Faculty of Science, Engineering and Technology

Unit Outline

COS30017

Software Development for Mobile Devices

Semester 2   2014

Please read this Unit Outline carefully. It includes:

PART A   Unit summary

PART B   Your unit in more detail

PART C   Further information

PART A: Unit Summary

Unit Code(s)	COS30017
Unit Title	Software Development for Mobile Devices
Duration	1 Semester or equivalent
Total Contact Hours	46 hours
Prerequisites:	HIT2302 Object-Oriented Programming or HIT2037 Software Development in Java or HIT3037 Programming in Java or HIT3172 Object-Oriented Programming in C++
Credit Points	12.5
Campus/Location	Hawthorn
Mode of Delivery	Lectures (24 hrs), Labs (22 hrs)
Assessment Summary	Portfolio

Aims

This unit of study aims to introduce students to structured programming and design.

Unit Learning Outcomes

Students who successfully complete this Unit should be able to:
1. Explain the key differences between development of systems to run on mobile devices and on typical personal computing or internet-based environments, and apply this knowledge in the design of mobile device software
2. Design effective applications for a mobile device by taking into consideration the underlying hardware-imposed restrictions such as screen size, memory size and processor capability
3. Construct and Test graphical applications for mobile devices by using the standard libraries that are bundled as part of the developers' toolkit for the mobile device

Key Generic Skills

You will be provided with feedback on your progress in attaining the following generic skills:

- Communication skills
- Ability to tackle unfamiliar problems
- Ability to work independently

Content
- Mobile devices – Hardware, Operating Systems and Architecture
- Principles and techniques to use when developing applications for mobile platforms
- User Experience – Interaction Design and Usability Evaluation
- Developing mobile optimised web sites and applications

PART B: Your Unit in more detail

Unit Teaching Staff

Name	Role	Room	Phone	Email	Consultation
Rajesh Vasa	Convenor	EN514B	9214 5011	rvasa@swin.edu.au	Check Blackboard
Scott Barnett	Tutor	EN505		sbarnett@swin.edu.au	Check Blackboard
Wayne Buchner	Tutor	-		wbuchner@swin.edu.au	Check Blackboard
Joost Funke Kupper	Tutor	AMDC205		joostfunkekupper@swin.edu.au	Check Blackboard

Learning and Teaching Structure

Activity	Total Hours	Hours per Week	Teaching Period Weeks
Lectures	24 hours	2 hours	Weeks 1 to 12
Labs	22 hours	2 hour	Weeks 2 to 12

Provisional Schedule

Week	Beginning	Lecture / Laboratory Topic		Assessment
1	Aug 4	*Mobile Devices – An Overview* (Hardware, O/S and Platform)	***No Lab***	
2	Aug 11	Programming Smart Phones (Programming Interfaces and Tools)		Weekly Assignments Due
3	Aug 18	Building Simple Touch-Driven User Interfaces		
4	Aug 25	Multi-Screen Apps and Data Sharing Architecture		
5	Sep 1	Designing Effective Data Input Screens & Information Hierarchy *(UI Design Patterns and Techniques)*		Weekly Assignments Due
6	Sep 8	Sketching and Prototyping Interaction Design Dependency Injection & Templates		
	Sep 15	Mid-Semester Break (No Class)		
7	Sep 22	Working with Lists, Complex Layouts & Using Recommended Design Guidelines *(UI Design Patterns and Techniques)*		Weekly Assignments Due
8	Sep 29	Fluent Interfaces, Using Navigation Flow Models Working with Sensors & Location		
9	Oct 6	Improving User Experience on Mobile Devices Working with UI Fragments		
10	Oct 13	Data Persistence on Mobile Devices *(Design Patterns and Issues)*		Short Reports Due
11	Oct 20	Handling Delays, Errors, Exceptions and Long Running Tasks *(Design Patterns & UI Threads)*		Custom Project Proposals Due / Portfolio Feedback
12	Oct 27	Guest Lecture*		Portfolio Feedback and Interview Booking
	November	Exam Period		Portfolio Submission and Interview

Note: The guest lecture may move to an earlier week

Assessment

a) Assessment Overview

Tasks and Details	Individual or Group	Weighting	Unit Learning Outcomes that this assessment task relates to	Assessment Due Date
1. Portfolio (for Pass and credit)	Individual	100%	All	Wednesday 5th Nov
2. Portfolio and Interview (for Distinction and High Distinction)	Individual	100%	All	Wednesday 19th Nov, Thursday 20th Nov, or Friday 21st Nov

b) Minimum requirements to pass this Unit

In order to achieve a pass in this unit of study, you must:
- Submit **all** core assignments, and
- Submit a passable Portfolio, see the Submission Requirements section for details.

