CPHC LDG Enterprise & Entrepreneurship in the Computing Curriculum
Total length should not exceed 4 pages, 2-3 pages preferred

Mobile Application Development

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http://www.buckingham.ac.uk/appliedcomputing/undergrad/courses/mobile

Where does the course fit in your curriculum?

Mobile Application Development is a 15 unit FHEQ level 6 module in the two-year BSc in Computing degree programme. The module is normally taken at the end of year one (i.e. the fourth term) of the two-year programme. The module is optional; students could choose Mobile Application Development or Advanced Programming. When the module was first introduced in 2012, the second year (i.e. the final year) students also took it (instead of the Free Choice option they had).

Pre-requisites: Introduction to Computer Systems; Introduction to Operating Systems; Structured Programming; Object Oriented Programming; Human Computer Interaction.

Eight students took the module in Autumn 2012.

What is covered in the course?

This module introduces the student to mobile application development using Windows Phone 7.5 as an example platform. The course builds on students' previous knowledge and understanding of computer systems, operating systems, interface design and programming skills. Students will have an opportunity to work in small groups to develop a realistic application for a smart phone using up-to-date tools. The course will also explore ways in which completed mobile phone applications can be taken to the relevant market place to create commercial opportunities.

Key topics:

- Mobile phone/platform overview
- Mobile application development
- Application design and development
- User interface and user experience
- Data and network services
- Reading structured data
- Sensors and services
- Creating Windows Phone Applications
- Getting the application to the Market Place

What is the format of the course?

The module is delivered face to face using lectures, lab sessions, workshops and tutorials. The module has a total of 60 contact hours. Guest lectures and workshops by industry are arranged as complementary activities. All lectures and accompanying lab sessions were completed within the first five weeks of the nine-week term. The remain fours week were allocated to work on the group project.

How are students assessed?
A variety of assessments are used to assess the achievement of ILOs.

Assessment type		Main activity	Duration
Individual project		Create a basic app	Two weeks
Group project	Software	Create a complex app in teams of two	Four weeks
	Presentation	Present/Demonstrate the app and initial ideas for monetisation.	
	Poster	Design a poster to promote the app	
Examination		Includes practical and written components	Three hours

The apps developed as group projects are presented in front of an audience that includes lecturers and administrators (e.g., Head of IT Services, Web content Manager) of the university and invited guests representing local businesses, software companies and members of the local branch of BCS. Feedback from some of the guests can be found here: http://www.buckingham.ac.uk/latest-news/app-y-students/

Course textbooks and materials
Most materials used are those available for Windows Phone 7.5 at Microsoft Faculty Connection (https://www.facultyresourcecenter.com/curriculum/resourcekits/wp7.aspx?c1=en-us&c2=0)

Main textbook: R. Miles, "Windows Programming in C#", Microsoft, 2010. Presentation slides were adapted to suite the content of the module. Various online videos and examples were also used.
Programming languages: C#, Silverlight, XAML
Environments: Visual Studio 2010, Expression Blend
Each student was given a Windows Phone device for the duration of the module.

Why do you teach the course this way?
Based on the rapid developments in smart phone technologies and their capabilities, we envisaged it would be beneficial to introduce our students to mobile application development. In addition to enhancing employability, we noted that small teams of students and graduates develop innovative mobile apps and start their own enterprises. Initially, the development platform was to be Android. However, we managed to partner with Microsoft and they provided us with devices, curriculum materials and conducted useful workshops at Buckingham. It also helped the fact that the students were (or will be) relatively familiar with the development environment through previous programming modules.
Students did find the module very challenging – developing a complex app in four weeks whilst working on other subjects was difficult to manage. However, they enjoyed the work and appreciated the relevance of the module. When asked what is particularly liked about the module, student feedback included, "*Relevant to Current trends*", "*Freedom to create individual work rather than following instructions*".

Integration
The module is explicitly linked to modules on programming, databases, HCI and software engineering
Other comments