MONASH University

**FIT2048
Game implementation and techniques**

Unit guide

Semester 1, 2009

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Unit leader :

Derrick Martin

Lecturer(s) :

Caulfield

- Derrick Martin

Introduction

Welcome to FIT2048, Game Implementation and Techniques. This unit is a 6 point unit in the Games Major of the Bachelor of Information Technology and Systems. The unit has been designed to provide you with an understanding of the theory behind game creation, the historic context of game design and an ability to deconstruct existing games and analyse their features. It provides experience in creating a simple game in a small team of peers.

Unit synopsis

This unit examines the fundamental issues of games development. The history of games and the games industry is studied. A variety of games genre are explained and contrasted. Topics include the different contributions from members of the games development team, the types of hardware used across various platforms for game implementation, the role of games engines, the importance of physics in ensuring realism and the manner in which system analysis can be applied to games development.

Learning outcomes

Knowledge and Understanding

- be able to describe the history and current status of the games industry
- be able to discuss a range of common games genres and characteristics/examples of each (eg. RPG, first person shooters, educational, adventure)
- be able to describe the roles of different components of the games development team - audio, design, production, programming, visual arts and business/sales
- be able to describe the processes used to balance game design in order to enhance game playability
- be able to analyse other games and apply design principles to the development of games
- be able to describe several common games engines which are currently in use in the market place and how games are developed based on these
- be able to explain the role of game physics in areas such as movement, friction, gravity and collision in enhancing realism

Attitudes, Values and Beliefs

- be aware of the ethical issues involved with games development
- develop a positive approach to teamwork, seeing game development as a team task

Practical Skills

- given a game scenario, use gameplay balancing techniques to eliminate design flaws and improve player experience
- be able to create a game 'level' (an interactive environment) using a set game engine
- using a supplied game engine be able to write scripting code to manipulate actions
- prepare a critical analysis of selected game
- prepare a design document for a game in the three main areas of user interaction, the internal structure of the game and the program structures which will be required

Relationships, Communication and TeamWork

- further develop group working skills as a member of a project team

Workload

To be eligible to pass and maintain your enrolment in FIT2048 you must attend 80% of your tutorial sessions. If you are absent for more than two tutorial sessions you must supply a medical certificate or other appropriate documentation otherwise you may be excluded from the unit.

If you are finding problems with this requirement please ensure you speak to your unit adviser as early as possible.

Due to the nature of group work in this subject, it is expected that all students will attend 100% of classes.

This unit, like all Monash units, is built on the assumption that you will spend twelve hours a week attending classes and working on your assignments.

Attendance at tutorials without any work outside of this allocated class time will not be sufficient.

You should ensure that you can make this commitment before you embark on this subject

There will be a two-hour lecture and a two-hour laboratory class each week. To get the most out of this time you should make sure you have with you a copy of the project you are working on with you.

Unit relationships

Prerequisites

Before attempting this unit you must have satisfactorily completed

MMS1802 or FIT1002

, or equivalent.

Relationships

FIT2048 is a core unit in the Multimedia Games Development major of the Bachelor of Information Technology and Systems (BITS).

You may not study this unit and

in your degree.
Continuous improvement

Monash is committed to 'Excellence in education' (Monash Directions 2025 - http://www.monash.edu.au/about/monash-directions/directions.html) and strives for the highest possible quality in teaching and learning.

To monitor how successful we are in providing quality teaching and learning Monash regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through Unit Evaluation Surveys. The University's Unit Evaluation policy (http://www.policy.monash.edu/policy-bank/academic/education/quality/unit-evaluation-policy.html) requires that every unit offered is evaluated each year. Students are strongly encouraged to complete the surveys as they are an important avenue for students to "have their say". The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

Faculties have the option of administering the Unit Evaluation survey online through the my.monash portal or in class. Lecturers will inform students of the method being used for this unit towards the end of the semester.