To pass a Faculty of Science, Engineering and Technology (FSET) unit, you must achieve:
- achieve at least 35% of the possible final marks for each Major Assessment Component (any assessment worth 15% or more), and
- achieve an aggregate mark for the subject of 50% or more, and
- achieve at least 45% in the final exam

If you do not achieve at least 35% of the possible final marks for each Major Assessment Component and at least 45% for the final exam, you will receive a maximum of 44% as your total mark for the unit.

c) Examinations

If the unit you are enrolled in has an official examination, you will be expected to be available for the entire examination period including any Special Exam period.

d) Submission Requirements

Portfolios must be submitted as a bound, hard copy, document. Weekly formative tasks are submitted directly to the tutors in the lab for feedback and online (check Blackboard for details).

Please ensure you keep a copy of all assessments that are submitted.

An Assessment Cover Sheet must be submitted with your assignment. The standard Assessment Cover Sheet is available from the Current Students web site (see Part C).

This unit uses portfolio assessment to determine your final grade. You are required to submit a portfolio that contains the following items:

1. **Learning Summary Report** that reflects on what you have learnt, and shows how your portfolio addresses the assessment criteria and unit learning outcomes.

2. A **number of pieces** of work that demonstrate how you have met **all** unit-learning outcomes. This must include:

   a. Reports from the core and extension tasks

   b. A mobile app of your own design (for Distinction and above)

   c. A research report (for High Distinction)

e) Extensions and Late Submission

Late Submissions - Unless an extension has been approved, submitting an assessment after the due date/time will incur penalties. You will be penalised 10% of the assessment's worth for each part calendar day the task is late up to a maximum of 5 days. After 5 days a zero result will be recorded.

f) Referencing

To avoid plagiarism, you are required to provide a reference whenever you include information from other sources in your work. Further details regarding plagiarism are available in Section C of this document.

Referencing conventions required for this unit can be found at
http://www.swinburne.edu.au/lib/studyhelp/harvard-quick-guide.pdf

Required Textbook(s)

Check Blackboard.

Recommended Reading Materials

The Library has a large collection of resource materials, both texts and current journals. Listed below are some references that will provide valuable supplementary information to this unit. It is also recommended that you explore other sources to broaden your understanding.

- Lecture notes can be downloaded from the Blackboard web site. These include details on the material you will need to read each week, as well as tasks for you to undertake.
- Lab handouts and sample code will also be available on Blackboard to support the various learning tasks.

PART C: FUTHER INFORMATION

For further information and links to resources for the following topics, refer to Swinburne's Current Students web page http://www.swinburne.edu.au/student/

Student Charter

Please familiarise yourself with Swinburne's Student Charter. The charter describes what students can reasonably expect from Swinburne in order to enjoy a quality learning experience. As students contribute to their own learning experience and to that of their fellow students, the charter also defines the University's expectations of students.

Student behaviour and wellbeing

Swinburne has a range of policies and procedures that govern how students are expected to conduct themselves throughout the course of their relationship with the University. These include policies on expected standards of behaviour and conduct which cover interaction with fellow students, staff and the wider University community, in addition to following the health and safety requirements in the course of their studies and whilst using University facilities.

All students are expected to familiarise themselves with University regulations, policies and procedures and have an obligation to abide by the expected guidelines. Any student found to be in breach may be subject to relevant disciplinary processes. Some examples of relevant expected behaviours are:

- Not engaging in student misconduct
- Ensuring compliance with the University's Anti-Discrimination, Bullying and Violence and Sexual Harassment requirements
- Complying with all Swinburne occupational health and safety requirements, including following emergency and evacuation procedures and following instructions given by staff/wardens or emergency response.

