DGTL12008 *Mobile Application Development*
Term 2 - 2020

Profile information current as at 29/04/2024 10:25 pm

General Information

Overview

This unit will teach you how to develop application software (apps) for mobile devices, building on your knowledge of programming, user experience design and web technologies. You will learn about key features of the mobile industry, mobile technologies, mobile devices and mobile platforms. Through a combination of theory and practice, you will learn how to develop and optimise content for mobile devices, and how to create user interfaces and navigation controls. You will design, implement, test and debug mobile applications using industry-standard software tools and cross-platform application programming interfaces (APIs).

Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Prerequisite: (DGTL11006 Coding Fundamentals AND DGTL11005 Web Design) OR MMST11002 Web Design Students who have completed DGTL13002 Mobile Application Development may not enrol in this unit
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2020

- Brisbane
- Bundaberg
- Mackay
- Online
- Rockhampton

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**
Weighting: 40%
2. **Practical Assessment**
Weighting: 60%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Moodle student evaluation page

Feedback

More information regarding the final assessment

Recommendation

To have better and clear guidelines for assignment tasks in the next offering.

Unit Learning Outcomes

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

1. explain key features of the mobile industry, mobile technologies, mobile devices and mobile platforms
2. develop and optimise content for mobile devices
3. create user interfaces and navigation controls for mobile applications
4. design, implement, test and debug mobile applications.

Not applicable

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level ◦ Introductory Level • Intermediate Level • Graduate Level ◦ Professional Level ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 40%	•		•	•
2 - Practical Assessment - 60%	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication	•	•		
2 - Problem Solving		•	•	•
3 - Critical Thinking	•	•	•	•
4 - Information Literacy	•	•	•	•

Graduate Attributes	Learning Outcomes			
	1	2	3	4
5 - Team Work				
6 - Information Technology Competence	•	•	•	•
7 - Cross Cultural Competence	•	•		
8 - Ethical practice	•	•		
9 - Social Innovation				
10 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 40%	•	•	•	•		•	•	•		
2 - Practical Assessment - 60%	•	•	•	•		•	•	•		

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Adobe Acrobat Reader (free browser plug-in)
- Google Chrome
- Microsoft Word
- Mozilla Firefox
- Adobe XD
- Adobe Dreamweaver

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Regina John Luan Unit Coordinator
r.johnluan@cqu.edu.au

Schedule

Week 1 - 13 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Mobile Application Development Assignment one briefing Tutorial: Explore the online web app builder	McWherter, J & Gowell ,S 2012, 'Chapter 1: Preliminary Considerations,' in Professional Mobile Application Development, Wrox, Birmingham, England, available at https://learning.oreilly.com/library/view/professional-mobile-application/9781118240687/xhtml/Chapter01.html	

Week 2 - 20 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mobile Application Development: Overview, marketplace & opportunities Tutorial: Revising html, CSS and JavaScript	Borasi, P & Baul, S 2019, Mobile Application Market Statistics - 2026, viewed 20 January https://www.alliedmarketresearch.com/mobile-application-market	

Week 3 - 27 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mobile platforms and Operating Systems Tutorial: Introduction to JQuery Mobile	Williamson, L, Chandgadkar, O, Mathur, A, Ray, S, Schrag, D, Snook, R & Zhang , J 2015, ' Chapter 1 Mobile: The New Generation of Information Technology ', in Enterprise Class Mobile Application Development: A Complete Lifecycle Approach for Producing Mobile Apps, IBM Press, available at https://learning.oreilly.com/library/view/enterprise-class-mobile/9780133478679/ch01.html#ch01.	

