Project smarts

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Capstone projects involving mobile technology are becoming increasingly common at Otago Polytechnic. While we have long had experience of the use of embedded-processor based projects, the growth in smartphone based solutions is in response to changes in marketplace and client demand for mobile solutions.

Table 1 shows the range of smartphone based projects from 2010 and 2011 (see also the Evidence Portfolios listed below). These cover a range of business problems and make use of a range of technology platforms. Different approaches can also be seen. While some are browser based extensions of wider developments, others are native applications making use of the integrated platform – in particular using camera and location functionality.

It is worth noting that we have not purposefully started teaching "mobile" in other courses: students are successfully applying knowledge gained in other classes to the mobile platform. This suggests a Bachelor of eCommerce approach is not needed, and we would question if even a course in mobile technology is necessary. This is helped by the good support from both vendors and development communities in the form of frameworks and other resources. Despite this, there are some barriers: access to hardware; access to development SDK (in the case of iOS), and non-trivial conversion to Objective C.

The next opportunity – and challenge - for us is greater use of cross platform tools.
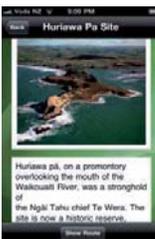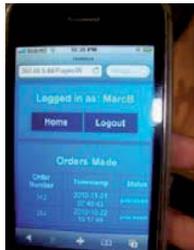
Pocket Stadium Evidence Portfolio:
https://wiki.ict.op.ac.nz/JHL.FinalAssessment.ashx
Dairy Broker Evidence Portfolio:
https://wiki.ict.op.ac.nz/Innovation.FinalAssessment.ashx
Arai te Aru Evidence Portfolio:
https://wiki.ict.op.ac.nz/NAT-Development.NAT-Final-
    Assessment.ashx

Table 1: recent and current Smartphone capstone projects at Otago Polytechnic

Client	Description	Elements
Fonterra	*Dairy Broker* has proven to Fonterra the effectiveness of a system to support their model of layered interactions between customers, distributors and salespeople.	Database. Secure operation.
Dunedin City Council	A collection of mobile applications designed and implemented to help the wider Dunedin community to give and receive information, to and from the Dunedin City Council.	Android. Camera, location, network, mapping, Council database and service integration.
Dunedin Venues Management	PocketStadium enhances the experience of stadium customers by providing them with exclusive features through their smart phone. This includes: food order; competitions; reward downloads; and game stats; along with the administration functions to manage these services..	Any smart phone: Browser, database, security. Also administration website.
Southern Heritage Trust	GPS Tour is an interactive walking tour system incorporating multimedia elements using GPS technology, for use in heritage areas in Dunedin.	Windows smart phone, GPS, multimedia
SPARC	To allow the tracking of high performance athletes training and health.	iPhone, browser and networked and local (on phone) database, camera
Entrepreneurial (with guidance from The Distiller and Combined Runaka).	*Arai te Uru* is an interactive iPhone application that uses augmented reality technology that helps users discover, locate and visit Maori related destinations while at the same time going beyond the boundaries of technology and educating users with rich media.	iPhone: Location based augmented reality, multimedia. Integration of cloud services.