



Faculty of Science, Engineering and Built Environment

SIT708 Mobile Systems Development

Deakin University Unit Guide

Trimester 1, 2021

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WELCOME

Welcome to **SIT708 - Mobile Systems Development!**

In this unit, we will introduce you to the background and fundamental knowledge required for mobile app development using web technologies. We will be focusing on using web technologies for developing mobile apps and mobile web apps in this unit, giving you skills you can use both in mobile and web jobs. This unit will be project based, with self-directed learning for all theory content. This unit will also be very fast-paced, with assessment tasks you need to achieve every week (including Week 1).

It is an exciting development in IT and for the first time, the social and technological factors are now in the right spots to take us to a new level of consumer oriented computing. We hope this overview and introductory unit will provide you with some exciting information and insight required to get you started in the industry environment.

See you soon!

Shiva Pokhrel

This Unit Guide provides you with the key information about this Unit. For the best chance of success, you should read it very carefully and refer to it frequently throughout the trimester. Your Unit site (accessed in **DeakinSync**) also provides information about your **rights and responsibilities**. We will assume you have read this before the Unit commences, and we expect you to refer to it throughout the trimester.

Due to the coronavirus (COVID-19) situation, you may be learning in a way that is new to you. We appreciate your flexibility and dedication to learning. For a range of helpful services and resources, please go to study support

<https://www.deakin.edu.au/students/studying/study-support>.

WHO IS THE UNIT TEAM?

Unit chair: leads the teaching team and is responsible for overall delivery of this unit

Shiva Pokhrel

Unit chair details

Campus: Melbourne Burwood Campus
221 Burwood Highway
BURWOOD VIC 3125

Email: shiva.pokhrel@deakin.edu.au

Phone: +61 3 924 46281

Other members of the team and how to contact them

There are no other staff involved in teaching this unit.

Administrative queries

- Contact your Unit Chair or Campus Leader
- Drop in or contact [Student Central](#) to speak with a Student Adviser

For additional support information, please see the Rights and Responsibilities section under 'Content' in your unit site.

ABOUT THIS UNIT

SIT708 focuses on the concepts and skills related to mobile application planning, UI/UX design and apps development. In this unit, students will first investigate, design and practice how to understand the requirements in building mobile apps. Students will develop basic and complex mobile applications using open-source tools, such as, android as well as debug and derive the meaning of program code. Students will also summarise, articulate and communicate theoretical mobile programming topics. Students will explore how app ideas are conceptualised, commercialised and marketed. Students will gain understandings of how to analyse mobile apps, design mobile interface, implement the apps and deploy them.

Unit development in response to student feedback

Every trimester, we ask students to tell us, through eVALUate, what helped and hindered their learning in each Unit. You are strongly encouraged to provide constructive feedback for this Unit when eVALUate opens (you will be emailed a link).

In previous versions of this unit, students have told us that these aspects of the Unit have helped them to achieve the learning outcomes:

- Students appreciated the contents of the unit and are happy about what they learn
- Learning resources are well managed with examples of the projects

They have also made suggestions for improvement, and so this is what we have done:

- Specific tasks and sample projects will be designed to assist the intended heterogeneity of the audience.

If you have any concerns about the Unit during the trimester, please contact the unit teaching team - preferably early in the trimester - so we can discuss your concerns, and make adjustments, if appropriate.

Your course and Deakin's Graduate Learning Outcomes

GLO1 Discipline-specific knowledge and capabilities:	appropriate to the level of study related to a discipline or profession
GLO2 Communication:	using oral, written and interpersonal communication to inform, motivate and effect change
GLO3 Digital literacy:	using technologies to find, use and disseminate information
GLO4 Critical thinking:	evaluating information using critical and analytical thinking and judgment
GLO5 Problem solving:	creating solutions to authentic (real world and ill-defined) problems
GLO6 Self-management:	working and learning independently, and taking responsibility for personal actions
GLO7 Teamwork:	working and learning with others from different disciplines and backgrounds
GLO8 Global citizenship:	engaging ethically and productively in the professional context and with diverse communities and cultures in a global context

Each Deakin course has **course learning outcomes** which explain what the Deakin Learning Outcomes mean in your discipline. Learning in each unit builds towards the course learning outcomes.

Your Unit Learning Outcomes

Each Unit in your course is a building block towards these Graduate Learning Outcomes - not all Units develop and assess every Graduate Learning Outcome (GLO).

	These are the Learning Outcomes (ULO) for this Unit At the completion of this Unit successful students can:	Deakin Graduate Learning Outcomes
ULO1	Design novel mobile app solutions for real-world problems and contrast with existing mobile app solutions to demonstrate innovations applied	GLO1: Discipline-specific knowledge and capabilities GLO3: Digital literacy GLO4: Critical thinking GLO5: Problem solving
ULO2	Implement, test, and deploy mobile app solutions using appropriate algorithms and software development practices	GLO2: Communication GLO5: Problem solving
ULO3	Document and present relevant mobile application design, functionality, and implementation details to technical and non-technical audiences	GLO1: Discipline-specific knowledge and capabilities GLO2: Communication GLO4: Critical thinking GLO5: Problem solving

These Unit Learning Outcomes are applicable for all teaching periods throughout the year

ASSESSING YOUR ACHIEVEMENT OF THE UNIT LEARNING OUTCOMES

Summative assessments

(tasks that will be graded or marked)

Deakin has a universal assessment submission time of 8 pm AEDT/AEST. A late penalty will apply to assessments submitted after 11.59 pm AEDT/AEST.