Week 4 - 03 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Design Specification Document:Ideation process and innovation for a new mobile app Tutorial :jQuery Mobile	Khorkov, E 2017, From Idea To Development: How To Write Mobile Application Requirements That Work, viewed 19 September, https://www.smashingmagazine.com/2017/05/writing-mobile-application-requirements/#comments-writing-mobile-application-requirements	

Week 5 - 10 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
UX Design for Mobile - Usability, and self-evident design Tutorial: Introduction to Adobe XD	McWherter, J & Gowell ,S 2012, 'Chapter 4:Mobile User Interface Design' , in Professional Mobile Application Development', in , Wrox, Birmingham, England, available at https://learning.oreilly.com/library/view/professional-mobile-application/9781118240687/xhtml/Chapter04.html	

Vacation Week - 17 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mid-term break (no classes)		

Week 6 - 24 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
Prototyping - General design planning, prototyping and user testing Tutorial: Adobe XD	Lindberg, O 2020, Conduct Usability and User Testing for Mobile Apps Like a Pro, viewed 28 April, https://xd.adobe.com/ideas/process/user-testing/conduct-usability-user-testing-for-mobile-apps-like-a-pro/	

Week 7 - 31 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
General principles and best practices Assignment two briefing Tutorial: jQuery Mobile UI Component - Toolbars, Formatting and buttons	Williamson L, Chandgadkar O, Mathur A, Ray S, Schrag D, Snook R & Zhang J 2015, ' Chapter 3 Design Quality is crucial, make the investment up-front', in Enterprise Class Mobile Application Development : A Complete Lifecycle Approach for Producing Mobile Apps, IBM Press, available at https://learning.oreilly.com/library/view/enterprise-class-mobile/9780133478679/ch03.html#ch03	**Mobile application Design Specification Document and Mobile Prototype peer-review** Due: Week 7 Monday (31 Aug 2020) 11:45 pm AEST

Week 8 - 07 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mobile Application Development Lifecycle Tutorial : JQuery mobile - list and form component	Williamson L, Chandgadkar O, Mathur A, Ray S, Schrag D, Snook R & Zhang J 2015, ' Chapter 4 Mobile Application Development Lifecycle', in Enterprise Class Mobile Application Development : A Complete Lifecycle Approach for Producing Mobile Apps, IBM Press, available at https://learning.oreilly.com/library/view/enterprise-class-mobile/9780133478679/ch04.html	

Week 9 - 14 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mobile Enterprise Tutorial : JQuery Mobile advanced themes - working with images, video and audio	Williamson L, Chandgadkar O, Mathur A, Ray S, Schrag D, Snook R & Zhang J 2015, ' Chapter 5 Mobile Enterprise-Beyond the Mobile End-point', in Enterprise Class Mobile Application Development :A Complete Lifecycle Approach for Producing Mobile Apps, IBM Press, available at https://learning.oreilly.com/library/view/enterprise-class-mobile/9780133478679/ch05.html	

Week 10 - 21 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Testing the Mobile Applications JQuery Mobile- Adding functionality with JavaScript	Williamson L, Chandgadkar O, Mathur A, Ray S, Schrag D, Snook R & Zhang J 2015, ' Chapter 6 A Comprehensive Approach to testing of Mobile Applications' , in Enterprise Class Mobile Application Development: A Complete Lifecycle Approach for Producing Mobile Apps, IBM Press, available at https://learning.oreilly.com/library/view/enterprise-class-mobile/9780133478679/ch05.html	

Week 11 - 28 Sep 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mobile DevOps Lifecycle Tutorial: Application Programming Interfaces (API)	Williamson L, Chandgadkar O, Mathur A, Ray S, Schrag D, Snook R & Zhang J 2015, ' Chapter 7 Best Practices of Mobile DevOps ', in Enterprise Class Mobile Application Development :A Complete Lifecycle Approach for Producing Mobile Apps, IBM Press, available at https://learning.oreilly.com/library/view/enterprise-class-mobile/9780133478679/ch07.html	

