COMP3130

Mobile Application Development

Session 1, In person-scheduled-weekday, North Ryde 2022

School of Computing

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General Information

Unit convenor and teaching staff

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Lecturer
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Credit points
10

Prerequisites
COMP229 or COMP2000 or COMP249 or COMP2110

Corequisites

Co-badged status

Unit description
This unit covers the design and development of mobile applications from a technical and user experience perspective. The underlying environments made available by mobile devices will be reviewed and the relative merits of different implementation technologies will be evaluated. The relationship between mobile applications and the web will be discussed as well as the requirements for providing an effective user-experience for offline and intermittently connected devices. The unit will also cover the design of the user experience for mobile applications and develop students' ability to critically evaluate the usability of a mobile design.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Implement a transactional mobile application as an interface to a web service.

ULO2: Critically evaluate mobile implementation platforms and technologies relative to the needs of a project.

ULO3: Apply a knowledge of mobile application technology to the design of an effective user experience.

ULO4: Explain the security and privacy issues inherent in web-based mobile applications.

ULO5: Evaluate a mobile application with respect to usability and accessibility.

ULO6: Describe the options for deployment and monetisation of mobile applications.

General Assessment Information

Details for each assessment will be available via iLearn.

You are encouraged to:

- set your personal deadline earlier than the actual one
- keep backups of all your important files
- seek for assistance in the early stages rather than closer to the due date

Quizzes

Submission Method: via timed online iLearn quizzes during the registered SGTA class time.

Late Submission: Not accepted. The quizzes must be undertaken at the time indicated in the unit guide. Should the activity be missed due to illness or misadventure, Special Consideration may be applied.

Assignments

Submission Method: via iLearn submission links. If not present in the SGTA classes for the group presentation, zero marks will be awarded.

Late Submission: Late submissions will be accepted but will incur a penalty unless there is an approved Special Consideration request. A 12-hour grace period will be given after which the following deductions will be applied to the awarded assessment mark: 12 to 24 hours late = 10% deduction; for each day thereafter, an additional 10% per day or part thereof will be applied until five days beyond the due date. After this time, a mark of zero (0) will be given. For example, an assessment worth 20% is due at 5 pm on 1 January. Student A submits the assessment at 1 pm, 3 January. The assessment received a mark of 15/20. A 20% deduction is then applied to the mark of 15, resulting in the loss of three (3) marks. Student A is then awarded a final mark of 12/20.

Special Consideration

If you cannot submit on time because of illness or other circumstances, please apply for special consideration as soon as possible through https://ask.mq.edu.au/. *Note: applications for Special Consideration Policy must be made within 5 (five) business days of the due date and time.*

Assessment Tasks

Name	Weighting	Hurdle	Due
Quizzes	20%	No	Weeks 4,7
Mobile Application Development	40%	No	Study Break Week 2, Week 10
Peer Review of the Major Work	10%	No	Week 9
Mobile Security Challenges	10%	No	Week 12
User Experience Report	20%	No	Week 14

Quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 10 hours
Due: **Weeks 4,7**
Weighting: **20%**

Quizzes to assess students individual strengths, weaknesses, knowledge and skills to develop a baseline of what students know about the topic.

On successful completion you will be able to:

- Implement a transactional mobile application as an interface to a web service.
- Critically evaluate mobile implementation platforms and technologies relative to the needs of a project.
- Apply a knowledge of mobile application technology to the design of an effective user experience.
- Explain the security and privacy issues inherent in web-based mobile applications.
- Evaluate a mobile application with respect to usability and accessibility.
- Describe the options for deployment and monetisation of mobile applications.

Mobile Application Development

Assessment Type [1]: Project
Indicative Time on Task [2]: 30 hours
Due: **Study Break Week 2, Week 10**
Weighting: **40%**

Major Work project to assess students' skills on design, implementation, testing and deployment for a Mobile Application.

On successful completion you will be able to:

- Implement a transactional mobile application as an interface to a web service.
- Apply a knowledge of mobile application technology to the design of an effective user experience.
- Describe the options for deployment and monetisation of mobile applications.

