COIT20271 *Mobile Game Development*
Term 3 - 2020

Profile information current as at 12/10/2024 03:16 pm

All details in this unit profile for COIT20271 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student).The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview
In this unit, you will learn how to develop a mobile game using an agile methodology and device agnostic software tools. You will look at using 3D models and sound assets to develop this game, as well as techniques for good game development. This development process highlights, in particular, the impact that limited computing resources and wireless communication speeds have on the development of games. You will also conduct research on what makes a good game, supported by relevant gaming theories.

Details
Career Level: *Postgraduate*
Unit Level: *Level 9*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
Pre-Requisite: COIT20268 Responsive Web Design.
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 3 - 2020

- Brisbane
- Melbourne
- Online
- Sydney

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 Postgraduate 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. **Practical Assessment**
Weighting: 20%
2. **Practical Assessment**
Weighting: 30%
3. **Written Assessment**
Weighting: 30%
4. **Portfolio**
Weighting: 20%

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 Unit Coordinator reflections

Feedback

Some of the learning resources need to be updated to include the latest technology developments.

Recommendation

Update learning resource incorporating latest technology.

Feedback from Unit Coordinator reflections

Feedback

Updated video resources are needed to enhance the quality of the learning materials

Recommendation

Publish weekly recorded lectures and tutorials on the unit moodle site

Unit Learning Outcomes

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

1. Design and implement a mobile game
2. Detail the challenges in developing mobile apps requiring heavy use of hardware resources
3. Apply an agile methodology in the development of software
4. Critically assess the user interface design on different platforms, with different hardware affordances.

Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is in use in over 100 countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.

ACS members can use the tool MySFIA to build a skills profile at https://www.acs.org.au/professionalrecognition/mysfia-b2c.html

This unit contributes to the following workplace skills as defined by SFIA. The SFIA code is included:

- Systems Design (DESN)
- System Integration (SINT)
- Programming/Software Development (PROG)
- Testing (TEST)
- Applications Support (ASUP).

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 - Practical Assessment - 20%	•		•	
2 - Practical Assessment - 30%	•		•	
3 - Written Assessment - 30%		•		•

Assessment Tasks	Learning Outcomes			
	1	2	3	4
4 - Portfolio - 20%		•		•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Knowledge	○	○	○	○
2 - Communication		○		
3 - Cognitive, technical and creative skills	○	○	○	○
4 - Research	○	○		○
5 - Self-management	○		○	
6 - Ethical and Professional Responsibility				
7 - Leadership				
8 - 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
1 - Practical Assessment - 20%	○		○		○			
2 - Practical Assessment - 30%	○		○		○			
3 - Written Assessment - 30%	○	○	○	○	○			
4 - Portfolio - 20%	○	○			○			

Textbooks and Resources

Textbooks

COIT20271

Prescribed

Holistic Mobile Game Development with UNITY
1st Edition (2014)
Authors: Penny de Byl
Taylor and Francis
London , United Kingdom
ISBN: 9780415839235
Binding: Hardcover

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Internal students are encouraged to bring a laptop to all classes
- Unity learning resource (free). Students are expected to use some of the free learning resource provided on the unity website (https://unity3d.com/learn/tutorials)

Referencing Style

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

Teaching Contacts

Michael Cowling Unit Coordinator
m.cowling@cqu.edu.au

Schedule

Week 1 - 09 Nov 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Mobile Game Design	de Byl, chapter 1	

Week 2 - 16 Nov 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Mobile Game Development	de Byl, chapter 1	

Week 3 - 23 Nov 2020

Module/Topic	Chapter	Events and Submissions/Topic
Procedural Literacy (part 1)	de Byl, chapter 2	

Week 4 - 30 Nov 2020

Module/Topic	Chapter	Events and Submissions/Topic
Procedural Literacy (part 2)	de Byl, chapter 2	

Vacation Week - 07 Dec 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 5 - 14 Dec 2020

Module/Topic	Chapter	Events and Submissions/Topic
Art Assets & Aesthetics	de Byl, chapter 4	Practical Assignment 1 submission **Practical Assignment 1** Due: Week 5 Friday (18 Dec 2020) 11:45 pm AEST

