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## **Developing educational applications for mobile devices using open source tools and technologies**

Day 1 – Parallel II (15.05-15.35)

Peters (2007) identifies a range of devices that can be considered under the definition of mobile technologies, including PDAs, mobile phones, laptops, and PC tablets. Berking (2012) offers a broad definition of mobile learning as “leveraging ubiquitous mobile technology for the adoption and augmentation of knowledge, behaviours or skills through education, training or performance support while the mobility of the learner may be independent of time, location and space”.

The mobile platform offers an opportunity for learners to access content at literally any time and place. Given the ubiquitous nature of mobile devices amongst the UK population, including young people, educators should arguably be taking advantage of this direct line to students by developing apps that can be deployed across a range of devices and provide students with feedback as well as educational content.

The initial problem with such app development is the platform itself. Creating a ‘native’ (downloadable) app for all platforms requires multiple versions of the app and the developer to have multiple programming skills.

This presentation and discussion (including a demonstration) will discuss the creation of a mobile app that teaches the concept of percentages, repurposing content from the **mathcentre** website. This app was developed using a universal code base based on web technologies. This code base was then deployed to various platforms using open source tools.

As well as providing learning content, the app provides an interactive self-test facility. Key lessons learned during the development process will be outlined, in terms of the design decisions made and the limitations placed on developers by the vendors of the various tools and platforms employed.

### References:

BERKING, P., ARCHIBALD, T., HAAG, J. and BIRTWISTLE, M., 2012. Mobile learning: Not just another delivery method, The Interservice/Industry Training, Simulation & Education Conference (I/ITSEC) 2012, NTSA.

PETERS, K. (2007), “m-Learning: Positioning educators for a mobile, connected future”, The International Review of Research in Open and Distance Learning Vol. 8 No.2, available at: <http://www.irrodl.org/index.php/irrodl/article/view/350/894> (accessed 23 Jun 2014)