



Construction Opportunities for Mobile IT
www.comitproject.org.uk



Project-Sum
r0t0-s0n



Summer 2013



Newsletter 16 Summer 2013



Introduction

Dr Esra Kurul welcomed everyone to Oxford Brookes. She thanked COMIT for contributing to their construction IT syllabus and the Masterclasses delivered over the years.



Chairmen's comments

Jason is stepping aside as Construction Chairman as he is now with COMIT (and not Balfour Beatty). Iain stated we are looking for a new Construction Chairman. Iain is really hoping to hear from you - Iain.Miskimmin@bentley.com

New COMIT Website & call to members!

Jason has been hard at work, creating a new website – new domain is www.comit.org.uk. We want to give our members, particularly technology members, greater visibility. There will no longer be restrictions in terms of requiring member passwords. There is a call to all members for feedback – we also want to set up a task group for our new website so that this really is a great window to the world of COMIT!! Feel creative? If you want to help, please contact Jason at jason.scott@comitproject.org.uk

6 June – a memorable day!!

We also honored that it was the anniversary of D-Day and the ground-breaking innovations that took place at that time. Technology and more importantly mobile technology played a very big part of delivering one of the biggest events in world history: Operation Overlord!

Like our current problems within construction, the logistics of delivering everything to the correct location (be it materials, labour, tools, plant etc) can be a thankless task.

We did however have people who weren't afraid of tackling a task in an innovative and technically ground breaking way.

Hugh Iorlys Hughes, a Welsh civil engineer thought out of the "box" about a concrete box that floated - developing the Mulberry harbour. This was a portable harbour capable of being towed across the English Channel and anchored on the beach at Arromanches (built by Costain, Balfour Beatty and Sir Robert McAlpine). HA Hammick and BJ Ellis, engineers with the Iraq Petroleum Company and the Burmah Oil Company, thought out the Conundrum of getting fuel to the beachhead. Conundrum – or cone headed drum was exactly how it was resolved. Major General Percy Hobart (known as "hobo") was given the task of getting troops safely off the beach through the use of engineering vehicles, specially adapted to carry out specific tasks.

Whilst our issues are not quite as world changing, they are still mission critical and if we stop innovating then our ability to resolve these problems will cease and the risks within our missions (or projects) will never decrease.

Back to our Community Day!!

44 delegates attended the Community Day. We welcomed two new members:

- Technology - Tekla: www.tekla.com
- Construction - Rob Fawn: (individual member) Rob.fawn@googlemail.com

We also welcomed three guests:

- Codegate (www.codegate.co.uk)
- Sematron (www.sematron.com)
- Straininstall Monitoring (www.straininstall.com).

If you wish to be put in touch with any of the new members or guests, please contact Gerry at Gerry.samuelsson-brown@bsria.co.uk.

Real World RFID usage

Graham Fenton from Codegate presented on the past and current use of RFID. The main focus was on the benefit of using passive RFID tags (that do not have their own power supply). The ideal is to have a reader that has the capability to read several hundred tags per second. What can RFID offer?

- Non-intrusive data collection
- Minimal or no change to existing processes or process improvement
- Real time information (not possible with other technologies)
- “Pinch point” or Dynamic track and trace.

Tags are increasingly becoming more sophisticated - for example tags are available that can now withstand 250 degrees. The Mojix STAR system reads UHF passive tags at 200m in real time using one reader. Real life examples (where there was no change to existing processes) included:

- ePod (an unmanned hire portal) from Speedy Services. Each item in the ePod is scanned in and out, showing what is out on hire (and by whom) / what is available on the shelf. The process improvement is tremendous, plus at the end of the month the client receives just one, itemized bill.
- Trailer tacking for Gist. The biggest saving was that the RFID tagging negated the need to hire additional trailers as Gist now knew where their trailers were all located.
- Asset tracking proof of concept for Luton and Beds Fire and Rescue Service. Fitting RFID tags and antennae gave a complete check on assets in seconds - compared with one hour for a manual check.
- In-metal passive tag to resolve tool repair for Atlas Copco
- Passive RFID tag to track dangerous goods for air freight.