Student Evaluations

If you wish to view how previous students rated this unit, please go to http://www.adm.monash.edu.au/cheq/evaluations/unit-evaluations/
Unit staff - contact details

Unit leader

Mr Derrick Martin
Assistant Lecturer
Phone +61 3 990 47131
Lecturer(s) :

Mr Derrick Martin
Assistant Lecturer
Phone +61 3 990 47131
Contact hours : Monday 10-12, Thursday 2-4

Additional communication information

Contact may be made via phone, email or in person.
Teaching and learning method

This unit will be provided via lectures and laboratory classes.

 Lectures: During the lecture, you will be introduced to key theoretical concepts behind game design, production and analysis.

Laboratory: Laboratory classes will be used to work through practical exercises related to assignments

Communication, participation and feedback

Monash aims to provide a learning environment in which students receive a range of ongoing feedback throughout their studies. You will receive feedback on your work and progress in this unit. This may take the form of group feedback, individual feedback, peer feedback, self-comparison, verbal and written feedback, discussions (on line and in class) as well as more formal feedback related to assignment marks and grades. You are encouraged to draw on a variety of feedback to enhance your learning.

It is essential that you take action immediately if you realise that you have a problem that is affecting your study. Semesters are short, so we can help you best if you let us know as soon as problems arise. Regardless of whether the problem is related directly to your progress in the unit, if it is likely to interfere with your progress you should discuss it with your lecturer or a Community Service counsellor as soon as possible.

Unit Schedule

Week	Topic	Study guide	Key dates
1	Game Concepts	Chapters 1-3	
2	Storytelling and Narrative	Chapters 6-8	
3	Game Genres	Chapters 13-20	
4	Gameplay	Chapters 9-11	
5	Ethics of Gaming	Chapter 4	
6	Physics and Level Design	Chapter 12	
	Mid semester break		
7	Online Games	Chapter 21	Group presentation of Game Design due
8	Cinema in games	Chapter 7-8	
9	AI, Flexible game mechanics	Chapter 20	
10	Mod Development	Chapter 5	
11	The Future of Gaming	Chapter 22	
12	Exam revision		Group Assessment game level due
13	no lecture		

Unit Resources

Prescribed text(s) and readings

Rollings, Andrew and Ernest Adams, 'Game Design and Development: Fundamentals of Game Design', Pearson, 2006, ISBN: 0-13-168747-6

Text books are available from the Monash University Book Shops. Availability from other suppliers cannot be assured. The Bookshop orders texts in specifically for this unit. You are advised to purchase your text book early.

Recommended text(s) and readings

Rollings, Andrew and Ernest Adams, 'On Game Design', New Riders, 2003, ISBN: 1592730019

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Required software and/or hardware

Unreal Runtime Engine 2226.20.02, Epic Games

Software may be:

- downloaded from http://udn.epicgames.com/Files/UE2/Runtime/UE2Runtime-22262002_Demo.exe
- purchased at academic price at good software retailers

Equipment and consumables required or provided

Students studying off-campus are required to have the minimum system configuration specified by the Faculty as a condition of accepting admission, and regular Internet access. On-campus students, and those studying at supported study locations may use the facilities available in the computing labs. Information about computer use for students is available from the ITS Student Resource Guide in the Monash University Handbook.

Study resources

Study resources we will provide for your study are:

The FIT2048 web site on MUSO, where lecture slides, weekly lab requirements, assessment specifications and supplementary material will be made available.

Library access

The Monash University Library site contains details about borrowing rights and catalogue searching. To learn more about the library and the various resources available, please go to http://www.lib.monash.edu.au.

The Educational Library and Media Resources (LMR) is also a very resourceful place to visit at http://www.education.monash.edu.au/library/

Monash University Studies Online (MUSO)

All unit and lecture materials are available through MUSO (Monash University Studies Online). Blackboard is the primary application used to deliver your unit resources. Some units will be piloted in Moodle. If your unit is piloted in Moodle, you will see a link from your Blackboard unit to Moodle (http://moodle.monash.edu.au) and can bookmark this link to access directly. In Moodle, from the Faculty of Information Technology category, click on the link for your unit.

