**FIT3027
Mobile middleware**

Unit Guide

Semester 2, 2009

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.

Last updated : 18 Aug 2009

Table of Contents

FIT3027 Mobile middleware - Semester 2, 2009

Chief Examiner:

Ms Janet Fraser
Lecturer
Phone: +61 3 990 34307
Fax: +61 3 990 44124

Lecturer(s) / Leader(s):

Caulfield

Dr Trent Mifsud
Fax: +61 3 990 55157

Contact hours: Email for appointment

Introduction

Welcome to FIT3027 Mobile Middleware.

Unit synopsis

This unit focuses on how object-oriented abstractions, models, and software can employed in networked, net centric, and mobile computing to manage and address the complexity found in environments that are heterogeneous, span multiple platforms, and are delivered to various client devices. The unit will emphasise hands-on, practical experience with actual devices and emulators. Research topics and ideas will also be covered for potential post-graduate students

Learning outcomes

At the completion of this subject, students will be able to:

1. understand how object-oriented and other forms of middleware can be used to address the major issues and challenges found in networked, net centric, mobile, and other forms of computing;
2. design and implement software for networked, net centric, mobile, and other forms of computing based on middleware such as .NET, Java components, and other technologies;
3. design and implement software for networked, net centric, mobile, and other forms of computing based on Java components, middleware, and APIs, such as Java RMI, Jini, Java Beans, and JXTA;
4. design applications for networked, net centric, mobile, and other forms of computing based on software patterns and architectures, such as federations and brokers;
5. understand and be able to explain the differences between various forms of networked, net centric, mobile, and other forms of middleware.

Contact hours

Lecture: 2hrs/week, tutorial: 2hrs/week

Workload

Students, are expected to spend an average of 12 hours per week on this subject. The breakdown of time is the following:

- 2 hours per week: Topic material coverage (lecture attendance for on-campus students)
- 2 hours per week: Peer group involvement (tutorials or labs for on-campus students)
- 8 hours per week: Private study to review topic materials, explore supplementary subject resources and complete practical work and assignments.

Unit relationships

Prerequisites

CSE1201 or FIT1001 AND a second level programming unit - FIT1007 or FIT2034 or CSE1203 or CPE1004 or equivalent

Prohibitions

CSE3211, CPE3010, <u>FIT4039</u>

Relationships

FIT3027 is a core unit in the Net-centric computing major of the BITS degree.

You may not study this unit and CPE3010 or CSE3211 in your degree.

Teaching and learning method

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.cc.monash.edu.au/

Unit Schedule

Week	Topic	Key dates
1	Introduction to Middleware and Revision	
2	Intro to dotNET and C#	
3	dotNET Networking, dotNET Remoting	
4	dotNET Winforms, Windows Comms Foundation	
5	Alternative Mobile Development Platforms	
6	Reflection and Windows Services	
7	Dot Net Security	Assignment 1 due
8	Dot Net Security	
9	Compact Framework	
10	Advanced Compact Framework	
	Mid semester break	
11	Mobile Security	
12	iPhone and Android Development	Assignment 2 due
13	Exam Revision	

Unit Resources

Prescribed text(s) and readings

No prescribed text.

Recommended text(s) and readings

Online references will be advised throughout the semester.

Required software and/or hardware

Visual Studio 2008 with Pocket PC and Smartphone 2005 (or later) addons

Activesync 4.x or later

Will be made available to students from unit leader

Software may be:

Obtained from the FIT

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:

Weekly detailed lecture notes outlining the learning objectives, discussion of the content, required readings and exercises; Weekly tutorial or laboratory tasks and exercises;Assignment specifications and sample solutions; Sample exam questions;Discussion groups; This Unit Guide outlining the administrative information for the unit; The unit web site on MUSO, where resources outlined above will be made available.

Assessment

Overview

Practical assignments and small projects: 40%
Final 3 hour examination: 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 44% then a mark of no greater than 44-N will be recorded for the 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 task 1**

  Title:
    Assignment 1 - Remote Downloader application
  Description:
  Weighting:
    20%
  Due date:
    Week 7

- **Assignment task 2**

  Title:
    Assignment 2 - Code access security application
  Description:
  Weighting:
    20%
  Due date:
    Week 12

Examination

- **Weighting:** 60%
  Length: 3 hours
  Type (open/closed book): Closed book

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 5% per day, including weekends. Assignments received later than one week (seven days) after the due date will not normally be accepted. In some cases, this period may be shorter if there is a need to release sample solutions.

This policy is strict because comments or guidance will be given on assignments as they are returned, and sample solutions may also be published and distributed, after assignment marking or with the returned assignment.

Return dates

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

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