Week 6 - 21 Dec 2020

Module/Topic	Chapter	Events and Submissions/Topic
Mobile Game Interfaces	de Byl, chapter 3	

Vacation Week - 28 Dec 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 7 - 04 Jan 2021

Module/Topic	Chapter	Events and Submissions/Topic
Learning from the Masters: Part One (week 1)	de Byl, chapter 5	

Week 8 - 11 Jan 2021

Module/Topic	Chapter	Events and Submissions/Topic
Learning from the Masters: Part One (week 2)	de Byl, chapter 5	

Week 9 - 18 Jan 2021

Module/Topic	Chapter	Events and Submissions/Topic
Learning from the Masters: Part Two (week 1)	de Byl, chapter 6	

Week 10 - 25 Jan 2021

Module/Topic	Chapter	Events and Submissions/Topic
Learning from the Masters: Part Two (week 2)	de Byl, chapter 6	

Week 11 - 01 Feb 2021

Module/Topic	Chapter	Events and Submissions/Topic
Multiplayer Experiences	de Byl, chapter 7	Practical Assignment 2 submission **Practical Assignment 2** Due: Week 11 Friday (5 Feb 2021) 11:45 pm AEST

Week 12 - 08 Feb 2021

Module/Topic	Chapter	Events and Submissions/Topic
Publishing & Promotion, The latest trends in mobile game development	de Byl, chapter 8 & Online Material	Critical evaluation of games Assignment submission **Critical evaluation of game** Due: Week 12 Friday (12 Feb 2021) 11:45 pm AEST

Exam Week - 15 Feb 2021

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

Unit Coordinator: A/Prof. Michael A. Cowling, m.cowling@cqu.edu.au

Assessment Tasks

1 Practical Assignment 1

Assessment Type
Practical Assessment

Task Description
This is a group assignment that can be undertaken by 3 students. You are required to submit a design and interface prototype for a simple 3D Unity game for Android mobile devices. This should include documentation of the game concept and design details, as well as the beginning of a Unity project that implements some sample interface and game mechanics for your game to give an idea of how the game will run. Your submission should demonstrate the application of the knowledge from the first four chapters of the textbook.

Assessment Due Date
Week 5 Friday (18 Dec 2020) 11:45 pm AEST

Return Date to Students
Week 7 Friday (8 Jan 2021)

Feedback will be provided within 2 weeks of the deadline.

Weighting
20%

Assessment Criteria

- Game has clear play instructions and an end goal
- Game interface is well designed and suitable for the game
- Game design shows creativity and original thinking

Referencing Style

- Harvard (author-date)

Submission
Online Group

Submission Instructions
The entire Unity project should be submitted in a format that can be executed by the marker in the emulator or on an Android phone. Include your report as a PDF or Word document.

assessmentOutcome

- Design and implement a mobile game
- Apply an agile methodology in the development of software

assessmentGradAttribute

- Knowledge
- Cognitive, technical and creative skills
- Self-management

2 Practical Assignment 2

Assessment Type
Practical Assessment

Task Description
You are required to design, implement and playtest a simple 3D Unity game for Android mobile devices. This is a group assignment that can be undertaken by 3 students. This is a continuation of Assignment 1.

Design and implementation
The game is based on the game concept that you have provided in Assignment 1.
As the game is for mobile devices, your implementation should demonstrate a competent knowledge in the following:

- Mobile game interfacing i.e. the use of mobile touch screen, device orientation, sensors and GUI.
- Exploring and using legal sources of graphics, sounds and 2D/3D models
- Applying the overall concepts from the first four chapters of the textbook, as well as implementing features from

the "learning from the masters" chapters

The implementation should include within it clear instructions on how to play and an overall goal for the game.
You are also be required to write a report explaining your demonstration and the game elements that you have successfully implemented according to the design in Assignment 1.

Playtesting
Your game should be playtested by two of your friends. You should write a report that includes your observations during the playtesting, your playtesters' comments and your ideas for improving the game.

Assessment Due Date
Week 11 Friday (5 Feb 2021) 11:45 pm AEST

Return Date to Students
Exam Week Friday (19 Feb 2021)

Feedback will be provided within 2 weeks of the deadline.