NOTE: It is your responsibility to keep a backup copy of every assignment where it is possible (eg written/digital reports, essays, videos, images). In the unusual event that one of your assignments is misplaced, you will need to submit the backup copy. Any work you submit may be checked by electronic or other means for the purposes of detecting collusion and/or plagiarism.

When you are required to submit an assignment through your unit site (accessed in DeakinSync), you should receive an email to your Deakin email address confirming that it has been submitted. You should check that you can see your assignment in the Submissions view of the Assignment folder after upload, and check for, and keep, the email receipt for the submission.

- Summative assessment task 1

	Professional plan (Project proposal)
Brief description of assessment task	This assessment item requires students to create an app design document. Students are required to describe their proposed app from the selected criteria for Assessment #2 Project, and plan the implementation of the app. Students must generate a proposal report including an original app idea, the justification of this idea, and an appraisal of similar apps within the app store. UX/UI design plan is mandatory.

Detail of student output	Students will create an app proposal document in order to plan and justify a complete mobile app. The document will include an original app idea, its detail, its justification, and an appraisal of similar apps within the app store. The student will be assessed on their ability to identify problems, make and justify the proposed solution with facts and data and communicate this proposed solution. This is an individual assessment task.
Detail of student output continued	Students are required to submit an app proposal document of at least 2000 - 2500 words. The proposal should consist of: 1. Market Research and Motivation 2. Overview 3. Background be created, what's the justification? 4. Competitor Analysis 5. Features 6. Milestones 7. UX/UI Design 8. Wireframes 9. API 10. Resources Required (optional)
Grading and weighting (% total mark for unit)	30% - marked and graded
This task assesses your achievement of these Unit Learning Outcome(s)	ULO1 - Design novel mobile app solutions for real-world problems and contrast with existing mobile app solutions to demonstrate innovations applied. ULO3 - Document and present relevant mobile application design, functionality, and implementation details to technical and non-technical audiences.
This task assesses your achievement of these Graduate Learning Outcome(s)	GLO1 – through student ability to demonstrate knowledge of app idea generation, market research and monetisation topics. GLO3 – through student use IT technologies to produce designs and plans. GLO4 – through student ability to justify how their mobile app improves on or finds a niche market compared to existing apps within an app store. GLO5 – through student ability to solve a problem by describing the solution through their plan.
How and when you will receive feedback on your work	Students will be provided with regular feedback in the practical sessions to improve their skills in collecting and analysing information.
When and how to submit your work	Friday of Week 4, 2 April 2021 at 8:00pm AEDT, uploaded via the unit site (accessed in DeakinSync).

- Summative assessment task 2

	Project Portfolio and Application
Brief description of assessment task	This assessment task requires the student to carefully select artefacts that represent their progress and accomplishments in the process of developing their mobile app. Students must submit a timeboxed iteration of their continuous development project. Students must use the portfolio as a tool to reflect on their personal and professional growth and showcase their achievements to accomplish the project. The portfolio must be developed over time and should include information about ideas, designs, work samples, approaches and analysis that the student accomplishes during their project analysis, design, implementation and testing.
Detail of student output	Students should prepare a comprehensive portfolio in a form of their choice and as agreed with the unit chair. It should be prepared, such that students can refer to the portfolio to showcase their experience and understanding in mobile app development. Student output will be i) a project under progress and ii) a culmination of evidence from individual and collaborative work, and reflection on their expertise and growth. This is an individual assessment task.

Grading and weighting (% total mark for unit)	30%, marked and graded
This task assesses your achievement of these Unit Learning Outcome(s)	ULO2 - Implement, test, and deploy mobile app solutions using appropriate algorithms and software development practices. ULO3 - Document and present relevant mobile application design, functionality, and implementation details to technical and non-technical audiences.
This task assesses your achievement of these Graduate Learning Outcome(s)	GLO1 – through student ability to integrate discipline specific knowledge and skills. GLO2 – through student ability to succinctly communicate their thoughts professionally. GLO4 – through student ability to critically and accurately analyse real-world problems and use mobile technologies to design solutions. GLO5 – through student ability to solve weekly problems as presented throughout the unit.
How and when you will receive feedback on your work	Students will be provided an opportunity to discuss the form and function of their portfolio during designated consultation sessions.
When and how to submit your work	Friday Week 8: 7 May 2021 at 8:00 pm AEST, uploaded via the unit site (accessed in DeakinSync). Your contributions to this Portfolio will be completed throughout weeks 1 - 7, with a single submission of the entire portfolio on Friday of Week 8 (7 May).