Week 12 - 05 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic
Building Apps and Packaging Review unit	McWherter J & Gowell ,S 2012, 'Chapter 11: Getting started with PhoneGap, Wrox,' in Professional Mobile Application Development Birmingham, England, available at https://learning.oreilly.com/library/view/professional-mobile-application/9781118240687/xhtml/Chapter11.html	**Practical Assessment and final report** Due: Week 12 Friday (9 Oct 2020) 11:45 pm AEST

Review/Exam Week - 12 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 19 Oct 2020

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

You must have access to the following resources for this unit.
UNIT WEBSITE
The unit website provides essential resources for the unit such as a Study Guide and an online discussion forum. It can be accessed at moodle.cqu.edu.au
STUDY GUIDE
The online Study Guide will direct you to all of the essential readings, discussion questions and exercises for each module of the unit. The Study Guide is available in Adobe Portable Document format (PDF) from the unit website.
DISCUSSION FORUM
An online discussion forum will be provided through the unit website for discussing matters that relate to the unit. The discussion forum is the primary means of support for off-campus students who want assistance with tutorial exercises and assignments.
WEB BROWSERS
You will need a recent version of Google Chrome (www.google.com/chrome) and Mozilla Firefox (www.mozilla.com) to explore the Web and test the pages that you create. Off-campus students are encouraged to install the latest versions of these browsers. On-campus students may use whichever versions are installed in their local computer lab.

ADOBE DREAMWEAVER CC

You will need Adobe Dreamweaver CC, which is a HTML editor used to create Web sites and edit HTML, PHP, JavaScript, CSS and related files. Adobe Dreamweaver CC is available in the on-campus digital media labs. It can also be purchased at a discounted education price as part of an Adobe Creative Cloud subscription from the Adobe web site at www.adobe.com.au.
ADOBE XD CC
You will need Adobe XD, which is a software tool for designing and prototyping user experiences for web and mobile applications. Adobe XD is available in the on-campus digital media labs. It can also be purchased at a discounted education price as part of an Adobe Creative Cloud subscription from the Adobe web site at https://www.adobe.com/au/products/xd.html. A free Starter plan is available. To install and use Adobe XD, you will need Windows 10 Fall Creators Update (64-bit) – Version 1709 (build 10.0.16299) or later, or macOS 10.13 or later
ADOBE ACROBAT READER
You will need Adobe Acrobat Reader, which is a free program that lets you view, navigate and print PDF documents like the DGTL12008 Study Guide. Adobe Acrobat Reader can be downloaded from the Adobe website at www.adobe.com.
WORD PROCESSOR
You will need a word processor such as Microsoft Word for writing parts of your assignments.

Assessment Tasks

1 Mobile application Design Specification Document and Mobile Prototype peer-review

Assessment Type
Written Assessment

Task Description
During Assignment One, you will prepare a comprehensive 'Design Specification Document' for a new and exciting mobile application that you propose to develop for Assignment Two. A mobile app that is innovative, commercially viable, and that satisfies an identified need in the marketplace will be viewed more favourably than others.
Task A:Design specification document:

- Design specification document 2000- 2500 words.
- The design specification should be prepared as a Microsoft Word document with a professional appearance.
- Professional presentation-cover page, course, assessment and student details clearly displayed page numbers add in the footer.
- Structure- logical, signposted with clear headings and sub-headings
    - Introduction
    - Functional Requirements
    - Navigational Map
    - User Interface Design Prototype that you have designed in Task B
    - Timeline
    - References
- Supported - appropriate illustrations, tables and flow-charts are provided to reinforce the content.
- Referenced - correctly referenced in accordance with the Harvard Referencing Style (as per the assessment criteria).
- Appendix: The 3 reviews of other students' Mobile User Interface design prototypes.

Task B: User Interface Design Prototype

- Design and create a mobile application prototype framework user interface for Assignment Two.
- The user interface design must relate to the Navigational Map that you designed in the Task A Design specification document.
- The user interface design must follow the recommended Mobile User Interface guidelines.
- It is recommended that you use the Adobe XD to design and create the Mobile User Interface for your mobile app. Alternatively, you can use the Pencil prototyping tool for this task.