Codegate specialize in software development, with construction being one of many sectors they are involved in. For more information, please contact Graham at graham.fenton@codegate.co.uk

The Crossrail Information Management Academy:

The Information Management Academy seeks to enhance supply chain knowledge and drive construction industry innovation in BIM. Knowledge gained by the supply chain about the use of BIM on Crossrail can be transferred to other infrastructure projects.

As Iain shows below, “It would all be much harder without BIM”.



So, what does the academy deliver?

- Awareness briefings
- Training facilities
- Integrating technology (an opportunity for COMIT technology members)
- Education and engagement opportunities
- Big BIM world (to look outside Crossrail to look at other sectors), such as:
 - Engaging construction / engineering students (who understand games such as Sims, Minecraft), Contractors and Software experts.

The Academy – laboratory is “Business NOT as usual” incorporating:

- Drawing validation tool
- RFID
- Augmented reality
- Laser scanning
- Noise and sound vibration.

The “I” in BIM is the most important letter, ie Information is key, and how you manage it!

But it isn't just technology. It is also about sharing with each other to understand needs, select suitable projects, understand business values, conduct proof of concept, measure business values and drive adoption

For more information on the Academy, please contact Iain Miskimmin at Iain.Miskimmin@bentley.com or Neill at NeillPawsey@crossrail.co.uk.

Mobicloud Update and Developing an APP store



To recap, and for the benefit of our new members, MobiCloud is a European Union-funded project to develop a European 'Corporate Appstore' as part of the EU's Competitiveness and Innovation Framework Programme. It is led by Appear (Sweden) and the consortium includes EsperantoXL (Netherlands), Netrotopolis (Germany), our own Costain and of course, COMIT.

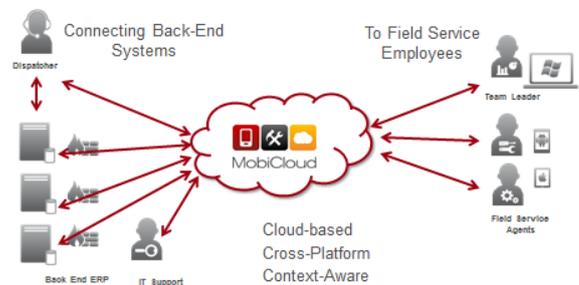


Martin Wilson from Appear Networks discussed the predicted trends in mobile IT and the impact of Cloud technology. For example, Gartner predicts that "by 2015, 60% of organizations will use private app stores to deliver business apps on media tablets and smartphones"

The Mobicloud team is working together to produce a Construction Industry Appstore to enable mobile services such as:

- Site Procedures and Checklists
- Project Processes, including work assignment sign-off and quality auditing
- Business Processes
- Incident Management and Reporting
- Automation and Management of Safety Permits
- Management of Assets.

Trials are taking place using the Mobicloud solution in different areas: city transit (Germany), construction (Costain) in UK, field services (Sweden) and rail (Netherlands). The following screen shots highlight the Mobicloud vision:



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- Future-proof mobility platform
 - Cloud-based
 - Enterprise focused
 - Context-aware
- Ready-made solutions
 - Industry marketplaces
 - Internal vs public appstores
- Speed-up development
 - Ready made templates for Apps
 - Cross-platform & Native support
 - Open APIs and SDKs for Back Office
 - Include existing 3rd party apps

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For more information, contact Martin at mwi@appearnetworks.com or Jason at jason.scott@comitproject.org.uk, who is COMIT's key representative or visit the project website at www.mobicloudproject.eu

You are all encouraged to join the MobiCloud early adopter program by contacting info@mobicloudproject.eu.

You can also follow progress via social media:

- Twitter@MobiCloudProj
- LinkedIn at <http://tinyurl.com/crtf4lr>.