Weighting
30%

Assessment Criteria

- Game clearly and successfully demonstrates desired game features
- Game uses visual and auditory resources appropriately
- Game code is well written and shows competency in Unity
- Report is well written and provides a clear rationale for the implemented game features and relationship to original game

Referencing Style

- Harvard (author-date)

Submission
Online Group

Submission Instructions
The entire Unity project should be submitted in a format that can be executed by the marker in the emulator or on an Android phone. Your report should be a PDF or Word document.

assessmentOutcome

- Design and implement a mobile game
- Apply an agile methodology in the development of software

assessmentGradAttribute

- Knowledge
- Cognitive, technical and creative skills
- Self-management

3 Critical evaluation of game

Assessment Type
Written Assessment

Task Description
Critical evaluation of games is an important skill for games designers. You will be provided with a game to critically evaluate with the intention of identifying those aspects that work well and recommendations for improvements. Your task is to research game design literature to locate current, relevant games theories and evaluate your game within the context of those theories.
Game theories related to game mechanics, game usability, game design patterns, playability heuristics and the context of the game are examples of those which may be considered relevant to your critical evaluation. Your essay should briefly explain the games theories, how they apply to your game and the implications thereof.
The list of references should form the last page of the assessment. Your list of references is expected to include at least two peer reviewed (scientific) journal or conference publications.
As a guideline, the main body of your essay should be approximately 1500 words.

Assessment Due Date
Week 12 Friday (12 Feb 2021) 11:45 pm AEST

Return Date to Students

Feedback will be provided at certification date.

Weighting
30%

Assessment Criteria

- Quality references have been chosen
- Each game theory is relevant and clearly explained
- Insightful discussion of the application of each game theory and the resulting implications

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
You should submit a Word or PDF document.

assessmentOutcome

- Detail the challenges in developing mobile apps requiring heavy use of hardware resources
- Critically assess the user interface design on different platforms, with different hardware affordances.

assessmentGradAttribute

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management

4 Portfolio

Assessment Type
Portfolio

Task Description
Your portfolio is for your future reference. Your portfolio will contain two sections: demonstrations and bibliography. The demonstrations section will showcase the mobile game concepts you have mastered. The bibliography section will contain a list of references of the learning resources that you found useful.
CQU Portfolio
Your portfolio should be constructed in CQU Portfolio which is available on the Moodle unit site.
Demonstrations
From week 2 to week 11, each week you are expected to add **one** new mobile game concept with your most impressive demonstration of the concept to your portfolio. For each concept, you should write a short discussion to show how the concept is used in a gaming context. Where possible, your demonstrations should be built to run on the web player. Alternatively, you must provide screenshots and/or video clips of your demonstrations embedded in the portfolio. You may be asked to demonstrate your work to the local lecturers and tutors.
The textbook hand-on exercises and online Unity tutorials are good resources for this task. As you complete the textbook exercises and tutorials, record and document your work for demonstration. Bonus marks will be given for innovative demonstrations of newly learned concepts.
Bibliography
As you learn mobile game development, you will access extracurricular material such as the Unity website, YouTube videos, help documentation and books. When you find a useful resource, you should add a reference to it to the bibliography section along with a short discussion of the resource which also justifies the inclusion of the resource. Your bibliography will be expected to contain at least 24 useful references - you should try to add roughly two per week.

Assessment Due Date

Return Date to Students

Feedback will be provided after certification date.

Weighting
20%

Assessment Criteria

- Demonstrations are of a high quality with well written code. Work of a high distinction standard would be expected to demonstrate newly learned concepts in new and innovative gaming contexts.
- Bibliography references point to quality or rare resources, the reference discussions should provide some insights of the resources. Categorize and and rate the resources by their contents, quality, usefulness and easy of use.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
You should submit a Word or PDF document containing a secret URL to your CQU Portfolio page or collection.

assessmentOutcome

- Detail the challenges in developing mobile apps requiring heavy use of hardware resources
- Critically assess the user interface design on different platforms, with different hardware affordances.

assessmentGradAttribute

- Knowledge
- Communication
- Self-management

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