Chapter 42
Global MedAid:
Evolution and Initial Evaluation of an M-Learning App for International Work-Based Learners

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ABSTRACT

This paper outlines an m-learning solution, 'Global MedAid', which aims to provide learning resources and tools for personnel in various roles in disaster or emergency situations. It outlines the development process and presents the design considerations and solutions for developing a cross-platform application combining a wide range of media types for on-line and off-line use, depending on whether or not there is access to a data signal. The design process took into account current mobile health and related applications, addressing the ways in which both educational resources and performance support tools could be combined and accessed in the field. The paper also shows how partners and users have been involved in the design process and in the evolution of the app. The resulting Proof of Concept has been evaluated with over a hundred users across 21 countries, and initial findings show that users thought it was both useful and effective.

INTRODUCTION

There has been a sharp increase globally in the number of mobile phones in use. In 2011 the ITU annual report showed that there were nearly 6 billion mobile-cellular subscriptions worldwide (International Telecommunication Union, 2011). In parallel, there has also been an increase in the

uptake of smartphones: phones which combine the functions of a personal digital assistant, a mobile phone, a mobile media player and a camera. In 2011 over 85% of new handsets were able to access the mobile Web. In many parts of the world, smartphones are on the way to replacing laptops and other computers, and have become, for many people working in the northern hemisphere, an

indispensable personal and working aid. In the developing world, where computers and internet connections are less common, the mobile phone has become an essential survival tool, by enabling users to receive vital weather forecasts and to bank remotely (for examples, see the projects outlined on kiwanja.net). Health care has also been supported via mobile in a variety of ways, including using the short messaging service (SMS) for reminders about medication as in the WelTel Kenya1 trials (The Lancet, 2010).

From an educational perspective it is now accepted that mobile devices have a number of important characteristics which make them attractive, including increasing portability, functionality, multimedia convergence, ubiquity, personal ownership, social interactivity, context sensitivity, location awareness, connectivity and personalisation (Pachler et al., 2010). Educationalists and trainers are thus considering ways in which the devices and applications can provide learning resources and tools that are available in the learner's pocket for timely use, an aspect proposed by Wishart and Green (2009). Furthermore, in this collection of concepts and cases of mobile learning in work environments, there are numerous examples of how mobile devices foster situated approaches to learning in and across work contexts (Pachler et al., 2011). However the notion of mobility relates not just to physical mobility (of the device or the user), but the opportunity to overcome physical constraints by having access to people and digital learning resources, regardless of place and time (Kukulska-Hulme, 2010).

It was within this context that the MoLE (Mobile Learning Environment) project was funded. MoLE was a multinational technology research project sponsored by the U.S. military as part of its Coalition Warfare Program, which takes a multidimensional approach to fostering cooperative projects that enhance interoperability between U.S. forces and coalition partners worldwide. The emphasis was on solutions that would offer combatant commanders the capabilities of portability and field-ability in developing solutions that could be applicable to multiple combatant commands and that would reach warfighters quickly.

The project has involved participants from up to 24 nations globally, and aimed to investigate whether the utility of mobile technologies could be harnessed to prepare personnel for a disaster or emergency situation and provide a useful resource during an actual event. The main goal was to leverage mobile technologies and the global telecommunications infrastructure to facilitate the sharing of knowledge and resources between the partners across the world.

BACKGROUND TO THE GLOBAL MEDAID APPLICATION

The Global MedAid application was partly developed by Tribal, a leading provider of systems and solutions to the education, training and learning markets. Tribal build software and provide education improvement services both in the UK and overseas. Their role in the project was as technical expert. As a developer of mobile learning content, the goal was to develop innovative technical and training solutions to meet the needs of a diverse range of both contexts and personnel. Embarking on such a global solution required much up-front research, mainly because there was no existing research that had sufficient global reach and focused on all the domain areas required. Thus, the first stage in the development process was to conduct background research into the current mobile situation globally to address questions such as: Which devices were being used across the world? Which mobile companies were involved and what was their reach within the participating countries? What are the social and economic impacts of mobile phones and wireless internet across the developing world? What are people using their phones and/or other devices to do? What were the main issues globally? The project also considered the needs of this diverse range of

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