COMP2140 – SOFTWARE ENGINEERING
SEMESTER 1, 2020-2021
Last modified September 6, 2020

PROJECT DESCRIPTION

PROJECT OVERVIEW

Students are required to form groups of up to 6 persons (no less than 4) and engineer a software product. The software is to be a customized (bespoke) product that is to be developed for a real world problem. The team MUST identify a client (Company, club, school etc.). It is important that an independent client is established to ensure the requirements engineering process can be properly done; this will be interrogated during the software studio sessions. The implementation of the specified system must include at least 75% of the functionality specified in the requirements. Groups may use any suitable programming language; however, solutions must demonstrate the principles of object-oriented/procedural design, and the architecture/design specified must be actualized in the implementation.

DETAILS OF PROJECT DELIVERABLES

#	DESCRIPTION OF ACTIVITY	DELIVERABLE
1	**Identify a problem that is to be solved by a software** This activity involves identifying a problem that exists in some organization. The team will consult with the organization to better understand the needs/problem. The group is to provide a description of the organization and relevant key stakeholders. Stakeholders are persons who will either be impacted by the solution to be developed or has a role in determining what and how the solution is to be developed / deployed and its features. The roles of these stakeholders should be clearly defined.	**Presentation #1 – Week 4:** Problem Statement and Analysis [2%] Description of the (1) Organization, (2) the Problem within the organization that will be solved by the system you will develop. Short description of the required solution. Description of the stakeholders and their roles in the project.
2	**Establish your Requirements** This activity involves executing the Requirements Engineering process with the client organization. The group is to identify and use appropriate Requirements Engineering Techniques based on all the relevant factors (as discussed under the topics of Software Processes and Requirements Engineering). Note that your User Acceptance Tests should be started at this point and should be described in your 'Acceptance Criteria'. *Your tutor will help you to scope the project so that you do not take on way too much, or way too little.* *Each member of the team MUST contribute and fully specify at least 1 Functional Requirement.*	**Presentation #2 – Week 8:** Software Requirements [3%] **Week – 9 : Requirements Specification Document** [10%]
3	**Create the Software Design** Use appropriate modelling tools to describe the system to be built. These may include: (1) Architecture Diagrams, (2) Class Diagrams, (3) Sequence Diagrams, (4) Object Diagrams (5) HIPO Charts (note that not all solutions will use all, however, a subset of these tools should be used) ***Students are allowed to use structured design, and therefore should not be restricted to OOD. In such cases, many UML tools are not applicable.***	**Presentation #3 – Week 10:** Software Design [1%] **Week 11 - Software Design Specification Document** [4%]

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4	**Implement the Software based on the Design** A minimum of 4 (of 6) functional requirements should be fully implemented & tested. This does not include login and logout functionalities. These will count as 0. The system does not need to be fully functional but some functions and features should work in order for appropriate tests to be run against them. It MUST be clearly demonstrated how the software relates to the design (architecture) specified in the prior phase. Execute the test plan developed from previous stages of the development which should include Acceptance Tests, Integration Tests and Unit Tests. **During the Final Presentation:** Each team member will be expected to discuss the code s/he wrote and how that code links to the requirements and architecture. Students unable to clearly demonstrate such contribution will not receive the full score earned by the team.	**Week 13 - Final Documentation & Implemented System** [10%] The presentation and final documentation should include the completed versions of Problem statement, Requirements, Design, Code and Test Reports as a Single document.

GRADING OF PRESENTATIONS & SUBMISSIONS

Presentations should be no longer than 10 minutes. Students are required to apply presentation guidelines and skills as covered in Studio #2. Students are required to use visual aids which may include multimedia slides (e.g. PowerPoint slides), the quality of the presentations will impact the score received. Accordingly, points for a presentation will be awarded for proper use of grammar and spelling, consistent, well-formatted presentation, content adequately addressed and the adequacy of responses to questions.

A PDF copy of each presentation must be submitted via OurVLE before the presentation begins. Students will receive feedback on presentations which is expected to inform improvements before the subsequent required document submissions are made.