MONASH University

CSE5910
Java programming for multimedia applications

Unit guide

Semester 2, 2008

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CSE5910 Java programming for multimedia applications - Semester 2 , 2008

Unit leader :

Richard Watson

Lecturer(s) :

Caulfield

- Alan Dorin

Tutors(s) :

Caulfield

- Julie Bernal

Introduction

Welcome to cse5910, Java Programming for Multimedia Applications.

In this 6 pt. unit you will learn how to program medium-sized multimedia applications in Java and how to design their interfaces

Unit synopsis

Synopsis:

This course is aimed at those students wishing to produce innovative multimedia applications using the Java programming language. On successful completion of this unit, students will have:

- the skill to competently use standard Java libraries to build a medium-sized multimedia application;
- acquired an understanding of specific design requirements for the construction of multimedia applications;
- acquired an understanding of the principles of programming interactive applications.

Practical assignments and excercises provide ample scope for creative expression and utilization of the theory presented in lectures. Students will be assessed on their ability to think and design innovatively, as well as on their understanding of the theoretical issues presented in lectures. On successful completion of this unit, students will have experience working in a small team to prepare a design brief for an interactive multimedia application and to then continue to see through the application's development.

Learning outcomes

Knowledge and Understanding

On completion of this unit, students will:

- acquire knowledge of object oriented concepts.
- learn how to analyse and critique exisiting multimedia systems.
- understand and be able to competently use standard Java libraries to build a medium-sized multimedia application.

Workload

For on campus students, workload commitments are:

- two-hour lecture and
- two-hour laboratory (requiring advance preparation)
- a minimum of 2-3 hours of personal study per one hour of contact time in order to satisfy the reading and assignment expectations.
- You will need to allocate up to 5 hours per week in some weeks, for use of a computer, including time for meetings with your assignment group.

Unit relationships

Prerequisites

Before attempting this unit you must have satisfactorily completed

Entry to MIT, MAIT, MMC or MNC

Relationships

CSE5910 is a core unit in the Master of Multimedia Computing since the degree was first introduced. Java programming skill is essential to the Multimedia Computing specialist. Students enrolling in the MMC may have studied a programming language or basic Java in their previous study. In this unit the student will develop their programming skill further towards programming to support multimedia applications. You will require:

- Entry to Masters level study (e.g. MIT, MAIT, MNC, MMC etc.)
  Assumed knowledge includes: (i) Competency in some programming language such as C, C++ or Pascal, Fortran etc. (ii) Basic familiarity with object-oriented design and programming techniques, UML (iii) Basic familiarity with Linux/Unix is an advantage.
- Students without a formal background of Unix-based operating systems are expected to become familiar with the basics in their own time, *prior* to the commencement of the course. Important things to learn include (but are not limited to): (a) the creation, copying, movement and removal of directories and files; (b) movement around the directory structure; (c) the basic use of applications from the command line such as sftp, zip, compress, tar, man; (d) file editing with a command-line editor such as vi.

  *** Please note *** In the past this unit incorporated detailed lecture material on Software Engineering, Object-Oriented Programming and UML. This is no longer the case. Students seeking a unit that covers this material will need to consult their course advisors for an alternative.
- **Communication Skills**: Effective written and spoken English communication skills are required. If your communication skills in English are not of a high standard, you *must* seek assistance from language and learning officers on campus. Students will be assessed on their ability to write in English.

Continuous improvement

Monash is committed to ‘Excellence in education' 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. Two of the formal ways that you are invited to provide feedback are through Unit Evaluations and through Monquest Teaching Evaluations.

One of the key formal ways students have to provide feedback is through Unit Evaluation Surveys. It is Monash policy for every unit offered to be 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.

Student Evaluations

The Faculty of IT administers the Unit Evaluation surveys online through the my.monash portal, although for some smaller classes there may be alternative evaluations conducted in class.

If you wish to view how previous students rated this unit, please go to
http://www.monash.edu.au/unit-evaluation-reports/

Over the past few years the Faculty of Information Technology has made a number of improvements to its courses as a result of unit evaluation feedback. Some of these include systematic analysis and planning of unit improvements, and consistent assignment return guidelines.

