# COMP3130

Mobile Application Development

Session 1, In person-scheduled-weekday, North Ryde 2023

School of Computing

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## Disclaimer

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General Information

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

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

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: Unless a Special Consideration request has been submitted and approved, a
5% penalty (of the total possible mark) will be applied each day a programming 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 is provided to students who experience a technical concern.

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.

Requirements to Pass this Unit
To pass you must achieve an aggregate grade of 50 or more when all assessments (with
weightings) are considered.
### Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
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<tbody>
<tr>
<td>Peer Review of the Major Work</td>
<td>10%</td>
<td>No</td>
<td>Week 7</td>
</tr>
<tr>
<td>Mobile Application Development</td>
<td>40%</td>
<td>No</td>
<td>Week 5 and Week 12</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
<td>No</td>
<td>Week 4 and Week 9</td>
</tr>
<tr>
<td>Mobile Security Challenges</td>
<td>10%</td>
<td>No</td>
<td>Week 13</td>
</tr>
<tr>
<td>User Experience Report</td>
<td>20%</td>
<td>No</td>
<td>Exam Period</td>
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**Peer Review of the Major Work**

Assessment Type: Qualitative analysis task  
Indicative Time on Task: 15 hours  
Due: Week 7  
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 Application Development**

Assessment Type: Project  
Indicative Time on Task: 30 hours  
Due: Week 5 and Week 12  
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.

Quizzes
Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 10 hours
Due: Week 4 and Week 9
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.
• 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.
• Critically evaluate mobile implementation platforms and technologies relative to the needs of a project.
• Evaluate a mobile application with respect to usability and accessibility.
• 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.
User Experience Report

Assessment Type: Report
Indicative Time on Task: 15 hours
Due: Exam Period
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.

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
**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:** 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 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 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 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.

**Technology**

React Native with Expo, Android Studio, LucidCharts

**Unit Schedule**

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<thead>
<tr>
<th>Week</th>
<th>Lecturer</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Ramakrishnan</td>
<td>Introduction to Mobile Application Development</td>
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<tr>
<td>2</td>
<td>Ramakrishnan</td>
<td>Application Design and Development</td>
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<tr>
<td>3</td>
<td>Ramakrishnan</td>
<td>Application Design and Development</td>
</tr>
<tr>
<td>4</td>
<td>Ramakrishnan</td>
<td>Application Design and Development</td>
</tr>
<tr>
<td>5</td>
<td>Ramakrishnan</td>
<td>Application Design and Development</td>
</tr>
<tr>
<td>6</td>
<td>Ramakrishnan</td>
<td>Application Design and Development</td>
</tr>
<tr>
<td>7</td>
<td>Roberts</td>
<td>Application Design and Development</td>
</tr>
<tr>
<td>8</td>
<td>Roberts</td>
<td>Testing and Deployment</td>
</tr>
<tr>
<td>9</td>
<td>Roberts</td>
<td>User Experience (UX) &amp; Evaluation</td>
</tr>
<tr>
<td>10</td>
<td>Roberts</td>
<td>Mobile Applications Security</td>
</tr>
<tr>
<td>11</td>
<td>Roberts</td>
<td>Mobile Applications Security</td>
</tr>
<tr>
<td>12</td>
<td>Roberts</td>
<td>Overview of the unit</td>
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**Policies and Procedures**

Macquarie University policies and procedures are accessible from Policy Central ([https://policies.mq.edu.au](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
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](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](http://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/](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.
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/](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.