MONASH University
Information Technology

FIT3001
Animation and FX

Unit Guide

Semester 2, 2010

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Table of Contents

FIT3001 Animation and FX - Semester 2, 2010

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Additional communication information:

Contact is acceptable via phone, email or in person.

Introduction

Welcome to FIT3001 Animation and FX for semester 2, 2010. This 6 point unit is an elective unit in the Multimedia major of the Bachelor of Information Technology and Systems. The unit has been designed to provide you with an understanding of animation in 3D, the relationships between digital and traditional animation techniques, and methods of using digital FX to incorporate digital animated assets into a real-world environment. It explores different animation methodologies and advanced scripting useful in generating digital assets for animation.

Unit synopsis

This unit is designed to complement the skills developed in FIT2015 Foundations of 3D relating to 3D design, theory and execution. Students will gain planning, texturing, rigging, lighting, animation and compositing skills in order to undertake advanced 3D animation projects. Students will also be introduced to the concept of a production pipeline and pre-visualisation techniques designed to streamline the animation process. Advanced theories and techniques of 3D animation and creating special effects using 3D software packages will be a major focus in this unit.

Learning outcomes

At the completion of this unit students will have -
A theoretical and conceptual understanding of:

- organic character animation techniques;
- the techniques applied to facial animation;
- compositing 3D special effects for video, television and film;
- 3D surfaces, mapping, texturing and lighting theory suitable for 3D characters and scenes;
- an extended understanding of the 3D spatial environment and the taxonomy of 3D.

Developed attitudes that enable them to:

- appreciate the physiology in the use of organic animation systems;
- appreciate the different animation systems for the creation of organic motion;
- appreciate the theories and practices adopted for complex 3D modelling and animation techniques including production pipelines;
- identify characteristics of the native scripting language which supports animation techniques in the 3D environment.

Developed the skills to:

- replicate the movement of organic structures in electronic 3D form;
- reproduce physical materials for photo realistic modelling;
- imitate real world animation in the virtual 3D world.

Demonstrated the teamwork skills necessary to:

- understand the importance of communication skills for the presentation of ideas and methods to peers;
- appreciate criticism and feedback from a network of peers;
- contribute ideas and methodologies to a network of peers.

Contact hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

For on campus students, workload commitments are:

- two-hour lecture and
- two-hour tutorial (requiring advance preparation)
- a minimum of 2-3 hours of personal study per one hour of contact time in order to satisfy research and assignment expectations

Unit relationships

Prerequisites

FIT2015

Prohibitions

MMS3409

Teaching and learning method

Teaching approach

This unit will be delivered via lectures and laboratory classes.

Lecture: During the lecture, your lecturer will introduce key theoretical concepts and demonstrate various methodologies related to animation and FX.

Tutorial: During the tutorial, the class will jointly work through exercises led by the tutor and discuss implications of the theory being taught in the lecture with regards to the assessment tasks.

Timetable information

For information on timetabling for on-campus classes please refer to MUTTS,
http://mutts.monash.edu.au/MUTTS/

Tutorial allocation

On-campus students should register for tutorials/laboratories using the Allocate+ system:
http://allocate.its.monash.edu.au/

Unit Schedule

Week	Date*	Topic	Study guide	Key dates
1	19/07/10	Introduction and the Animation Process	Chapter 1	
2	26/07/10	Animation 1: Animation Theory	Chapter 2	
3	02/08/10	Creating a Walk Cycle	Chapter 8	
4	09/08/10	Animation finalisation and Render management	Chapter 8	Test in lecture
5	16/08/10	Creating a Narrative for an Animation	Chapter 1	Assignment 1 due
6	23/08/10	Animation 2: Blocking the timing	Pg 397-415	
7	30/08/10	Animation 3: Adding Secondary Motion		
8	06/09/10	Animation 4: Polishing the Animation	Chapter 9	
9	13/09/10	Rigging	Pg 125-135	Assignment 2 due
10	20/09/10	Advanced Rigging		
Mid semester break				
11	04/10/10	Binding and Constraints	Pg136-143	
12	11/10/10	Advanced Bindings	Pg 136-143	Rigging Test in Lab

*Please note that these dates may only apply to Australian campuses of Monash University. Off-shore students need to check the dates with their unit leader.

Unit Resources

Prescribed text(s) and readings

Flaxman, Tereza, "Maya character modeling & animation: principles and practice", Charles River Media, 2006, ISBN 1-58450-440-4

The textbook will be available in limited numbers at the on-campus bookshop and from the library to loan.