Peer Review of the Major Work

Assessment Type [1]: Qualitative analysis task
Indicative Time on Task [2]: 15 hours
Due: **Week 9**
Weighting: **10%**

Peer Review of the Major Project to be able to assess students' ability to critically evaluate the application based on the given case study

On successful completion you will be able to:

- Critically evaluate mobile implementation platforms and technologies relative to the needs of a project.

Mobile Security Challenges

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 10 hours
Due: **Week 12**
Weighting: **10%**

A group presentation to assess students' ability to clearly assess, understand and communicate the security challenges in a mobile application environment

On successful completion you will be able to:

- Explain the security and privacy issues inherent in web-based mobile applications.

User Experience Report

Assessment Type [1]: Report
Indicative Time on Task [2]: 15 hours
Due: **Week 14**
Weighting: **20%**

This assessment is to assess students' ability to create a user experience questionnaire and write a report based on its feedback

On successful completion you will be able to:

- Critically evaluate mobile implementation platforms and technologies relative to the needs of a project.
- Evaluate a mobile application with respect to usability and accessibility.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

CLASSES

COMP3130 is taught via lectures and SGTAs (Small Group Teaching Activities) Classes

At the time of writing this unit guide, the plan is:

- **Lectures** will be delivered on campus during the entire semester.
- **SGTA classes** will be delivered on campus during the entire semester. Please check the timetable for the specific times and types of sessions.
- All **assessments** will be on campus or online, depending on the assessment type:
    - Quizzes and the security presentation will be on campus, at the place and time of the SGTA classes.
    - All other assessment tasks will be online.

Any changes to this plan will be announced in iLearn.

Lectures:

- Lectures are used to introduce new material (mostly in video format), provide motivation and context for your study, guide you in what is important to learn and explain more difficult concepts.
- There are 2 hours of lectures per week.

SGTAs/ Practical Classes:

- **Note**: SGTA classes commence in **Week-1**
- These small group classes allow you to interact with your peers and with a tutor who has a sound knowledge of the subject. This also gives you a chance to practice your technology skills. The content of these classes may overlap or sometimes be ahead of the lecture content.
- You will need to enrol and attend the class that you've enrolled in.
- If your class falls on a public holiday, you are expected to attend & participate in another class as a makeup class to catch up on the content for that lesson
- For details of days, times and rooms consult the timetables webpage.

RECOMMENDED TEXTS AND/OR MATERIALS

Textbook

There are no required textbooks for this unit. However, every week you will be provided with resources to obtain a solid understanding of the concept

UNIT WEBPAGE AND RESOURCES TO ASSIST YOUR LEARNING

Websites

The web page for this unit can be found at: here

echo360

Digital recordings of lectures are available and will be accessible through echo360 found on your iLearn home page

Discussion Boards

The unit makes use of discussion boards hosted within iLearn. Please post questions of general interest there (for example, about assessment tasks), they are monitored by the unit staff but students may also provide answers.

Feedback

You have many opportunities to seek and receive feedback. During the lectures/consultation, you are encouraged to ask the lecturer questions to clarify anything you might not be sure of. You may also arrange to meet with your tutor or the lecturer or attend the consultation hours of

any tutor. Each week, you will be given activities and problems to solve in workshops. It is important that you keep up with these problems every week.

Each week you should:

- Attend lectures, ask questions, practice tasks
- Attend your SGTA/practical and seek feedback from your tutor on your work
- Read/Watch assigned reading material (ideally before the lecture), add to your notes and prepare questions for your lecturer or tutor
- Start working on any assignments immediately after they have been released.

Technology

React Native with Expo, Android Studio, Adobe XD/Figma

Unit Schedule

Week	Lecturer	Topic
1	Ramakrishnan	Introduction to Mobile Application Development
2	Ramakrishnan	Application Design and Development
3	Ramakrishnan	Application Design and Development
4	Ramakrishnan	Application Design and Development
5	Ramakrishnan	Application Design and Development
6	Ramakrishnan	Application Design and Development
7	Roberts	Application Design and Development
8	Roberts	Testing and Deployment
9	Roberts	User Experience (UX) & Evaluation
10	Roberts	Mobile Applications Security
11	Roberts	Mobile Applications Security
12	Roberts	Overview of the unit

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to

Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

No changes from previous offering