



MONASH University
Information Technology

FIT2012
Digital media authoring

Unit Guide

Semester 2, 2010

The information contained in this unit guide is correct at time of publication. The University has the right to change any of the elements contained in this document at any time.

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FIT2012 Digital media authoring - Semester 2, 2010

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Lecturer(s) / Leader(s):

Berwick

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Mr Ruben Hopmans

Contact hours: By Appointment Only

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Contact hours: By Appointment Only

Introduction

Welcome to FIT2012 Digital Media Authoring. This 6 point unit is part of the Multimedia Applications major of the Bachelor of Information Technology and Systems degree. The unit has been designed to provide you with an understanding of the principles and practices of programming within a multimedia authoring environment. It explores developing applications using the current version of Flash and ActionScript 3.0.

Unit synopsis

This unit provides a focus on specialist tools and techniques that are used for developing content-rich interactive multimedia systems. This unit will cover fundamental multimedia principles, practical development processes, the integration of mixed-media assets, interactive design and programming for digital media and different technologies for product deployment. Students will create content-rich interactive CD-ROM and Web-based products using industry standard authoring tools and will gain an understanding of the role of digital media within the broader technology environment.

Learning outcomes

At the completion of this unit students will have

A theoretical and conceptual understanding of:

- information technology and the software tools as they relate to (and are used in) multimedia systems;
- the Adobe Flash authoring environment for CD-ROM and web based systems development

techniques associated with digital video, images and sound and the appropriate application of these for use in CD-ROM and web development;

- the formal process undertaken for preparing and documenting the various development stages of a multimedia system;
- how to achieve a range of special effects which are commonly required for advanced interactive design in multimedia systems;
- fundamental programming techniques and how to carry this knowledge across multiple languages.

Developed attitudes that enable them to:

- outline strengths and weaknesses of information technology in the context of the development and use of multimedia systems;
- make informed decisions on the most appropriate blend of tools and technologies to support a given multimedia system requirement;
- formulate constructive criticism within the construct of critical analysis;
- apply advanced interactive design techniques to a multimedia system using a time/frame based authoring environments;
- use a blend of industry standard multimedia tools and products;

write code to assist in advanced system interaction with the programming language ActionScript 3.0;

- further enhance and refine user interface and navigational design and creativity skills in multimedia systems;
- specify an appropriate tool set for developing and supporting advanced features/functionality in a multimedia system.

Demonstrated the teamwork skills necessary to:

- build confidence in formal presentation techniques presenting personal ideas, research concepts and developmental progress;
- discuss and share developmental processes and techniques within an informal populated environment.

Contact hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

Broadly the time required to complete this topic is shown in the following table, but note this is just a rough indication. You may need to spend more time on some activities depending on your background and knowledge. In addition, you need to spend extra time on assignments and review.

Attending lectures and reviewing notes	3 hours
Doing activities in lab classes	2 hours
Readings	3 hours
Contact (e-mail, consultation, etc.)	30 minutes
Total	8 hours 30 minutes

Unit relationships

Prerequisites

FIT1012

Prohibitions

IMS2402, MMS2402

Teaching and learning method

Teaching approach

This unit will be delivered via a 2 hour lecture and a 2 hour tutorial class each week.

Lectures will be used to present and explain programming principles and practices within the context of the authoring environment of Flash.

Tutorials will be used for practical experience in the development, coding, testing and debugging of the functions specific to the authoring environment.

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	References/Readings	Key dates
1	19/07/10	Overview of the Unit, Overview of Flash Basics, Game Development & Design Principles	Assignment Overview & Documentation, Drawing tools and techniques, Appropriate organisation of timeline	Green: 1 and 2	Complete Lab tasks
2	26/07/10	Project Decomposition, Flash Animation Basics	Animation in Flash Using Tweening Techniques, Motion Guides and Masks	Green: 6, 7 & 8	Complete Lab tasks
3	02/08/10	Flash Symbols, ActionScript Basics, Navigation & Events	Applying interactive affordance in Flash, Navigation working with buttons, Drop Menus, MovieClip behaviour and hierarchy	Green: 3 and 4; Shupe: 1, 2 & 5; Huddleston: 1, 2, 8	Submit completed Game Specification Document
4	09/08/10	Using Flash Components, Input and Form Elements	Create a basic component-based form, Accept input from components and store in variables	Green: 11; Huddleston: 7, 11	Complete Lab tasks and Demonstrate Splash Animation
5	16/08/10	Reading from text and XML files), using	Using externally loaded SWF content, Load data from text and XML files,	Green: 13; Shupe: 14; Huddleston: 4, 17	Complete Lab tasks and Demonstrate

