COMP3130

Mobile Application Development

Session 1, In person-scheduled-weekday, North Ryde 2024

School of Computing

Contents

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff
Convenor, Lecturer
Steve Cassidy
steve.cassidy@mq.edu.au
4RPD Level 2
By Appointment (email)

Lecturer
Charanya Ramakrishnan
charanya.ramakrishnan@mq.edu.au

Teaching Assistant
Paola Reategui
paola.reategui@mq.edu.au
Contact via Email

Teaching Assistant
Rohitranjan Vasantkumar Gupta
rohitranjanvasantkumar.gupta@mq.edu.au
Contact via Email

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

Late Submission

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is **11:55 pm**. A 1-hour grace period will be provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for Special Consideration.

Assessments where Late Submissions will be accepted:

- Quizzes - No, unless Special Consideration is granted
- User Experience Report - YES, standard Late Penalty applies

- Mobile Application Development - YES, standard Late Penalty applies
- Mobile Security Challenges - YES, standard Late Penalty applies
- Peer Review of Major Work - YES, standard Late Penalty applies

Special Consideration

The Special Consideration Policy aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Requirements to Pass this Unit

To pass you must achieve an aggregate grade of 50 or more when all assesments (with weightings) are considered.

Assessment Tasks

Name	Weighting	Hurdle	Due
Quizzes	20%	No	Weeks 4 and 11
User Experience Report	20%	No	Week 7, end of mid-sem break
Mobile Application Development	40%	No	Weeks 6 and 10
Mobile Security Challenges	10%	No	Week 13
Peer Review of the Major Work	10%	No	Week 13

Quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 10 hours
Due: **Weeks 4 and 11**
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.

User Experience Report

Assessment Type [1]: Report
Indicative Time on Task [2]: 15 hours
Due: **Week 7, end of mid-sem break**
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.

Mobile Application Development

Assessment Type [1]: Project
Indicative Time on Task [2]: 30 hours
Due: **Weeks 6 and 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.

Mobile Security Challenges

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 10 hours
Due: **Week 13**
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.

Peer Review of the Major Work

Assessment Type [1]: Qualitative analysis task
Indicative Time on Task [2]: 15 hours
Due: **Week 13**
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.

---

[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

How to succeed in COMP3130

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.

CLASSES

COMP3130 is taught via lectures and SGTAs (Small Group Teaching Activities)/ Practical Classes. Some online video material will also be provided each week.

Lectures:

- Lectures being in **Week 1.**
- Lectures are used to introduce new material, 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**: Practical classes commence in **Week-1**
- These small group classes which 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 over the content for that class

METHODS OF COMMUNICATION

We will communicate with you via your university email and through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to the unit convenor via the contact email on iLearn.

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 concepts being covered.

UNIT WEBPAGE AND RESOURCES TO ASSIST YOUR LEARNING

Websites

The web page for this unit can be found on iLearn (link) 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 to receive feedback. During live 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 teaching assistant or the lecturer or attend the consultation hours of any teaching staff. 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.

Technology

Flutter, Android Studio, LucidCharts

COVID INFORMATION

For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: https://www.mq.edu.au/about/coronavirus-faqs. Remember to check this page regularly in case the information and requirements change during semester. If thereare any changes to this unit in relation to COVID, these will be communicated via iLearn.

Unit Schedule

Week	Lecturer	Topic
1	CR	Introduction to Mobile Application Development
2	CR	User Experience Design
3	CR	User Experience Design
4	CR	Introducing Flutter
5	CR	Flutter App Development

6	CR	Flutter App Development
7	SC	Flutter App Development
8	SC	Mobile Application Architectures
Mid Semester Break		
9	SC	Data Stores for Mobile Apps
10	SC	Mobile Applications Security
11	SC	Mobile Operating Systems
12	SC	Alternatives to Flutter
13	SC	Unit Review

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 an d 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 Advocacy provides independent advice on MQ policies, procedures, and

processes

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

In this offering of the unit we are moving from using React Native to Flutter for application development. Flutter is now a widely used cross-platform development framework that has good support for all modern application capabilities.   This will involve learning a new language - Dart - but this is very similar to Javascript which you may already know.   The change is based in part on student feedback and also differentiates the unit from COMP3120 that teaches React in depth.

Steve Cassidy is also teaching on this unit for the first time.

Changes since First Published

Date	Description
05/02/2024	Updates made as requested.

Unit information based on version 2024.01R of the Handbook