You can access MUSO and Blackboard via the portal: http://my.monash.edu.au

Click on the Study and enrolment tab, then Blackboard under the MUSO learning systems.

In order for your Blackboard unit(s) to function correctly, your computer needs to be correctly configured.

For example:

- Blackboard supported browser
- Supported Java runtime environment

For more information, please visit: http://www.monash.edu.au/muso/support/students/downloadables-student.html

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You can contact the MUSO Support by phone : (+61 3) 9903 1268

For further contact information including operational hours, please visit:
http://www.monash.edu.au/muso/support/students/contact.html

Further information can be obtained from the MUSO support site:
http://www.monash.edu.au/muso/support/index.html

Assessment

Unit assessment policy

To pass this unit, a student must obtain :

- 40% or more in the unit's examination and
- 40% or more in the unit's non-examination assessment and
- an overall unit mark of 50% or more

If a student does not achieve 40% or more in the unit examination or the unit non-examination assessment then a mark of no greater than 44-N will be recorded for the unit.

To be eligible to pass and maintain your enrolment in FIT2048 you must attend 80% of your tutorial sessions. If you are absent for more than two tutorial sessions you must supply a medical certificate or other appropriate documentation. Absence of more than two tutorial sessions will result in a 5% penalty of the final mark.

If you are finding problems with this requirement please ensure you speak to your unit adviser as early as possible.

Due to the nature of group work in this subject, it is expected that all students will attend 100% of classes.

This unit, like all Monash units, is built on the assumption that you will spend twelve hours a week attending classes and working on your assignments.

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You should ensure that you can make this commitment before you embark on this subject.

Assignment tasks

- ### Assignment Task

  Title : Group presentation of Game Design

  Description :

  Presenting your game design to peers in a class environment

  Weighting : 10%

  Criteria for assessment :

  Please refer to assignment description for a detailed list of assessment criteria

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Due date : Week 7

- ## Assignment Task

  Title : Group Assessment: Game Level

  Description :

  Creation of a game level using an existing game engine, working with a team of peers
  Weighting : 30%

  Criteria for assessment :

  Please refer to assignment description for a detailed list of assessment criteria
  Due date : Week 12

  Remarks (optional - leave blank for none) :

  Submission of assignments is done using assignment drop-boxes.

  The exact due date will be dependent on homework progress.

- ## Assignment Task

  Title : Individual Assessment

  Description :

  Students will examine existing games, detailing the application of game design principles in the game and analysing the effectiveness of the principles in the games via discussions in class forums.
  Weighting : 20%

  Criteria for assessment :

  Students will be assessed for their participation in weekly exercises and their ability to analyse existing games and deduce the application of game design principles in their gameplay mechanisms
  Due date : Ongoing weekly tasks

  Remarks (optional - leave blank for none) :

  Submission of assignments is done using the MUSO online forums to discuss analysis findings

Examinations

- ## Examination 1

  Weighting : 40%

  Length : 2 hours

  Type (open/closed book) : Closed book

Assignment submission

CD-ROM assignments will be submitted at the drop-box near the Faculty information desk, with the appropriate cover sheet correctly filled out and attached .

The due date is the date by which the submission must be received.

Assignment coversheets

Assignment coversheets must be completed and included with the final assignment submission. Assignment coversheets may be found via the faculty website (http://infotech.monash.edu.au/resources/student/assignments/) or on the FIT2048 MUSO site.

University and Faculty policy on assessment

Due dates and extensions

The due dates for the submission of assignments are given in the previous section. Please make every effort to submit work by the due dates. It is your responsibility to structure your study program around assignment deadlines, family, work and other commitments. Factors such as normal work pressures, vacations, etc. are seldom regarded as appropriate reasons for granting extensions. Students are advised to NOT assume that granting of an extension is a matter of course.