		variables to track data, random numbers	exploring Flash's built-in random function		Options Selections
6	23/08/10	Scripted Animation, MovieClip objects	Linking objects to MovieClips, using the Flash Display List feature, conditional programming	Shupe: 4, 7, 8 & 9; Huddleston: 8, 13	Complete Lab tasks and Submit Navigation / Graphic Game Prototype
7	30/08/10	Advanced ActionScript Techniques, Arrays, Strings and Saving Data	Using arrays, random numbers, text formatting and saving data in context by building simple applications	Green: 6; Shupe: 4, 6 & 10; Huddleston: 2, 9, 12, 18	Complete Lab tasks and Demonstrate Data Tracking
8	06/09/10	Exploring keyboard events, Using Movie Clips to Change States	Capturing keyboard events, Moving objects with the keyboard, collision detection	Shupe: 3 & 10; Huddleston: 8,14	Complete Lab tasks
9	13/09/10	Using Sound Objects and Video in Flash	Basic use of externally loaded streaming content (background music and effects), FLV video with Flash Video components	Green: 5 & 10; Shupe 11 & 12; Huddleston: 15, 16	Complete Lab tasks and Demonstrate Randomisation
10	20/09/10	Developing a Code Bank, Reusable Code Snippets	Building a library of reusable functions that can be easily modified and adapted to any programming problem	Huddleston: as required	Complete Lab tasks and Demonstrate Music and Sound Effects
Mid semester break					
11	04/10/10	Optimising Flash for Web and CD Publishing	Demonstrating using a Pre-loader, Programming Checklist, Debugging and Tweaking Game Code	Green 15; Shupe 13	Project Development and Testing
12	11/10/10	Publishing Flash Movies - CSS, HTML	Additional web publishing techniques	Green 6, 12 & 14; Shupe 13; Huddleston: 20	Submit completed Game Development Project
13	18/10/10	Revision	Student Game Demonstrations		

*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

Foundation Flash CS4 for Designers

By Tom Green, David Stiller

Friends of Ed (2009)

ISBN-10: 1-4302-1093-1

ISBN-13: 978-1-4302-1093-1

ActionScript - Your Visual Blueprint for Creating Interactive Projects in Flash CS4

Rob Huddleston

Wiley Publishing Inc (2009)

ISBN-13: 978-0-470-48194-3

See also: "Recommended Reading" below for a list of recommended references.

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

Learning ActionScript 3.0 - A Beginner's Guide

By Rich Shupe with Zevan Rosser

O'Reilly (2008)

ISBN-10: 0-596-52787-X

ISBN-13: 978-0-596-52787-7

Required software and/or hardware

All software required for use in this unit can be accessed from allocated campus laboratories/tutorial rooms.

The software used in this unit consists of:

- Adobe Flash CS4 Professional
- Adobe Photoshop CS4
- Adobe Illustrator CS4

30 Day Trial/Evaluation versions of the named software can be downloaded for personal use if necessary from the following websites:

- <http://www.adobe.com/>

Equipment and consumables required or provided

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:

available on the FIT2012 web site on MOODLE. It will host lecture slides, weekly tutorial requirements and assignment specifications. In addition, assigned homework tasks and supplementary resources will also be posted.

Assessment

Overview

Examination (3 hours): 40%; In-semester assessment: 60%

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.

The unit is assessed with one major assignment with 3 major project milestones and 5 minor project milestones (60%) and a three hour closed book examination (40%). To pass the unit you must:

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:

Game Development Project

Description:

The practical project will be based on the Flash CS4 authoring environment covered during the semester.

From the following game scenarios, select one to develop for your major assessment task. It is important that you select carefully because the Game Design Specifications will be required by Week 3 and a complete navigational/graphical prototype will be required by Week 6. This is to ensure that you have an appropriate amount of time to implement the programming aspects of the game, and to assist in time management of the project.