Task C: Online Peer Review

- For this assessment task, you must share your completed Mobile User Interface design prototype for the mobile application and publish/share the link in the recommended Moodle forum post.
- Students must review 3 other students' Mobile User interface design prototypes and write approx between 150-300 words per prototype addressing the following questions:
    - Are the overall user interface exhibit aesthetic and minimalist designs?
    - Does the mobile app user interface design allow good user experience?
    - Does the mobile app user interface allow user control and freedom?
    - Are the images/icons/buttons/instructions easily to recognised or required?
    - Provide a suggestion to improve the user experience navigation where possible.

Assessment Due Date
Week 7 Monday (31 Aug 2020) 11:45 pm AEST

Return Date to Students

2 weeks after submission

Weighting
40%

Assessment Criteria
Allocation of marks:

- Task A:Design specification document (20 Marks)
- Task B :User Interface Design Prototype (12.5 Marks)
- Task C:Online Peer Review (7.5 Marks)

Total Marks: 40%

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- explain key features of the mobile industry, mobile technologies, mobile devices and mobile platforms
- create user interfaces and navigation controls for mobile applications
- design, implement, test and debug mobile applications.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

2 Practical Assessment and final report

Assessment Type
Practical Assessment

Task Description
During Assignment Two, you will develop a prototype for a mobile application. The mobile application should serve a meaningful purpose such as solving a problem. The mobile application should provide the user with tangible benefits such as reducing costs via productivity enhancements, adding new revenue to a business, improving customer service or improving workflow.
Task A: The proposed mobile application should serve a meaningful purpose in one of the following fields of activity:

- Education
- Business
- Industry work-cycle
- Lifestyle - Fitness, food, travel

The mobile application must be implemented using HTML5, CSS and jQuery Mobile. An Application Programming Interface (API) or Plugins can be used to support your mobile application structure. All content and media elements within the prototype are to be original. You are also required to produce a professionally written report to accompany your prototype. Further information relating to this task is available on the unit website.
The content of the mobile app should include:

- Text that is relevant to the purpose of your mobile application prototype.
- Visual content such as icons and images that make the app easily recognizable and appealing.
- An interactive form such as:
    - a form for an online diary that users can enter details into.
    - an online feedback form that users can enter details into.

Application Programming Interface (API) or plugin options include:

- API for a Google Map.
- API for social media integration.
- API for Camera or Dialog.
- Any suitable APIs or plugins for the mobile application.

The mobile user interface (UI) design should focus on usability, readability and consistency. The layout of the information, commands and content in the mobile app should mirror the operating system in placement and composition to allow user intuition. Choose images, fonts, colours, shapes, textures and other design elements that suit the mobile application theme.
Task B: Final Report
You are required to write a report about your work on this assignment. The report should be prepared as a Microsoft Word document with a professional appearance named 'Lastname_Report.docx' where Lastname is replaced with your last name. The length of the report should be between 800 and 1,000 words. The structure of the report is outlined below. Please use the headings that are provided below:

- Introduction
- Resources
- Difficulties
- Lessons
- Conclusions
- Referencing

Assessment Due Date
Week 12 Friday (9 Oct 2020) 11:45 pm AEST

Return Date to Students

2 weeks after submission

Weighting
60%

Assessment Criteria
Allocation of marks:

- Conceptualisation(10 Marks)
- Functionality (10 Marks)
- Style and media elements (all content is to be original) (10 Marks)
- Coding (10 Marks)
- Innovation(10 Marks)
- Professionally presented report (content,clarity and completeness) (10 Marks)

Total Marks: 60 %

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- explain key features of the mobile industry, mobile technologies, mobile devices and mobile platforms
- develop and optimise content for mobile devices
- create user interfaces and navigation controls for mobile applications
- design, implement, test and debug mobile applications.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem