5SENG007W Software Engineering Principles and Practice

Coursework 1, 2023/2024

Module Code / Title:	5SENG007W Software Engineering Principles and Practice
Assessment Component:	Coursework
Weighting:	40%
Qualifying mark:	30%
Academic Year:	2023 - 2024
Semester:	1
Module Leader(s):	Dr. Alex Bolotov
Handed out:	Monday 16th October 2023 (week 4)
Due date:	**Tuesday 07th November 2023 at 1pm (week 7)** **Coursework demonstrations will be during weeks 8 and 9**
Learning outcomes:	LO1 Analyse a system problem domain and create a high-level sustainable design solution, following sound principles and practise LO2 Critically evaluate alternative development methodologies and propose an appropriate life cycle to a given proposal. LO3 Effectively apply appropriate tools and techniques to each step of the development cycle.
Expected deliverables:	You must submit the report which includes: - Aims and Objectives - Onion Diagram - Requirements analysis: o List of User Requirements; Functional and Non-functional Requirements - Use Case Analysis: o Use Case Diagram o Use Case Description for a chosen Use Case - Activity Diagram for the same chosen Use Case
Method of submission:	Via the CWK submission link on the Blackboard.
Marks	Marks will be given 15 working days (3 weeks) after the submission deadline. All marks will remain provisional until formally agreed by an Assessment Board.
Feedback	Short feedback will be given during your vivas (weeks 8 and 9). Constructive feedback will be given 15 working days (3 weeks) after the submission deadline.

Assessment regulations

Refer to section 4 of the "How you study" guide for undergraduate students for a clarification of how you are assessed, penalties and late submissions, what constitutes plagiarism etc.

Penalty for late submissions

If you submit your coursework late but within 24 hours or one working day of the specified deadline, 10 marks will be deducted from the final mark, as a penalty for late submission, except for work which obtains a mark in the range 40 – 49%, in which case the mark will be capped at the pass mark (40%). If you submit your coursework more than 24 hours or more than one working day after the specified deadline you will be given a mark of zero for the work in question unless a claim of Mitigating Circumstances has been submitted and accepted as valid. It is recognised that on occasion, illness or a personal crisis can mean that you fail to submit a piece of work on time. In such cases you must inform the Student Centre in writing on a mitigating circumstances form, giving the reason for your late or non-submission. You must provide relevant documentary evidence with the form. This information will be reported to the relevant Assessment Board that will dec ide whether the mark of zero shall stand. For more detailed information regarding University Assessment Regulations, please refer to the following website:http://www.westminster.ac.uk/study/current-students/resources/academic-regulations

Coursework description and marking scheme

In this coursework you are asked to demonstrate the ability to analyse a problem and plan a development process for its solution. It covers LO1, LO2, and LO3. The output of the coursework will be software analysis and first design iteration. The tasks below further specify the expected outputs of the coursework.

Submit your answers in a single word/pdf document

Task No	Task Description and Marking Scheme	Mark
1.	**Aims:** formulate a problem for which you are designing a solution *3 marks for comprehensiveness and clarity* *2 marks for organization*	**5**
2.	**Stakeholder Onion Model** Produce ***a stakeholder onion diagram*** to show all the relevant stakeholders for the system. You can find templates on the internet for this. For example, see this. Briefly, explain the role/interest of each stakeholder in the system. *6 marks for identification of stakeholders* *4 marks for establishing & justifying roles*	**10**
2.	**User Requirements** Produce ***a list of user requirements*** for the software app you have agreed to design with your seminar tutor**.** In your list, provide a list of user requirements and map them to relevant system's functional and non-functional requirements.	**15**

3.	**Use case diagram** Produce ***a use case diagram*** to capture the main usability scenarios**.** ***You should follow the UML notation in the use case diagram.*** This needs to be fully developed showing all the relevant use cases and relationships between use cases including generalization, include and extend relationships. ***You need to explicitly show, where applicable, these relationships in the UML use case diagram.*** 2 marks for actor identification 10 marks for use case identification 8 marks for include, extend & generalisation 5 marks for notation and general look **Note: marks will not be given for this task if the viva not attended.**	**25**
4.	**A use case description** For this task, choose one use case from your answer to task 3 and for this use case, produce a ***use case description*****.** You should avoid very "trivial' use cases. You should two entries in your report regarding the use case description: 1. A formal description of the chosen Use Case following a ***template*** attached at the end of this coursework specification. 2. An informal description (i.e. in a free writing style) demonstrating a link between your chosen Use Case and requirements, indicated in Section 2: you should demonstrate which requirements are realised by this chosen Use Case and how. *5 marks for main flow* *3 marks for actor, purpose, description etc.* *3 marks for pre- and post-conditions* *4 marks for alternative courses* *10 marks for linking with the requirements*	**25**
5.	**A UML Activity diagram** Produce ***an activity diagram*** for the same use case as that given in task 4. ***You should follow the UML notation in the activity diagram.*** 6 marks for activities, their relevance & clarity 3 marks for flow. 3 marks for guard conditions 3 marks for notation and general look	**15**
6.	**Report presentation**	**5**

	Your report is expected to be of a high academic quality and close to a professional software engineering modelling report.
	
	The report must have:
	
	• Title page showing your name and id;
	• Table of contents,
	• Sections:
	  o Aims
	  o User Requirements:
	  - Use Case Diagram
	  - Use Case Description
	  o Activity Diagram
	• List of references,
	• Appendix section, if relevant, containing any extra information
	
	The report must be produced electronically with appropriate heading and sub-heading. You also need to use a suitable modelling tool such as Astah to produce your diagrams.
	
	The answers and diagrams must legible, clear, grammatically correct and spell checked.
	
	All diagrams and figures must be clearly labelled.
	
	5 Exceptional overall.
	
	4 Generally good and clear.
	
	3 Acceptable
	
	0 – 2 Unsatisfactory.	

When producing the answers for the above, you may make reasonable assumptions. Please state all assumptions made.

Use Case Description Template **USE CASE NAME**	
Actors:	
Preconditions:	
Postconditions:	
Flow:	
Alternative Flows:	
Exceptions:	
Requirements:	

***** End of Coursework Specification *****