- ◆ Variation on a "Muncher-style" Game (suitable for novice programmers)
- ◆ A Multi-player Dice Game (suitable for intermediate programmers)
- ◆ Variation on a "Millionaire Hot Seat" Quiz (suitable for advanced programmers)

The **Game Design Specification** documentation is designed to outline and organise the development process of the project. Appropriate headings are provided as a guide to what you should include in the design specifications for your selected game project. Be aware that part of your final assessment will include how well you develop your project in accordance to what you stipulate in this document. In other words, a small but completed project will score very well as opposed to a large incomplete one!

The **Navigation/GUI Prototype** will demonstrate how you have structured your game and show the majority of your interface design. The game components DO NOT have to function for this prototype as dummy data and/or game components can be used to show the overall look-and-feel of the game. The prototype should include a clearly defined internal structure on the time line (as demonstrated in labs), clearly show the main screen elements of the game, and an example of each major screen of the game. [NOTE: the individual screen elements are only there to show their position on the screen and DO NOT have to function at this stage. All that is required is a complete screen layout with appropriate design suited to the game you are developing.]

The final part of this assessment is the submission of a **functional game**, developed according to the game specification documents submitted in Week 3. Each scenario includes 5 common components for must also be successfully integrated into the final game. These will also be covered in the weekly lab tasks conducted throughout the semester and will be assessed separately but are an integral part of your final mark. These components cover the basic functions or features required to make the game have at least an elementary level of interaction. Additionally, you must successfully integrate the 3 project enhancements as described under the individual game scenarios. These enhancements cover a range of graphic, animation, audio and programming options to allow students to target their strengths and apply them accordingly.

Weekly tasks will be available to download from MOODLE. It is expected that students will download the materials relevant to each week's activity. Working through each activity will give students an understanding of various techniques and their suggested application, however, it will be up to each individual student to determine how to best implement these techniques to best suit their needs.

Weighting:

60%

Criteria for assessment:

The project will be worth 60% of the final grade and will be marked out of 100. The marks for this project will be assigned as follows:

Game Design (40)

25 Game Design Specification Document to be submitted by **Week 3**. For more detailed information see the Game Design Specification section of the Unit Outline document (see below).

15 Navigation/Graphic Prototype to be submitted by **Week 6**. This will demonstrate how you have structured your game and show the majority of your interface design. The game components DO NOT have to function for this prototype as dummy data and/or game components can be used to show the overall look-and-feel of the game.

Game Implementation (60)

15 Successful integration of the 5 common project requirements (5 requirements x 3 marks each). These will also be covered in the weekly lab tasks conducted throughout the semester. These are the basic functions or features required to make the game have at least an elementary level of interaction and will be set for submission in **Weeks 4, 5, 7, 9** and **10**.

30 Successful integration of the 3 project enhancements in the final project (3 enhancements x 10 marks each). These will also be linked to the weekly lab tasks. These enhancements cover a range of graphic, animation, audio and programming options to allow students to target their strengths and apply them accordingly. The criteria for successful implementation is the enhancement working without error, logical and efficient coding with all extraneous code eliminated, appropriate application of good programming practices (ie: use of commenting, naming conventions, variables, properties, re-usability, etc.).

15 A functional game, including the integration of the 5 common and 3 specific requirements to be submitted by **Week 12**. The criteria for this component will include:

- ◆ Interface design and brand development including the overall look-and-feel of the game's graphics/interface, consistency of layout and design, and presentation and readability of content (3).
- ◆ The implementation of Flash features including animation, appropriate use of different symbol types, application of different types of media (image/audio), and Flash components (4).
- ◆ The final product is functional and works without error. Items presented within the game must also function correctly (eg: navigation buttons). Internal and external assets must be organised in a logical structure (eg: using folders, naming, etc.), with appropriate navigation structures implemented (8).

Due date:

By 4pm Friday of the specified week or in scheduled Lab times

Remarks:

Full details are available in the "FIT2012 Unit Outline 10-2" document that is available for download from the MOODLE site.

Examination

•

Weighting:

40%

Length:

3 hours

Type (open/closed book):

closed book

Electronic devices allowed in the exam:

None

Remarks:

The end-of-unit examination will be a test of knowledge on all aspects of the unit from conceptual theories, practical development, interactive design principals and practical developmental tools and techniques. The questions will be drawn from a variety of sources including the textbook, lectures and lab notes.

See Appendix for End of semester special consideration / deferred exams process.

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 (including weekend days).

Assignments received later than one week after the due date will not be accepted for assessment unless prior (alternate) arrangements have been made with the unit Lecturer due to special circumstances.

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

Quiz results

Solutions to tutes, labs and assignments

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