FIT2001
Systems development

Unit Guide

Semester 2, 2013

Last updated: 29 Jul 2013

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FIT2001 Systems development - Semester 2, 2013

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)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload requirements

Students will be expected to spend a total of 12 hours per week during semester on this unit.

This will include:
Lectures: 2 hours in-class per week
Studio workshops: 2 hours in-class per week

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

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 Mahbubur Rahim

Campus Lecturer

Caulfield

Peter O'Donnell

Tutors

Caulfield

David Grant

Siavash Alavian

Tian Goh

Academic Overview

Learning Outcomes

At the completion of this unit students will haveA 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.

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	The nature of systems analysis and design	
2	Domain modelling (class model) with UML	
3	Prototyping in analysis and design	
4	Interface design principles	
5	Usability testing	
6	Process modelling with use case diagrams	
7	Principles of good design	Assignment 1: Developing Requirements Specifications due Sunday 15 September 2013
8	Use case realization with sequence diagrams	
9	The requirements specification and RFPS	
10	Use case driven testing	
11	Requirements gathering and stakeholder expectation management	
12	The implementation and support phase	Assignment 2: Design Specification due Sunday 27 October 2013
	SWOT VAC	No formal assessment is undertaken in SWOT VAC
	Examination period	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

*Unit Schedule details will be maintained and communicated to you via your learning system.

Assessment Summary

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

Assessment Task	Value	Due Date
Assignment 1: Developing Requirements Specifications	20%	Sunday 15 September 2013
Assignment 2: Design Specification	20%	Sunday 27 October 2013
Examination 1	60%	To be advised

Teaching Approach

Lecture and tutorials or problem classes

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

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles
(http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu

Academic Integrity - Please see the Demystifying Citing and Referencing tutorial at
http://lib.monash.edu/tutorials/citing/

Assessment Tasks

Participation

- **Assessment task 1**

    Title:
    Assignment 1: Developing Requirements Specifications
    Description:
    This assignment involves creating a requirements specification using a GUI prototype, a
    UML class model (a domain model) and use case models with associated narrative
    descriptions.

    Full details of the assignment are available on the unit web site.
    Weighting:
    20%
    Criteria for assessment:
    The assignment will be assessed using the following main criteria:

    - ♦ The quality, accuracy and completeness of the requirements specification and
      models
    - ♦ The quality of the GUI prototype
    - ♦ The consistency of the UML models with the GUI prototype
    - ♦ The professionalism of the submission and supporting documentation

    Due date:
    Sunday 15 September 2013

- **Assessment task 2**

    Title:
    Assignment 2: Design Specification
    Description:
    This assignment involves a creating system design specification that includes a design
    class diagram, first-cut sequence diagrams and a test plan that includes test cases.

    Full details of the assignment are available on the unit web site.
    Weighting:
    20%
    Criteria for assessment:
    The assignment will be assessed using the following main criteria:

◆The clarity, completeness, accuracy and consistency of the design specification and models
◆The completeness and comprehensiveness of the test plan and the test cases.
◆The presentation and professionalism of the submission and supporting documentation

Due date:
Sunday 27 October 2013

Examinations

- **Examination 1**

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

Learning resources

Reading list

Booch, G., Rumbaugh, J. and I. Jacobson (1999) *The Unified Modeling Language User Guide* Addison Wesley Professional.

Dennis, A., Wixom, B.H. and D. Tegarden (2008) *Systems Analysis and Design with UML Version 2.0: An Object-Oriented Approach*, 3rd Edition, Wiley.

Hoffer, J.A., George, J.F. and J.S. Valacich (2001) *Modern Systems Analysis and Design* 3rd Edition, Prentice Hall.

George, J.F., Batra, D., Valacich J.S. and J.A. Hoffer, (2004) *Object-Oriented System Analysis and Design* Prentice-Hall.

Lee, R. and W. Tepfenhart (2002) *Practical Object-Oriented Development with UML and Java*, Prentice Hall.

Maciaszek, L. (2004) *Requirements Analysis and System Design*, 2nd Edition, Addison-Wesley.

Page-Jones, M. (1988) *The Practical Guide to Structured Systems Des*ign 2nd Edition, Prentice-Hall.

Page-Jones, M. (2000) *Fundamentals of Object-Oriented Design in UML* Addison-Wesley.

Shelley, G.B. and H.J. Rosenblatt (2010) *Systems Analysis and Design,* 8th Edition, Thomson Course Technology.

Monash Library Unit Reading List
http://readinglists.lib.monash.edu/index.html

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

Extensions and penalties

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.monash.edu.au/exams/special-consideration.html

Returning assignments

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

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). Please note that it is your responsibility to retain copies of your assessments.

Online submission

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

Required Resources

Please check with your lecturer before purchasing any Required Resources. Limited copies of 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 2013 the tool will be 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)

John W Satzinger, Robert B Jackson, Stephen D Burd. (2011). *Systems Analysis And Design In A Changing World*. (6th Edition) Course Technology.

Doug Rosenberg, Matt Stephens. (2007). *Use Case Driven Object Modeling with UML Theory and Practice*. () Apress.

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:
www.policy.monash.edu.au/policy-bank/academic/education/index.html

Key educational policies include:

- Aademic integrity;
  http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-academic-integrity-policy.h
- Assessment in Coursework Programs;
  http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-po
- Special Consideration;
  http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.ht
- Grading Scale;
  http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html
- Discipline: Student Policy;
  http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html
- Academic Calendar and Semesters; http://www.monash.edu.au/students/dates/
- Orientation and Transition; http://intranet.monash.edu.au/infotech/resources/students/orientation/
- Academic and Administrative Complaints and Grievances Policy;
  http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.h
- Code of Practice for Teaching and Learning;
  http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea

Graduate Attributes Policy

http://www.policy.monash.edu/policy-bank/academic/education/management/monash-graduate-attributes-policy.ht

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 http://www.monash.edu.au/students. For Sunway see http://www.monash.edu.my/Student-services, and for South Africa see http://www.monash.ac.za/current/.

Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research. Go to 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/. At South Africa visit http://www.lib.monash.ac.za/.

Disability Liaison Unit

Students who have a disability or medical condition are welcome to contact the Disability Liaison Unit to discuss academic support services. Disability Liaison Officers (DLOs) visit all Victorian campuses on a regular basis.

Website: http://www.monash.edu/equity-diversity/disability/index.htmlTelephone: 03 9905 5704 to book an appointment with a DLO; or contact the Student Advisor, Student Commuity Services at 03 55146018 at SunwayEmail: dlu@monash.eduDrop In: Equity and Diversity Centre, Level 1, Building 55, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus

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 the Student Evaluation of Teaching and Units (SETU) survey. 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, see:

www.monash.edu.au/about/monash-directions and on student evaluations, see:
www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html

Previous Student Evaluations of this Unit

Previous feedback has highlighted that unit is strong in its core content and is reflective of contemporary system development practice. Students have appreciated the opportunity to use CASE and prototyping tools.

Student feedback has indicated that the delivery of the content sometimes seemed "out of order" and it differed from the order of the material in the textbook. As a result the delivery of the content has been changed to better reflect the textbook.

Students also indicated that the number of individual assignments and their associated workload was excessive and limited the amount of effort they were able to devote to the tasks. The assignment tasks have been reduced to two major assignments both of which are group-based. This will give students the opportunity to collaborate, develop their teamwork skills, and benefit from a greater collective effort.

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