FIT5041
Component technology for internet applications

Unit Guide

Semester 1, 2011

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: 01 Mar 2011
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FIT5041 Component technology for internet applications - Semester 1, 2011

This unit presents component architectures for the construction of enterprise-scale software systems that operate and interact with each other via the Internet. Due to the widely distributed nature of these systems, they are inherently heterogeneous. Therefore these architectures must integrate and inter-operate with objects written in different programming languages often executing on different platforms. These architectures also need to provide facilities and services in a consistent manner across all these boundaries.

Mode of Delivery

Caulfield (Evening)

Contact Hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

Workload commitments are:
* two-hour lecture and
* two-hour tutorial (or laboratory) (requiring advance preparation)
* a minimum of 6-8 hours of personal study per week in order to satisfy the reading and assignment expectations.

The lecture is used to present conceptual material to a large group. The tutorial is a time for you to consolidate your knowledge of the concepts presented in the lectures by devising solutions to exercises and asking questions of your tutor. Each tutorial is intended to have a maximum of 16 students, and be a very interactive session. If you are ill, or have some other reason for missing tutorials, you must let your tutor know. As a minimum, in your own time, you are expected to perform self-guided research on the subject materials and complete all your assessable items.

Unit Relationships

Prohibitions

CSE5000

Prerequisites

Recommended knowledge: Students undertaking this subject are expected to have a sound understanding of the concepts of an object oriented programming language, such as C++, C#, Eiffel, Java or Python, and to be familiar with the concepts and techniques used in object oriented program design.
Chief Examiner

Shonali Krishnaswamy

Campus Lecturer

Caulfield

Fadrian Sudaman (Email: Fadrian.Sudaman@monash.edu)

Contact hours: 8-9pm Monday, 6-7pm Tuesday (By Appointment Only - email)

Tutors

Caulfield

Tracy Yan (Email: hyan36@student.monash.edu)

Contact hours: TBA

Demetris Hoplaris (Email: Demetris.Hoplaros@monash.edu)

Contact hours: TBA

Nathan Fang (Email: nyyrikkifang@gmail.com)

Contact hours: TBA

Hasn Altaiar (Email: hasan.tayar@gmail.com)

Contact hours: TBA

Learning Objectives

At the completion of this unit students will:

- have gained an understanding of the component technologies and their role in Internet applications development;
- understand the issues involved in implementing a web-based component system;
- understand the issues of interoperability in widely-distributed and heterogeneous component systems;
- understand the relationship between component technologies and enterprise architectures for the web;
- study the interfacing of component technologies with service oriented systems;
- have developed skills to build a web-based component system relevant to current commercial standards.
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

Practical work: 50%; Written work: 50%

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Value</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Written Assignment</td>
<td>15%</td>
<td>Week 4, Friday, 25 March 2011, 12 pm</td>
</tr>
<tr>
<td>First Practical Assignment</td>
<td>25%</td>
<td>Week 7, Friday, 15 April 2011, 12 pm</td>
</tr>
<tr>
<td>Second Written Assignment</td>
<td>25%</td>
<td>Week 10, Friday, 13 May 2011, 12 pm</td>
</tr>
<tr>
<td>Second Practical Assignment</td>
<td>25%</td>
<td>Week 12, Friday, 27 May 2011, 12 pm</td>
</tr>
<tr>
<td>Tutorial Attendance and Participation</td>
<td>10%</td>
<td>End of semester</td>
</tr>
</tbody>
</table>

Teaching Approach

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
- Interviews

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.


**Previous Student Evaluations of this unit**

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

**Required Resources**

You will need access to:

- Visual Studio .NET 2008 or 2010 (2010 is preferred).
- Microsoft Visio or similar modelling/graphical documentation tools.
- Internet Explorer, Firefox or Chrome browser

These may be accessed at no cost in the Monash campus computer laboratories where this subject is taught.

**Unit Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date*</th>
<th>Activities</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21/02/11</td>
<td>No formal assessment or activities are undertaken in week 0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>28/02/11</td>
<td>FIT5041 Introduction</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>07/03/11</td>
<td>Distributed Systems</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14/03/11</td>
<td>.NET Overview</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>21/03/11</td>
<td>.NET Remoting</td>
<td>Written Assignment 1 Due Friday, 25 March 2011</td>
</tr>
<tr>
<td>5</td>
<td>28/03/11</td>
<td>Component Programming</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>04/04/11</td>
<td>XML Technology</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>11/04/11</td>
<td>.NET Web Services</td>
<td>Practical Assignment 1 Due Friday, 15 April 2011</td>
</tr>
<tr>
<td>8</td>
<td>18/04/11</td>
<td>ASP.NET Web Form and MVC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mid semester break</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>02/05/11</td>
<td>Interoperability with .NET</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>09/05/11</td>
<td>.NET WCF Services</td>
<td>Written Assignment 2 Due Friday, 13 May 2011</td>
</tr>
<tr>
<td>11</td>
<td>16/05/11</td>
<td>Enterprise Web Application Design</td>
<td>Presentation in tutorials</td>
</tr>
</tbody>
</table>
12 23/05/11 Overview and future with Cloud Computing

30/05/11

*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.