TSB – Enable my Team



Supplier Logistics in the Cloud

The Enable My Team project started on 1st May 2013 to look at improved supply chain information and delivery using a cloud application. It is a cloud based intelligent spend management system with capability to relate unstructured data using machine learning algorithms. A project to deliver a less wasteful future, the intent is to make better use of assets and resources with a much greater visibility of supply chain activity. It will identify potential risks and opportunities and develop a much better relationship with suppliers. This is an 18-month project that is a part TSB funded, collaborative partnership between lead partner, MobiBiz (Sandeep Jain), Costain (Tim Embley) and COMIT. Stuart Young will be steering COMIT's activities and using his experience of supply chain management to help benefit the project. We plan to keep everyone updated with developments as this very exciting project moves through its various stages.

For more information please contact Sandeep Jain of MobiBiz at sjain@enablemyteam.com or Stuart at s.young@comitproject.org.uk.

Construction Achievements

Keller:

Jim de Waele from Keller discussed their work at Crossrail and Victoria Station. Their work is to pump grouting underground to compensate for construction settlement. The tunnel boring machines (TBMs) and shafts required are enormous. The important part (in terms of COMIT) is collecting and relaying the data, charting the progress of the TBM. 100,000 people use Victoria Station at rush-hour and the task for the tunnel workers is to put the new, connecting ticket office close to the surface. In this case the area is busy and the immediate grounds are already full of services. Keller has used BIM to enable them to identify gaps (working in 3d) as well as above-ground (cranes and restricted space) difficulties.

The question was asked “*could this have been achieved without BIM?*”

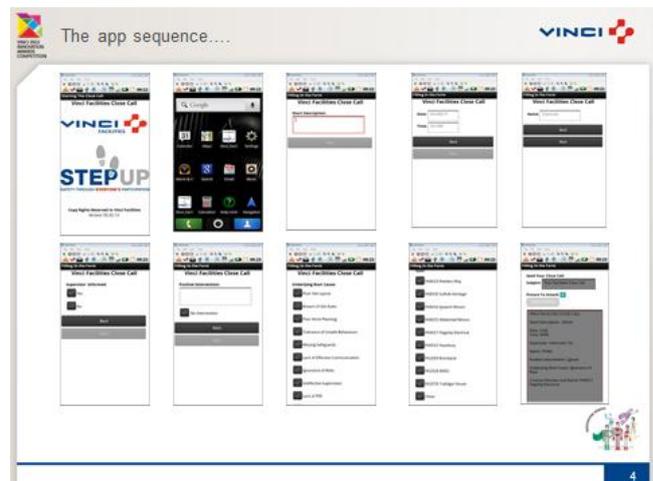
The response was that NO! - modelling was required as the gaps between existing assets could not have been identified using traditional ways of working.



For more information, please contact Jim at jdw@keller.co.uk.

Vinci

Steve Pearce from Vinci discussed the importance of safety on site and the fact that the existing incident - card-reporting system (close calls, etc.) was not effective. Vinci trialled a prototype mobile APP mirroring the data used on the paper system with 20 operatives. The “VINCI Close Call and Positive Intervention Mobile APP” helped engage the operatives with reporting increasing five-fold. A picture can be taken at the APP's summary stage which is then sent to a safety officer. This entire process proved more effective than the paper solution where cards were lost, mislaid so handled after delays and not sent to a central source. The APP is used as an induction tool, given to new operatives and the supply chain.



The results and benefits included:

- Positive engagement from all mobile operatives, they feel empowered to report incidents

- Increase in reporting via the mobile app has been achieved with feedback and follow up. Our operatives now believe that their input is making a difference
- Single point of collation of data across division with a higher quality of information with the use of this format and the picture facility
- Reduce costs in accident investigation, time lost incidents and above all a member of the team not going home to their loved ones
- It could be supplied to their supply chain and used by their customers to actively engage with them to reduce accidents on their sites
- Easily rolled out to wider VINCI UK divisions and around the world



For more information, please contact Steve at Steve.Pearce@vincifacilities.com

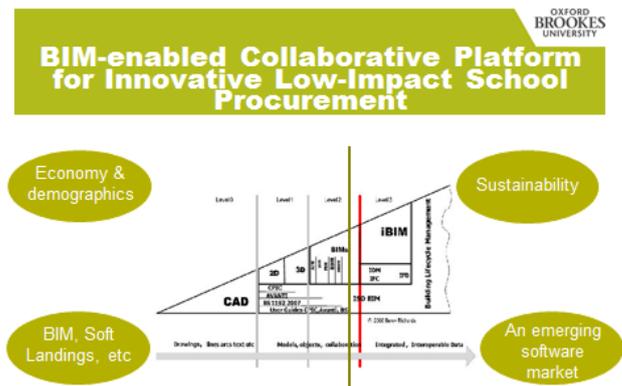
Future Mobile Technology Applications for BIM

This workshop was led by Dr Esra Kurul and Dr Franco Cheung of Oxford Brookes' Department of Real Estate and Construction.



