Description: Graphical User Interface Programming

Subject: CSC
Cat-nbr: 3402
Class: 66267
Term: 2, 2007
Mode: EXT
Units: 1.00
Campus: Toowoomba

Academic group: FOSCI
Academic org: FOS003
Student contribution band: 2
ASCED code: 029999

STAFFING
Examiner: Jamie Shield
Moderator: Richard Watson

OTHER REQUISITES
Recommended Pre-requisite: CSC2402

RATIONALE
Modern corporate and industrial computing increasingly requires systems to operate with highly usable graphical user interfaces (GUIs). Such interface environments often require a different programming approach from that used in more traditional systems. In addition, the design of the user interface, including cognitive and user considerations, design principles and guidelines, task analysis and interface evaluation, is paramount to the success of software.

SYNOPSIS
This course covers elementary and advanced programming in a graphical user interface (GUI) environment. User interface design issues are explored providing the student with the skills required for user interface implementation. Both practical and theoretical design issues are considered with students developing and evaluating various designs. This course is not offered at Wide Bay in even years.

OBJECTIVES
On completion of this course students will be able to:

1. understand the basic paradigm underlying most graphical user interfaces (Exam);
2. be familiar with the general characteristics of a number of popular interfaces, such as Windows and X-Windows and their associated toolkits and development environments (Assignment 1 and 2);
3. understand the important conceptual level issues associated with good interface design (All assessment items);
4. understand the purpose of toolkits and prototyping tools (Exam), and be able to write significant programs using a particular environment (Assignment 1 and 2).

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GUI design and theory</td>
<td>40.00</td>
</tr>
<tr>
<td>2. Characteristics of particular GUIs. (These may vary depending on availability of software etc., but will probably include Windows and X-Windows.)</td>
<td>15.00</td>
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<tr>
<td>3. Theory and purpose of toolkits and prototyping environments</td>
<td>5.00</td>
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<tr>
<td>4. Advanced GUI programming using a particular high-level environment</td>
<td>30.00</td>
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<tr>
<td>5. GUI requirements analysis, e.g. paper prototyping</td>
<td>10.00</td>
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TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at http://bookshop.usq.edu.au click 'Semester', then enter your 'Course Code' (no spaces).

(Only for those students programming in VisualBasic.Net)


REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

(Chapter 8 Controls for Windows Applications. Available via USQ ebrary http://site.ebrary.com/lib/unisouthernqld/DOC?id=10014744&ppg=149. Discusses Labels, LinkLabels, Textboxes, MainMenu, CheckBox, RadioButton, ListBox, ComboBox, GroupBox, Panel, TabControl, Timer, StatusBar, ImageList, ContextMenu, etc.)

Baumann, K & Thomas, B 2001, User interface design for electronic appliances, CRC Press LLC,
(Reading available: http://site.ebrary.com/lib/unisouthernqld/Doc?id=10071249&ppg=1)


Donald, B & Oancea, G 2001, *Visual Basic .NET by example*, Que,
(Available: http://proquest.safaribooksonline.com/0789725835/ch22. Older but still useful. Discusses Forms, Labels, Textboxes, Buttons, Groupbox, ComboBox, Listbox, Toolbar, Statusbar, TabControl, TreeView, Menus, etc. (With code that can be copied and pasted))


(Available: http://site.ebrary.com/lib/unisouthernqld/Doc?id=10137230&ppg=207. Discusses Message Boxes and Dialogue Forms (Chapter 10), Main Menus and Context Menus (Chapter 11) and Toolbars (Chapter 12).)

(Chapter 4 Windows Forms, Available via USQ ebrary: http://site.ebrary.com/lib/unisouthernqld/Doc?id=10124796&ppg=105. Discusses Control Layout, Events, Modality, Split Containers, etc.)


(ISBN 1-893115-94-1, 005.428.SPO. A lighter but still useful read.)

**STUDENT WORKLOAD REQUIREMENTS**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Directed Study</td>
<td>50.00</td>
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<tr>
<td>Examinations</td>
<td>2.00</td>
</tr>
<tr>
<td>Private Study</td>
<td>110.00</td>
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</tbody>
</table>

**ASSESSMENT DETAILS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks out of</th>
<th>WtG(%)</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGNMENT 1</td>
<td>20.00</td>
<td>20.00</td>
<td>10 Sep 2007</td>
</tr>
<tr>
<td>ASSIGNMENT 2</td>
<td>20.00</td>
<td>20.00</td>
<td>29 Oct 2007</td>
</tr>
<tr>
<td>2 HOUR RESTRICTED</td>
<td></td>
<td></td>
<td>END S2</td>
</tr>
<tr>
<td>EXAMINATION</td>
<td>60.00</td>
<td>60.00</td>
<td>(see note 1)</td>
</tr>
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</table>

**NOTES**
1. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

**IMPORTANT ASSESSMENT INFORMATION**

1. Attendance requirements:
There are no attendance requirements for this course. However, it is the students’ responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.

2 Requirements for students to complete each assessment item satisfactorily:
   To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.

3 Penalties for late submission of required work:
   If students submit assignments after the due date without prior approval then a penalty of 10% of the total marks gained by the student for the assignment will apply for each day late.

4 Requirements for student to be awarded a passing grade in the course:
   To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.

5 Method used to combine assessment results to attain final grade:
   The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.

6 Examination information:
   In a Restricted Examination, candidates are allow to bring writing and drawing instruments, non-programmable calculators and unmarked, paper-based translation dictionaries.

7 Examination period when Deferred/Supplementary examinations will be held:
   Any Deferred or Supplementary examinations for this course will be held during the examination period at the end of the semester of the next offering of this course.

8 University Regulations:
   Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL http://www.usq.edu.au/corporateservices/calendar/part5.htm or in the current USQ Handbook.