**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

**Assessment Tasks**

**Participation**

- **Assessment task 1**

  **Title:**
  First Written Assignment

  **Description:**
  To help develop the skills necessary to produce high quality academic research papers. Specifically, students should concentrate on:

  - Finding high quality papers
  - Reading and understanding their contents
  - Paraphrasing and referencing them correctly
  - Adding your own views in a constructive way

  Students can choose the topics. Avoid simplistic topics. Discuss topic with tutors as soon as possible

  Minimum of 2000 words

  **Weighting:**
  15%

  **Criteria for assessment:**

  - This is an individual assignment and is to be entirely your own work.
  - Submission will be in both electronic and paper submission to the tutor or Caulfield School of IT office (building H level 6), and plus an online submission
The assignment will be marked against criteria of correctness and clarity. Further detailed assessment criteria will be available with the assignment specification.

**Due date:**
Week 4, Friday, 25 March 2011, 12 pm

- **Assessment task 2**

**Title:**
First Practical Assignment

**Description:**
- Gives students an opportunity to build a distributed application
- To demonstrate aspects of a distributed system via the implementation of a real-life working applications
- Basis for the Second Practical Assignment
- Students can choose the application
- Development Platform and Middleware: .NET Remoting is recommended and supported.
- Discuss with tutor what is required to achieve each different grade level.

**Weighting:**
25%

**Criteria for assessment:**
- This is an individual assignment and is to be entirely your own work.
- Submission will be in both electronic and paper submission to the tutor or Caulfield School of IT office (building H level 6), and plus an online submission via Moodle.
- The assignment will be marked against criteria of correctness and clarity.
- Further detailed assessment criteria will be available with the assignment specification.

**Due date:**
Week 7, Friday, 15 April 2011, 12 pm

- **Assessment task 3**

**Title:**
Second Written Assignment

**Description:**
- Allow students to research and report in-depth on a specific issue relating to distributed and component technologies.
- A higher marking standard will be applied to this written assignment.
- Students must choose a topic found on the web site.
- Students must register the topic choice with the tutor.
- Minimum of 3500 words.
- A 15 minute presentation is also required.

**Weighting:**
25%

**Criteria for assessment:**
- This is an individual assignment and is to be entirely your own work.
Submission will be in both electronic and paper submission to the tutor or Caulfield School of IT office (building H level 6), and plus an online submission via Moodle.

The assignment will be marked against criteria of correctness and clarity. Further detailed assessment criteria will be available with the assignment specification.

Due date:
Week 10, Friday, 13 May 2011, 12 pm

Remarks:
Worth 25% of the subject's marks, comprises of 15% from the research paper & 10% from the presentation

• Assessment task 4

Title:
Second Practical Assignment

Description:
♦ Gives students an opportunity to build on their existing distributed application
♦ Apply XML web service technologies to their distributed application
♦ Development Platform and Middleware: .NET Web Services is recommended and supported.

Weighting:
25%

Criteria for assessment:
♦ This is an individual assignment and is to be entirely your own work.
♦ Submission will be in both electronic and paper submission to the tutor or Caulfield School of IT office (building H level 6), and plus an online submission via Moodle.
♦ The assignment will be marked against criteria of correctness and clarity.
♦ Further detailed assessment criteria will be available with the assignment specification.

Due date:
Week 12, Friday, 27 May 2011, 12 pm

• Assessment task 5

Title:
Tutorial Attendance and Participation

Description:
You need to attend the weekly tutorials and complete the assigned tutorial exercises

Weighting:
10%

Criteria for assessment:
♦ Attendance.
♦ Completion of tutorial exercises.
♦ Participation in discussions.

Due date:
End of semester
Examinations

Assignment submission

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.

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:

Returning assignments

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

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:

Key educational policies include:

- Plagiarism
  (http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html)
- Assessment
- Special Consideration
  (http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.html)
- 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/key-dates/);
- Orientation and Transition (http://www.infotech.monash.edu.au/resources/student/orientation/); and
- Academic and Administrative Complaints and Grievances Policy
  (http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy.html)
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. 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 or the library tab in my.monash portal for more information. 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://adm.monash.edu/sss/equity-diversity/disability-liaison/index.html;
- Telephone: 03 9905 5704 to book an appointment with a DLO;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus.

Monash University Studies Online (MUSO)

All unit and lecture materials are available through MUSO (Monash University Studies Online). Moodle(http://moodle.monash.edu.au) is the primary application used to deliver your unit resources.

You can access MUSO and Moodle via the portal: http://my.monash.edu.au. Click on the Study and enrolment tab, then Moodle under the MUSO learning systems.

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: