FIT2001
Systems development

Unit Guide

Semester 1, 2012

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: 22 Feb 2012
FIT2001 Systems development - Semester 1, 2012

This unit will provide students with an introduction to systems development using an agile development approach. The unit will focus on the application of UML models to the analysis and design of a system. The unit will introduce students to the nature of systems analysis and design as a problem-solving activity, describe the key elements of analysis and design, and explain the place of the analysis and design phases within the an agile development life cycle. The unit will introduce students to the nature of modelling as an analytical and a communicative process.

Major topics include: Agile development and the role of prototyping in systems development, user interface design, domain modelling with UML class diagrams, process modelling with use-case diagrams, use-case driven development and testing, use-case realisation with sequence diagrams, requirements gathering and the implementation and support phases of systems development.

Mode of Delivery

- Caulfield (Day)
- Clayton (Day)
- Gippsland (Day)
- Gippsland (Off-campus)
- Sunway (Day)
- South Africa (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

On-campus students will be expected to spend a total of 12 hours per week during semester on this unit.

This will include:
Lectures: 2 hours per week
Tutorials/Lab Sessions: 2 hours per week per tutorial

and up to an additional 8 hours in some weeks for completing lab and project work, private study and revision.

Off-campus students generally do not attend lecture and tutorial sessions, however, you should plan to spend equivalent time working through the relevant resources and participating in discussion groups each week.

You will need to allocate around 12 hours per week during the semester for this unit.

Unit Relationships
Prohibitions

BUS2021, CPE2003, CSE1204, CSE1205, GCO1813, GCO2601, GCO2852, GCO2826, IMS1001, IMS1002, IMS1805, IMS2071, IMS9001

Co-requisites

FIT1004 or FIT2010
For students in courses 2380, 2770, 3517 and 2672 who commenced prior to 2011: FIT1008

Chief Examiner

Dr Yuan-Fang Li

Campus Lecturer

Caulfield
David Grant

Clayton
Yuan-Fang Li

Gippsland
Madhu Chetty

South Africa
Stella Ouma

Sunway
Ali Ahmed

Tutors

Caulfield
David Grant
Ligia Ionescu
Siavash Alavian
Clayton

Peter Huynh

Saira Zeeshan

Suttisak Jantavongso
Academic Overview

Outcomes

At the completion of this unit students will have
A knowledge and understanding of:

- the roles of systems analysts and designers in agile system development;
- the criteria that can be used to evaluate the quality of a model of a system;
- the purpose of different types of models in the UML;
- the role and application of automated tools in systems modelling.

Developed attitudes that enable them to:

- appreciate that a range of valid solutions exist for any given problem.

Developed the skills to:

- interpret and evaluate systems analysis and systems design models created using UML;
- create analysis and design models using the main elements of UML; namely class, use-case, sequence and robustness diagrams;
- create system test plans and test cases, and conduct system testing;
- create and evaluate models and prototypes of a user interface using storyboards and wireframes;
- apply problem solving techniques at different levels of abstraction and understand the effect this may have on a system specification.

Demonstrated the communication skills necessary to:

- explain the interdependence and relationships between all stake-holders in the systems development process;
- create and understand RFP documents.

Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:
   a. engage in an internationalised world
   b. exhibit cross-cultural competence
   c. demonstrate ethical values

critical and creative scholars who:

   a. produce innovative solutions to problems
   b. apply research skills to a range of challenges
   c. communicate perceptively and effectively
Assessment Summary

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

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain modelling and requirements specification with UML</td>
<td>up to 20% - see remarks</td>
<td>30 March, 2012</td>
</tr>
<tr>
<td>Design specification and test planning</td>
<td>up to 20% - see remarks</td>
<td>18 May, 2012</td>
</tr>
<tr>
<td>Request for proposals and interface prototyping</td>
<td>up to 20% - see remarks</td>
<td>25 May, 2012</td>
</tr>
<tr>
<td>Examination 1</td>
<td>60%</td>
<td>To be advised</td>
</tr>
</tbody>
</table>

Teaching Approach

Lecture and tutorials or problem classes

This teaching and learning approach provides facilitated learning, practical exploration and peer learning.

Feedback

Our feedback to You

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

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through SETU, Student Evaluation of Teacher and Unit. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, and on student evaluations, see:
http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html
Previous Student Evaluations of this unit

This unit has been offered over 10 times in its current form so students should be confident that they are being taught a unit that is in very good shape. All lecturers on all the campuses have taught the unit at least once before (and similar units many times). The content of the unit is stable and has not needed much change from previous offerings. Naturally, each lecturer’s delivery of the material improves each time the unit is offered (maybe even their jokes will improve).

The unit podcast will continue to improve with more interviews planned on a wider variety of topics this semester. The interviews will include discussions with game and multimedia developers.

A feature of the unit this year, as in past years, will be the use of social networking tools to help students and staff communication. The unit has a Facebook-based discussion forum as a supplement to the forum available on the Moodle-based unit web site and a Twitter account (@fit2001).

If you wish to view how previous students rated this unit, please go to https://emuapps.monash.edu.au/unitevaluations/index.jsp

Required Resources

Please check with your lecturer before purchasing any Required Resources. Prescribed texts are available for you to borrow in the library, and prescribed software is available in student labs.

Students will require access to an "industrial strength" CASE (computer aided software engineering) tool. In 2011, the tool chosen is Visual Paradigm for UML. This is available for download from the FIT2001 Moodle-based unit web site.

Students will also require access to standard personal productivity tools (word processing, graphics and presentation)

Recommended text(s)


## Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The development environment</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Domain modelling with UML</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Prototyping in analysis and design</td>
<td></td>
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<tr>
<td>4</td>
<td>Process modelling with use case models</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Interface design principles</td>
<td>Assignment 1 due 30 March, 2012</td>
</tr>
<tr>
<td>6</td>
<td>Usability testing</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Principles of good design</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Use case realisation with sequence diagrams</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>The requirements specification and RFPs</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Use case driven testing</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Requirements gathering and stakeholder expectation management</td>
<td>Assignment 2 due 18 May, 2012</td>
</tr>
<tr>
<td>12</td>
<td>The implementation and support phase</td>
<td>Assignment 3 due 25 May, 2012</td>
</tr>
<tr>
<td></td>
<td>SWOT VAC</td>
<td>No formal assessment is undertaken SWOT VAC</td>
</tr>
</tbody>
</table>
|      | Examination period | LINK to Assessment Policy:  

*Unit Schedule details will be maintained and communicated to you via your MUSO (Blackboard or Moodle) learning system.*
Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

Assessment Tasks

Participation

• Assessment task 1

  Title:
  Domain modelling and requirements specification with UML

  Description:
  This assignment involves creating a domain model using various UML diagram, including class diagrams and use case diagrams.

  Full details of the assignment are available on the unit web site.

  Weighting:
  up to 20% - see remarks

  Criteria for assessment:
  The assignment will be assessed using the following main criteria: the quality and of the interface design, the quality of the storyboard (interface flow diagram), the quality of the menu design and the consistency and completeness of the working prototype. The professionalism of the submission and supporting documentation will also be considered. For full details see the unit web site.

  Due date:
  30 March, 2012

  Remarks:
  This is one of three assignments available for students to submit.

  Students must choose at least 2 assignments to work on and submit by their due dates. Students can submit more than 2 assignments. All assignments submitted will be marked. Each assignment is worth 20% of the value of the unit.

  Overall, assignment work is worth 40% of the unit. If a student submits more than 2 assignments, the marks for the best 2 assignments will be used to obtain the 40% assignment mark.

• Assessment task 2

  Title:
  Design specification and test planning

  Description:
  This assignment involves creating system design specification that includes a set of first-cut sequence diagrams and a design class diagram. It also includes developing test plans and creating cast cases.