In teaching areas, it is expected that students conduct themselves in a manner that is professional and not disruptive to others. In all Swinburne laboratories, there are specific safety procedures which must be followed, such as wearing appropriate footwear and safety equipment, not acting in a manner which is dangerous or disruptive (e.g. playing computer games), and not bringing in food or drink.

Blackboard

You should regularly access the Swinburne Course Management System (Blackboard) available via http://ilearn.swin.edu.au. Blackboard is regularly updated with important Unit information and communications.

Communication

All communication will be via your Swinburne email address. If you access your email through a provider other than Swinburne, then it is your responsibility to ensure that your Swinburne email is redirected to your private email address.

Plagiarism

Plagiarism is the action or practice of taking and submitting or presenting the thoughts, writings or other work of someone else as though it is your own work. Plagiarism includes any of the following, without full and appropriate acknowledgment to the original source(s):

- The use of the whole or part of a computer program written by another person;
- the use, in essays or other assessable work, of the whole or part of a written work from any source including but not limited to a book, journal, newspaper article, set of lecture notes, current or past student's work, any other person's work, a website or database;
- The paraphrasing of another's work;
- The use of musical composition, audio, visual, graphic and photographic models,
- The use of realia that is objects, artefacts, costumes, models and the like.

Plagiarism also includes the preparation or production and submission or presentation of assignments or other work in conjunction with another person or other people when that work should be your own independent work. This remains plagiarism whether or not it is with the knowledge or consent of the other person or people. It should be noted that Swinburne encourages its students to talk to staff, fellow students and other people who may be able to contribute to a student's academic work but that where independent assignment is required, submitted or presented work must be the student's own.

Enabling plagiarism contributes to plagiarism and therefore will be treated as a form of plagiarism by the University. Enabling plagiarism means allowing or otherwise assisting another student to copy or otherwise plagiarise work by, for example, allowing access to a draft or completed assignment or other work.

Swinburne University uses plagiarism detection software (such as Turnitin) for assignments submitted electronically via Blackboard. Your Convenor will provide further details.

The penalties for plagiarism can be severe ranging from a zero grade for an assessment task through to expulsion from the unit and in the extreme, exclusion from Swinburne. Consequently you need to avoid plagiarism by providing a reference whenever you include information from other sources in your work.

Student support

You should talk to your Unit Convenor or Student Services, for information on academic support services available for Swinburne students.

Special consideration

If your studies have been adversely affected due to serious and unavoidable circumstances outside of your control (e.g. severe illness or unavoidable obligation) you may be able to apply for special consideration (SPC).

Applications for Special Consideration will be submitted via the SPC online tool normally no later than 5.00pm on the third working day after the submission/sitting date for the relevant assessment component.

Special needs

Sometimes students with a disability, a mental health or medical condition or significant carer responsibilities require reasonable adjustments to enable full access to and participation in education. Your special needs can be addressed by Swinburne's Disability Services, who can negotiate and distribute an 'Education Access Plan' that outlines recommendations for university teaching and examination staff. You must notify the University Disability Liaison Officer of your disability or condition within one week after the commencement of a unit of study to allow the University to make reasonable adjustments.

Review of marks

An independent marker reviews all fail grades for major assessment tasks. In addition, a review of assessment is undertaken if your final result is a marginal fail (45-49) or within 2 marks of a grade threshold.

If you are not satisfied with the result of an assessment you can ask the Unit Convenor to review the result. Your request must be made in writing within 10 working days of receiving the result. The Unit Convenor will review your result against the marking guide to determine if your result is appropriate.

If you are dissatisfied with the outcomes of the review you can lodge a formal complaint.

Feedback, complaints and suggestions

In the first instance you may discuss any issues with your Unit Convenor.

If you are dissatisfied with the outcome of the discussions with the Unit Convenor or would prefer not to deal with your Unit Convenor, then you can complete a feedback form.

Advocacy

You are advised to seek advice from the staff at the Swinburne Student Amenities Association (SSAA) if you require assistance with any academic issues.