The workshop started with a brief overview of two collaborative research projects undertaken by the

Department. The “Integrated Carbon, Waste and Cost Modelling for Design of Low Impact Buildings” project, which was recently completed, used “Google SketchUp” for proof of concept. The model automatically reported cost estimates. Energy simulation was done via DesignBuilder and fed back into the model. In the example of schools the vision is to have a BIM-enabled Collaborative Platform for innovative Low-Impact School Procurement which would rely on collaborative learning.



The workshop challenge set to delegates was to:

1. Identify challenges in terms of using mobile technologies to capture data & integrate in a BIM environment: people, process & technology
2. Establish potential user needs / future applications & research directions.

1. Responses for identifying challenges are:

People:

- Culture
- Education / training
- “Context aware”
- User acceptance (informing their processes so they fully understand what needs to be done / change)
- Right functions for right people
- Value to user
- Value to management (bottom line).

Process:

- Understand the base process (re-engineer if necessary)
- Standards (best practice)
- Implementation process / approach.

Technology:

- Right data to device
- Free text to device (capability of touch versus benefit)
- Standards.

2. Responses for identifying potential user needs:

- Technology “write once – deploy many”
- Involve end users (identify needs).

Another group assessed aspects in terms of “Now, BIM and Future”:

Now:

Cost, buy-in, culture, subset for handover, FM re-use, data volume, ownership, standards, federated model, mobile, connectivity, data capacity – web.



BIM



Future:

BIG data, in use, re-use, interoperability, linked open data, feedback, building data.

Other workshop feedback included:

Importance was placed on agreeing what data to capture and for / at what stage – there is danger in collecting too much information (simply because one can!).

BMS (Building Management System) data is costly and often generates so much (which users do not know how to use).

Want to know more? Contact details:

Dr Esra Kurul – ekurul@brookes.ac.uk

Dept web – <http://rec.brookes.ac.uk/>

LIDX Project web –

<https://sites.google.com/site/lowimpactbuildingsproject/>

Health and safety Task group – call to members

There is a second call to establish a health and safety task group. This has been raised because of the varying level of mobile devices on site (forbidden, restricted, approved, etc). A lot of firms will have resolved this - how did they do it? We need to put this together in a generic way (like a health and safety cook book). It was suggested that CSCS (Andrew Puttock) may be able to help. The idea is that we could ask CSCS to include a health and safety component. We need industry buy-in to take this to the next level. Can you help guide this?

Contact Jason at jason.scott@comitproject.org.uk.

Community days, 2013

- **12 Sep 2013 (also COMIT's AGM)** – host KOREC (Huntingdon, Cambridgeshire)
- **5 Dec 2013** – host Timico, Newark.

Other events, 2013

Dates for your diary:

- Bentley Mobile Development Tools. July 4th, Crossrail Information Management Academy, London
- COMIT Graduates day, August 22nd, Crossrail Information Academy, London. Looking for youngsters with “fire in their belly”. We will talk about emerging technologies, COMIT. Call for members to send a graduate along.
- COMIT's mobile IT Conference, **Thursday 7 Nov 2013** – Institute of Physics, 76 Portland Place, London. We haven't yet put together the programme so more will follow.

If you would like to sponsor our annual conference and have your logo on all the publicity, please contact Gerry at Gerry.samuelsson-brown@bsria.co.uk

Once again, we give our thanks to Simon Kalp from Objective Computing for taking all the photos at the Community Day.

And since he is *ALWAYS* behind the lens, Gerry took this one (he let me loose with his camera) so you all know now - this is what Simon looks like!



See you all in September, Gerry



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