Recommended text(s) and readings

Maraffi, Chris, "Maya Character Creation", Pearson, 2004
ISBN: 0-7357-1344-8

Wilkins, Mark, "Mel Scripting for Maya Animators", Elsevier, 2005
ISBN: 0-12-088793-2

Petitot, Luc, "Maya Ultimate Workshop", Editions Eyrolles, 2003
ISBN: 0-07-142169-6

Ratner, Peter, "Mastering 3D animation", 2nd edn, Allworth Press, 2004
ISBN: 1-58115-345-7

Ratner, Peter, "3D Human modeling and animation", Wiley, 2003
ISBN: 0-471-21548-1

Park, J. E. "Understanding 3-D animation using Maya", Springer, 2005
ISBN: 978-0387001760

Required software and/or hardware

Maya 2010, Autodesk, 2010

Software may be:

- purchased at academic price at good software retailers

Equipment and consumables required or provided

On-campus students 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. You will need to allocate up to 8 hours per week for use of a computer, including time for newsgroups/discussion groups.

Study resources

Study resources we will provide for your study are:

lecture slides, weekly tutorials, assignment specifications, links and supplementary material posted on the FIT3001 web site on Moodle.

Assessment

Overview

Practical Assignments: 100%

Faculty assessment policy

To pass a unit which includes an examination as part of the assessment a student must obtain:

- 40% or more in the unit's examination, and
- 40% or more in the unit's total 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 total assessment, and the total mark for the unit is greater than 50% then a mark of no greater than 49-N will be recorded for the unit.

Assignments make up 100% of assessment in this subject.

You must obtain a minimum mark of 50% overall in the total mark from the assignments in order to pass this unit.

Assignment tasks

Assignment coversheets

Assignment coversheets are available via "Student Forms" on the Faculty website:
http://www.infotech.monash.edu.au/resources/student/forms/
You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

Assignment submission and return procedures, and assessment criteria will be specified with each assignment.

Assignment submission and preparation requirements will be detailed in each assignment specification. Submission must be made by the due date otherwise penalties will be enforced. You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process: http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html.

- **Assignment task 1**

  Title:
  Creating a Walk Cycle
  Description:
  This assignment is made up of two parts:

  1. You will plan, develop and render an effective walk cycle
  2. A test during the Week 4 lecture, covering animation principles

  Weighting:
  Test:10%, Render:20%
  Criteria for assessment:

Test: Assessment will be based on knowledge of practical and theoretical aspects of animation principles

Render: Please refer to the assignment brief for a detailed list of assessment criteria

Due date:

The test will be during the Week 4 lecture. The render will be due 3pm Friday 20th August (Week 5)

- **Assignment task 2**

Title:

Animation

Description:

You are required to create a 3D animation based on a supplied theme.

Weighting:

30%

Criteria for assessment:

Please refer to the assignment brief for a detailed list of assessment criteria

Due date:

3pm Friday, Week 9, September 17th

- **Assignment task 3**

Title:

Rigging and Binding

Description:

This assignment is made up of two parts:

1. You are required to create 3D character using provided 3D objects, create a rig and appropriate controller objects and bind these to the character in a manner suitable for animation
2. A test during the Week 12 tutorial, where you will create a rig and bind it to a provided character

Weighting:

Test:20%, Rig:20%

Criteria for assessment:

Test: Assessment will be based on quality and appropriateness of rig and binding

Rig: Please refer to the assignment brief for a detailed list of assessment criteria

Due date:

The test will be during the Week 12 tutorial. The render will be due 3pm Friday 5th November (Week 15)

Due dates and extensions

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 not regarded as appropriate reasons for granting extensions. Students are advised to NOT assume that granting of an extension is a matter of course.

Students requesting an extension for any assessment during semester (eg. Assignments, tests or presentations) are required to submit a Special Consideration application form (in-semester exam/assessment task), along with original copies of supporting documentation, directly to their lecturer within two working days before the assessment submission deadline. Lecturers will provide specific

outcomes directly to students via email within 2 working days. The lecturer reserves the right to refuse late applications.

A copy of the email or other written communication of an extension must be attached to the assignment submission.

Refer to the Faculty Special consideration webpage or further details and to access application forms: http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html

Late assignment

Assignments received after the due date will be subject to a penalty of **10% per day**. For example, a student submitting an assignment 1 day late who receives 62% will have their results reduced to 52%.

Return dates

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

Feedback

Types of feedback you can expect to receive in this unit are:

Informal feedback on progress in labs/tutes

Graded assignments with comments

Test results and feedback

Appendix

Please visit the following URL: http://www.infotech.monash.edu.au/units/appendix.html for further information about:

- Continuous improvement
- Unit evaluations
- Communication, participation and feedback
- Library access
- Monash University Studies Online (MUSO)
- Plagiarism, cheating and collusion
- Register of counselling about plagiarism
- Non-discriminatory language
- Students with disability
- End of semester special consideration / deferred exams