- Summative assessment task 3

	Project Handover and Presentation
Brief description of assessment task	The student will create their own advanced mobile app, to the standard of a high-quality real-world app, using software demonstrated in the unit. The aim of this project is, using simple tools, to create a professional app that could be published in the app store. This app idea is based on the concept from the proposal. Students must present a convincing argument to their peers in a 7-10 minute video presentation and project presentation.
Detail of student output	This is an individual assessment task. Students are required to submit application's source files of a working mobile app handover as well as create a 7-10 minute video summary.
Grading and weighting (% total mark for unit)	40% - marked and graded
This task assesses your achievement of these Unit Learning Outcome(s)	ULO2 - Implement, test, and deploy mobile app solutions using appropriate algorithms and software development practices. ULO3 - Document and present relevant mobile application design, functionality, and implementation details to technical and non-technical audiences.
This task assesses your achievement of these Graduate Learning Outcome(s)	GLO2 – through student ability to orally present the features of their mobile app solution. GLO5 – through student ability to solve their app problem using program code.
How and when you will receive feedback on your work	Students will be provided with regular feedback in the practical sessions to improve their skills in developing mobile apps. Tutors will provide individual feedback to the presentation at the end of the session.
When and how to submit your work	Handover and presentation are due on Friday Week 11, 28 May 2021 at 8:00 pm AEST, uploaded via the unit site (accessed in DeakinSync).

Your learning experiences in this Unit - and your expected commitment

To be successful in this unit, you must:

- Read all materials in preparation for your classes or seminars, and follow up each with further study and research on the topic;
- Start your assessment tasks well ahead of the due date;
- Read or listen to all feedback carefully, and use it in your future work;
- Attend and engage in all timetabled learning experiences as follows:

Scheduled learning activities - campus

1 x 1 hour seminar per week, plus 1 x 2 hour practical per week.

Scheduled learning activities - cloud

1 x 1 hour scheduled online workshop per week.

Note (on-campus learning activities)

Teaching will be delivered in line with the COVIDSafe health guidelines. All classes will be delivered online but other activities may include a combination of online and on-campus activities. Please refer to the details provided below, and check your unit site for announcements and updates.

Students will on average spend 150 hours over the trimester undertaking learning and assessment activities for this unit. This will include on average 1 hour of video content to watch per week, 2-3 hours of practical exercises (to be completed in labs for campus-based students), class discussion (on campus or online), a project plan, a project and corresponding presentation, and weekly additions to a Portfolio assessment item.

Note

At Deakin,

- *Lectures* are referred to as *classes* (definition: a general meeting for all students, for which students do not need to register and where students are engaged through presentations and learning activities)
- *Tutorials, workshops and seminars* are referred to as seminars (definition: more interactive meetings for smaller groups of students).
- For the complete list of agreed definitions for learning experiences, see the [Course Design and Delivery Procedure](#).

UNIT LEARNING RESOURCES

Your unit learning resources are available in your unit site accessed in DeakinSync.

There is no prescribed text. Unit materials are provided via the unit site. This includes unit topic readings and references to further information.

Essential learning resources

Online resources and tutorials will be referred to in the unit site.

Recommended learning resources

See the unit site (accessed in DeakinSync) for details.

KEY DATES FOR THIS TRIMESTER

Trimester begins (classes begin)	Monday 8 March 2021
Intra-trimester break (a short break during trimester)	Friday 2 April - Sunday 11 April 2021
Trimester ends (classes cease)	Friday 28 May 2021
Study period (examination preparation period)	Monday 31 May - Friday 4 June 2021
Examinations begin	Monday 7 June 2021
Examinations end	Friday 18 June 2021
Inter-trimester break (the period between trimesters)	Monday 21 June - Friday 9 July 2021
Unit results released	Thursday 8 July 2021 (6pm)

UNIT WEEKLY ACTIVITIES

Week	Commencing	Topic	Assessment activity
1#	8 March 2021	Mobile App Development and Market Research	
2	15 March	Mobile App goal objectives, UI and UX Design Wireframes and Storyboards, Proposal Draft	
3	22 March	Jav/Kotlin Bootcamp, Portfolio of Project	
4^	29 March	Developing Android Apps, Layout/Navigation	Professional plan (project proposal)
5	12 April	Activity/Fragment Life Cycle, App Architecture (UI Layer)	
6	19 April	Recycler View and Internet Connection	
7*	26 April	Advanced Topics: Fragments/Libraries	

8	3 May	Advanced Topics Firebase Cloud Messaging, Using Geofences	Project portfolio and application
9	10 May	Advanced Topics: Media playbacks/Widgets, Publishing Apps	
10	17 May	Advanced programming 1 (project due)	
11	24 May	(Presentation due)	Project presentation and handover

#Victorian Labour Day public holiday: **Monday 8 March** - University open

^Easter vacation/intra-trimester break: **Friday 2 April - Sunday 11 April 2021** (between weeks 4 and 5)

*ANZAC Day observed, **Monday 26 April (in lieu of 25 April)** - University closed