  Full details of the assignment are available on the unit web site.

  Weighting:
Assessment Requirements

up to 20% - see remarks

Criteria for assessment:
The assignment will be assessed using the following main criteria: the clarity and completeness of the design class diagram, the clarity and completeness of the sequence diagrams, the consistency of the sequence diagrams and design class diagram, and the presentation of the report. For full details see the unit web site.

Due date:
18 May, 2012

Remarks:
This is one of three assignments available for students to submit.

Students must choose at least 2 assignments to work on and submit by their due dates. Students can submit more than 2 assignments. All assignments submitted will be marked. Each assignment is worth 20% of the value of the unit.

Overall, assignment work is worth 40% of the unit. If a student submits more than 2 assignments, the marks for the best 2 assignments will be used to obtain the 40% assignment mark.

• Assessment task 3

Title:
Request for proposals and interface prototyping

Description:
This assignment involves creating a system requirements specification in the form of a request for proposals (RFP).

It also involves creating a working prototype interface design.

Full details of the assignment are available on the unit web site.

Weighting:
up to 20% - see remarks

Criteria for assessment:
The assignment will be assessed using the following main criteria: the clarity and completeness of the functional requirements listed, the clarity and completeness of the non-functional requirements listed, the clarity and completeness of the description of the submission requirements, and the presentation of the report. For full details see the unit web site.

Due date:
25 May, 2012

Remarks:
This is one of three assignments available for students to submit.

Students must choose at least 2 assignments to work on and submit by their due dates. Students can submit more than 2 assignments. All assignments submitted will be marked. Each assignment is worth 20% of the value of the unit.

Overall, assignment work is worth 40% of the unit. If a student submits more than 2 assignments, the marks for the best 2 assignments will be used to obtain the 40% assignment mark.
Examinations

- **Examination 1**
  
  **Weighting:**
  60%
  
  **Length:**
  3 hours
  
  **Type (open/closed book):**
  Closed book
  
  **Electronic devices allowed in the exam:**
  None

Assignment submission

It is a University requirement (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at http://www.infotech.monash.edu.au/resources/student/forms/. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an online quiz).

Online submission

If Electronic Submission has been approved for your unit, please submit your work via the VLE site for this unit, which you can access via links in the my.monash portal.

Extensions and penalties

Submission must be made by the due date otherwise penalties will be enforced.


Returning assignments

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

**Policies**

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University’s academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at: [http://policy.monash.edu.au/policy-bank/academic/education/index.html](http://policy.monash.edu.au/policy-bank/academic/education/index.html)

Key educational policies include:

- Plagiarism [http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html](http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html)
- Academic Calendar and Semesters [http://www.monash.edu.au/students/key-dates/](http://www.monash.edu.au/students/key-dates/)

**Student services**

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at [www.monash.edu.au/students](http://www.monash.edu.au/students). For Sunway see [http://www.monash.edu.my/Student-services](http://www.monash.edu.my/Student-services), and for South Africa see [http://www.monash.ac.za/current/](http://www.monash.ac.za/current/)

The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to [http://www.lib.monash.edu.au](http://www.lib.monash.edu.au) or the library tab in my.monash portal for more information. At Sunway, visit the Library and Learning Commons at [http://www.lib.monash.edu.my/](http://www.lib.monash.edu.my/). At South Africa visit [http://www.lib.monash.ac.za/](http://www.lib.monash.ac.za/).

Academic support services may be available for students who have a disability or medical condition. Registration with the Disability Liaison Unit is required. Further information is available as follows:

- Website: [http://monash.edu/equity-diversity/disability/index.html](http://monash.edu/equity-diversity/disability/index.html)
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus
- Telephone: 03 9905 5704, or contact the Student Advisor, Student Community Services at 03 55146018 at Sunway
Reading list