Late assignment

Assignments received after the due date will be subject to a penalty of 10% per day late, measured 24 hours after the submission time.

Assignments received later than one week after the due date will not normally be accepted.

Return dates

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

Assessment for the unit as a whole is in accordance with the provisions of the Monash University Education Policy at http://www.policy.monash.edu/policy-bank/academic/education/assessment/

We will aim to have assignment results made available to you within two weeks after assignment receipt.

Plagiarism, cheating and collusion

Plagiarism and cheating are regarded as very serious offences. In cases where cheating has been confirmed, students have been severely penalised, from losing all marks for an assignment, to facing disciplinary action at the Faculty level. While we would wish that all our students adhere to sound ethical conduct and honesty, I will ask you to acquaint yourself with the University Plagiarism policy and procedure (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html) which applies to students detected plagiarising.

In this University, cheating means seeking to obtain an unfair advantage in any examination or any other written or practical work to be submitted or completed by a student for assessment. It includes the use, or attempted use, of any means to gain an unfair advantage for any assessable work in the unit, where the means is contrary to the

instructions for such work.

When you submit an individual assessment item, such as a program, a report, an essay, assignment or other piece of work, under your name you are understood to be stating that this is your own work. If a submission is identical with, or similar to, someone else's work, an assumption of cheating may arise. If you are planning on working with another student, it is acceptable to undertake research together, and discuss problems, but it is not acceptable to jointly develop or share solutions unless this is specified by your lecturer.

Intentionally providing students with your solutions to assignments is classified as "assisting to cheat" and students who do this may be subject to disciplinary action. You should take reasonable care that your solution is not accidentally or deliberately obtained by other students. For example, do not leave copies of your work in progress on the hard drives of shared computers, and do not show your work to other students. If you believe this may have happened, please be sure to contact your lecturer as soon as possible.

Cheating also includes taking into an examination any material contrary to the regulations, including any bilingual dictionary, whether or not with the intention of using it to obtain an advantage.

Plagiarism involves the false representation of another person's ideas, or findings, as your own by either copying material or paraphrasing without citing sources. It is both professional and ethical to reference clearly the ideas and information that you have used from another writer. If the source is not identified, then you have plagiarised work of the other author. Plagiarism is a form of dishonesty that is insulting to the reader and grossly unfair to your student colleagues.

Register of counselling about plagiarism

The university requires faculties to keep a simple and confidential register to record counselling to students about plagiarism (e.g. warnings). The register is accessible to Associate Deans Teaching (or nominees) and, where requested, students concerned have access to their own details in the register. The register is to serve as a record of counselling about the nature of plagiarism, not as a record of allegations; and no provision of appeals in relation to the register is necessary or applicable.

Non-discriminatory language

The Faculty of Information Technology is committed to the use of non-discriminatory language in all forms of communication. Discriminatory language is that which refers in abusive terms to gender, race, age, sexual orientation, citizenship or nationality, ethnic or language background, physical or mental ability, or political or religious views, or which stereotypes groups in an adverse manner. This is not meant to preclude or inhibit legitimate academic debate on any issue; however, the language used in such debate should be non-discriminatory and sensitive to these matters. It is important to avoid the use of discriminatory language in your communications and written work. The most common form of discriminatory language in academic work tends to be in the area of gender inclusiveness. You are, therefore, requested to check for this and to ensure your work and communications are non-discriminatory in all respects.

Students with disabilities

Students with disabilities that may disadvantage them in assessment should seek advice from one of the following before completing assessment tasks and examinations:

- Faculty of Information Technology Student Service staff, and / or
- your Unit Coordinator, or
- Disabilities Liaison Unit

Deferred assessment and special consideration

Deferred assessment (not to be confused with an extension for submission of an assignment) may be granted in cases of extenuating personal circumstances such as serious personal illness or bereavement. Information and forms for Special Consideration and deferred assessment applications are available at http://www.monash.edu.au/exams/special-consideration.html. Contact the Faculty's Student Services staff at your campus for further information and advice.