on providing premium sound systems for smart devices and TVs as it divested its cinema sound unit.

The Korean unit of DTS said it was in talks with Samsung Electronics and LG Electronics, its key partners for TV surround sound, to give the same movie sound experience to their smartphone users.

"DTS has long been focused on developing a high-priced sound system, and we are planning to provide our premium sound to users of smartphones and other devices," DTS Korea CEO Yoo Jea-yong told The Korea Herald.

"We are in talks with handset makers such as Samsung and LG as well as local telecom operators to provide our new technology Headphone:X."

Headphone:X is designed to make smartphone users feel like they are in a movie theater with surround sound while watching content. It was introduced in

Asia with China-based Vivo's Xplay 3S smartphone.

DTS is hoping to deploy its technology on Samsung and LG's smart devices this year, while seeking to work with telecom operators to allow users of different phones to enjoy premium sound through apps.

CJ 4DPlex, a subsidiary of CJ CGV, Korea's biggest theater chain, has integrated the concept of theme park rides and movie theaters to come up with its proprietary 4-D motion picture technology, as it faces competition from the growing home entertainment market.

"Our motion and environmental effects let consumers not only enjoy but also immerse themselves in movies at theaters with a totally new experience than the one offered at home," CJ 4DPlex CEO Choi Byung-hwan said.

CJ CGV spun off the 4-D unit to develop innovative ways to attract consumers to theaters. The multiplex theater operator has also invented ScreenX, a multi-projection and screen technology that lets those in the audience feel like they are in the movie itself.

## Microsoft to takeover Nokia's handset business

BEIJING (Xinhuanet) -- Microsoft will complete its acquisition of Nokia's handset business this Friday, according to a Microsoft's statement, thus ushering a new chapter for Nokia.

In total, Microsoft will wrap up 5.4 billion euro (US\$7.5

billion) for the takeover this coming Friday.

"The completion of this acquisition follows several months of planning and will mark a key step on the journey towards integration," Microsoft said in Monday's statement.

Industry-watchers believe

that this deal could open "a new chapter" for Nokia, rather than closing the book on the company. With its market share greatly eroded, Nokia, once a giant of mobile phone business, fell victim of intense competition from its rivals Apple and Samsung.

## Facebook's new service to share location with friends

BEIJING (Xinhuanet) -- Nearby Friends, a new service to be launched by Facebook, will allow users to tell their locations to Facebook friends with smartphone GPS system, according to Dailymail.com.

This service would only show users who are around 1km away, rather than sharing the exact location.

Besides, this service must be turned on by the users, rather than broadcasting their location unknowingly. Certainly, users can manually share a more precise location with a specific friend they would like to meet up with.

"Nearby Friends won't be available to users under 18," said Andrea Vaccari, a product manager at Facebook.