Monquest Teaching Evaluation surveys may be used by some of your academic staff this semester. They are administered by the Centre for Higher Education Quality (CHEQ) and may be completed in class with a facilitator or on-line through the my.monash portal. The data provided to lecturers is completely anonymous.
Monquest surveys provide academic staff with evidence of the effectiveness of their teaching and identify areas for improvement. Individual Monquest reports are confidential, however, you can see the summary results of Monquest evaluations for 2006 at http://www.adm.monash.edu.au/cheq/evaluations/monquest/profiles/index.html

Unit staff - contact details

Unit leader

Richard Watson

Contact hours : 2

Lecturer(s) :

Dr Alan Dorin
Senior Lecturer
Phone +61 3 990 53576
Fax +61 3 990 31077
Contact hours : 2

Tutor(s) :

Julie Bernal

Teaching and learning method

Tutorial allocation

On-campus students should register for tutorials/laboratories using Allocate+.

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	Key dates
1	Introductory lecture, Basic object-oriented concepts	
2	Data Types and Expressions, OOP in Java	
3	Human-Computer Interaction (introduction), Information Design	
4	Further OOP in Java, Interfaces, Generic Types, Enumerated Types	
5	Colour, Typography	
6	Textual and Iconic Labelling, Further HCI / Cognitive Engineering	Assignment submission week (see MUSO for details)
7	Exceptions, Graphics Programming 1	Peer assessment week (see MUSO for details)
8	Graphics Programming 2, Digital Audio	
9	GUI Programming and Event Handling	
10	Streams, File I/O, Object Serialisation	
11	Digital Movies, Principles of Animation	
Mid semester break		
12	Examples of interactive media applications and analysis	Assignment submission week (see MUSO for details)
13	Exam revision	Peer assessment week (see MUSO for details)

Unit Resources

Prescribed text(s) and readings

Nil

Recommended text(s) and readings

- Flanagan, D., *Java in a Nutshell*, latest edition, O'Reilly & Associates Inc, ISBN 1-56592-487-8
- Flanagan, D., *Java Examples In A Nutshell*, latest edition, O'Reilly & Associates Inc.

Required software and/or hardware

Java 2 Standard Edition Development Kit (JDK version 5.0.x), Sun Microsystems, 2005

Java Media Framework (JMF version 2.1.x), Sun Microsystems, 2001

Mozilla, Firefox web browser

Software may be:

- downloaded from http://java.sun.com/j2se/1.5.x/
- 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. 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:

The CSE5910 unit material is accessible from the MyMUSO web site if you are enrolled in this unit.

A discussion group/bulletin board for this unit can be found on the My.Monash portal, accessible if you are enrolled in this unit

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. Be sure to obtain a copy of the Library Guide, and if necessary, the instructions for remote access from the library website.

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

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 you must achieve

1. 50% of the marks for the assignments; and

2. 50% of the total marks available for the final examination; and

3. 50% of the total marks available for the unit

If a student does not achieve 50% 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.

Assignment tasks

- ### Assignment Task

  Title : Assignment 1 - Design Document

  Description :

  This is a group assignment in which you must design an interactive Java application.

  Please see detailed unit material on MUSO for this information.

  Weighting : 15%

  Criteria for assessment :

  Please see detailed unit material on MUSO for this information.

  Due date : Please see detailed unit material on MUSO for this information (submission dates for different components of the assignment vary)

- ### Assignment Task

  Title : Assignment 2 - Implementation

  Description :

  This is a group assignment in which you must implement the interactive Java application you designed for assignment part 1.

  Please see detailed unit material on MUSO for this information.

  Weighting : 15%

  Criteria for assessment :

  Please see detailed unit material on MUSO for this information.

Due date : Please see detailed unit material on MUSO for this information (submission dates for different components of the assignment vary)

Examinations

- **Examination**

  Weighting : 70%

  Length : 3 hours

  Type (open/closed book) : Closed book

Assignment submission

Tutorial exercises will be discussed by the tutor with each student at the appropriate tutorial.

The assignments will be submitted electronically in the manner described in detail on the unit's MUSO site and by the due date.

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

The group assignments cannot be submitted after the due date due to the assessment process (please see MUSO site for details).

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 Student Rights and Responsibilities (http://www.infotech.monash.edu.au/about/committees-groups/facboard/policies/studrights.html) and the Faculty regulations that apply to students detected cheating as these will be applied in all detected cases.

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.