COMP3130
Mobile Application Development
Session 1, In person-scheduled-weekday, North Ryde 2024

School of Computing

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General Information

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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

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
Assessment Tasks

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

Quizzes

Assessment Type: Quiz/Test
Indicative Time on Task: 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: Presentation
Indicative Time on Task: 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: Qualitative analysis task
Indicative Time on Task: 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 there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecturer</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CR</td>
<td>Introduction to Mobile Application Development</td>
</tr>
<tr>
<td>2</td>
<td>CR</td>
<td>User Experience Design</td>
</tr>
<tr>
<td>3</td>
<td>CR</td>
<td>User Experience Design</td>
</tr>
<tr>
<td>4</td>
<td>CR</td>
<td>Introducing Flutter</td>
</tr>
<tr>
<td>5</td>
<td>CR</td>
<td>Flutter App Development</td>
</tr>
</tbody>
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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
Student Support 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
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

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>05/02/2024</td>
<td>Updates made as requested.</td>
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Unit information based on version 2024.01R of the Handbook