Subject Description Form

Subject Code	COMP 2422
Subject Title	Visual Interface and Interaction Development
Credit Value	3
Level	2
Pre-requisite/ Co-requisite/ Exclusion	Pre-requisites: COMP 2011, COMP 2021
Objectives	The objectives of this subject are to: 1. To provide students with an overview of the different forms of human interaction with computational systems, 2. To provide students with knowledge of the technical issues in interface and interaction development, 3. To equip students with computing techniques and paradigms in interface and interaction development, 4. To provide students with a broad view of the state of interactive software development in today's industry.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: Professional/academic knowledge and skills (a) understand the computational elements for solving interactive computing problems; (b) possess the ability to design and develop computer systems for different kinds of human interaction; Attributes for all-roundedness (c) develop skills in problem solving using systematic approaches; (d) identify and develop problem solutions in a logical manner; (e) solve complex problems in groups and develop group work.
Subject Synopsis/ Indicative Syllabus	1. Fundamentals of Interactive Computing: Event-Driven paradigms, Finite-State Machines, MVC model 2. Desktop Graphical User Interfaces: WIMP user interfaces, Window Managers, Desktop Environments, Graphical Widgets. 3. Mobile Interface Programming: Mobile device platforms, Embedded Operating Systems, post-WIMP user interfaces 4. Tangible Interaction: Physical computing, Sensor signals, Physical interaction with humans and the environment.
Teaching/Learning Methodology	This subject emphasizes the technical/practical aspects of interaction design and development, such as computational paradigms and programming languages. It is intended to equip the student with knowledge and practical experience on

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<tr><td></td><td>the design of user interfaces of various form factors.

The lectures will be used to deliver course material that will be practiced/reinforced during the labs and tutorials.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific Assessment Methods/Tasks</td><td rowspan="2">% weighting</td><td colspan="5">Intended subject learning outcomes to be assessed</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td></tr>
<tr><td>Assignments, Tests & Projects</td><td>60%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Final Examination</td><td>40%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Total</td><td>100%</td><td colspan="5"></td></tr>
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<tr><td rowspan="6">Student study effort expected</td><td colspan="2">Class Contact:</td></tr>
<tr><td>Lecture</td><td>26 hours</td></tr>
<tr><td>Tutorial/Lab</td><td>13 hours</td></tr>
<tr><td colspan="2">Other student study effort:</td></tr>
<tr><td>Assignments, Quizzes, Projects, Exams</td><td>81 hours</td></tr>
<tr><td>Total student study effort</td><td>120 hours</td></tr>
<tr><td>Reading list and references</td><td>(1) Harold Thimbleby. Press On: Principles of Interaction Programming. The MIT Press (March 31, 2010)
(2) Dan O’Sullivan and Tom Igoe. Physical Computing: Sensing and Controlling the Physical World with Computers. Course Technology PTR; 1st edition, 2004
(3) Stephen Kochan. Programming in Objective-C. Sams; illustrated edition edition (December 18, 2003)
(4) Jenifer Tidwell. Designing Interfaces: Patterns for Effective Interaction Design. O'Reilly Media; 1 edition (November 21, 2005)</td></tr>
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