SDV503 Introduction to Software Development, Semester 1, 2024

Assessment 3 – Project: Patient Health Management System			
Assessment title	**Project: Patient Health Management System**		
Due date	11:59pm, Tuesday, 11 June	**Weighting**	55%
Submission details	This is an individual assessment to be completed in Word and in GitHub. Your tutor will provide you with a GitHub Classroom repository where you will develop your program sample. What to submit: • A Zip folder containing ALL your compressed GitHub files • A Word document with written responses to Task 1-4 as outlined below. Where and when to submit: Please submit the above to the Assessment 3 dropbox in Moodle by 5PM on the due date.		
Learning outcomes	LO1: Outline the software design and development process. LO2: Select and apply a suitable design methodology to the development of a software application to satisfy set requirements. LO3: Select, explain and use fundamental mathematical and logical concepts in the design and development of software. LO4: Use a programming language correctly and effectively to develop software applications for set projects.		
Background	**What is a Patient Health Record Management System?** A software application that stores, manages and provides access to a patient's health information, including their medical history, diagnoses, medications, test results etc. It enables healthcare providers to efficiently access patient information and provide better care while allowing patients to view and manage their health information. **The scenario:** The local District Health Board is seeking tenders for development of a new Patient Health Record Management System. As the owner of a development company, you decide to submit a proposal. **For this assessment,** you will create: • a proposal outlining the software development process you would apply to develop the system as per requirements; • a proof of concept – in this case a program for the Patient Profile component of the system. View the My Health Account video (3:44) to understand what a patient profile is.		

Assessment 3 – Project: Patient Health Management System

Assessment instructions:

Task 1: Project Proposal (20 marks)

In your Word document:

Create a proposal outlining how you would develop the patient health record system using *Agile Extreme Programming* (XP) as the software development methodology. (Recommended length: 500 words)

Your proposal must include the following sections:

- Project Overview: A description of the project, including the problem the project aims to solve, the goals of the project, and the scope of work to be performed.
- Project Timeline: A table showing tasks listed in the planned sequence with milestones and target dates.
- Project Management: A description of the project management methodology to be used, including how progress will be tracked, issues will be addressed, and how communication will be handled.
- Proof of Concept: A brief description of the patient profile program you will create, with a list of functional requirements.

  View the video My Health Account (3:44) to understand what a patient profile is and to determine realistic requirements for your own version.

- Evaluation: A description of how you will evaluate the project, including any metrics you will use to measure success.
- Conclusion: A summary of the proposal's key points, highlighting the project's benefits and why it should be approved.

Task 2: Patient Profile – design and implementation (20 marks)

The patient profile is the part of the system where an individual patient's personal details and health records are displayed and can be edited by the patient as well as health professionals.

There are four deliverables:

In your Word document:

1. **Structural design.** Create the structural design of the patient profile program according to DRY principles. You must include:
   - a clear and logical workflow diagram
   - an explanation of how you designed the structure to ensure ease of programming and program maintenance. This will include mention of DRY programming principles.

   (Recommended length: 200 words)

In your GitHub repository:

2. **Data set.** Generate a data set entry that reflects data input requirements for a patient end-user (e.g. personal details, ID, photo etc.) and a health professional end-user.

Assessment 3 – Project: Patient Health Management System

3. **Program.** Implement the program in JavaScript programming language. Follow DRY programming principles (Don't Repeat Yourself).
4. **Inputs and outputs.** Use Command Line Interface (CLI) as an end-user input method to print required outputs for display of patient information. Note: no GUI development is required.

Task 3: Patient Profile - testing and debugging (10 marks)

- Test the program using a variety of inputs and ensure that the program produces the expected outputs.
- Use debugging techniques to identify and resolve any errors or problems that arise during testing.

In your Word document:

- Provide a description (with screenshots) of testing or debugging techniques used, and the result of the testing process.

Task 4: Documentation (5 marks)

In your Word document, provide:

- A list of meaningful names and descriptions of the program variables, functions, objects and methods.
- Screenshots of code comments in your programming files.
- A user manual that explains how to run the program and input/output.

Marking Rubric for Assessment 3					
Assessment due date	11:59pm, Tuesday, 11 June, 2024				
	Level of Achievement				
Performance Criteria	**Pass with distinction** **(A- to A+)**	**Pass with merit** **(B- to B+)**	**Pass** **(C- to C+)**	**No Pass / Not completed** **(E to D)**	**Mark**
Task 1 Proposal **(LO1, LO2, LO3)**	The proposal provides a clear and convincing outline of how an Agile XP SDLC model could be used to carry out the project. Each section is relevant, accurate, clear and concise; and covers all details asked for in suitable depth. APA7 is appropriately and accurately used throughout.	The proposal outlines how an Agile XP SDLC model could be used to carry out the project. Each section is mostly relevant, accurate, clear and concise; and covers most details asked for. Minor inaccuracies/omissions are evident. APA7 is generally appropriate and accurately used.	The proposal outlines how the project could be carried out, though gaps in understanding of Agile XP methodology are evident. One or more sections may be partially incomplete. Information is unclear and/or inaccurate in parts. Sources are acknowledged, but use of APA7 inconsistent.	No submission, or: The outlined method does not follow Agile XP; And/or sections of the proposal are incomplete; And/or information is inaccurate and unsupported; And/or sources are not acknowledged.	/20
Project Overview	3 marks	2 marks	1.5 marks	0-1 mark	
Project timeline	4-5 marks	3-3.5 marks	2.5-3 marks	0-2 marks	
Project management	4-5 marks	3-3.5 marks	2.5-3 marks	0-2 marks	
Evaluation	4-5 marks	3-3.5 marks	2.5-3 marks	0-2 marks	
Conclusion	2 marks	1.5 marks	1 mark	0-0.5 marks	
Task 2 Patient Profile **(LO2, LO4)**	The program is logically designed using DRY programming principles so that functions are reusable, and the program is easy to maintain. There is clear alignment between the four deliverables, each one building logically on the next to create a cohesive program. Each deliverable meets all specified requirements and is presented to an exceptional standard in terms of accuracy, level of detail and relevance.	The program is mostly logical. DRY programming principles are applied, with most functions designed to be reusable. There may be minor disconnect between deliverables (e.g. inputs don't *completely* match the selected data set), but for the most part, the four deliverables align to create a cohesive program. Each deliverable meets all specified requirements and is presented to a very good standard despite minor flaws.	DRY programming principles are not consistently followed to design and implement functions. As a result, the program is complete, but not logical. All four deliverables are provided. One or more is only partially complete; and/or there is noticeable disconnect between deliverables (e.g., inputs don't match the selected data set *at all*). Frequent flaws and/or omissions impact quality.	No submission, or: No attempt to apply DRY programming principles; And/or one or more deliverables are not provided or do not meet specified requirements; And omissions /inaccuracies are frequent.	/20

Structural Design	4-5 marks	3-3.5 marks	2.5 marks	0-2 marks	
Data set	4-5 marks	3-3.5 marks	2.5 marks	0-2 marks	
Program	4-5 marks	3-3.5 marks	2.5 marks	0-2 marks	
Inputs/Outputs	4-5 marks	3-3.5 marks	2.5 marks	0-2 marks	
Task 3 Testing & debugging (LO2, LO3)	Testing follows Agile XP methodology. There is clear and comprehensive evidence (screenshots and annotations) of the steps taken to identify and fix bugs or issues encountered. No bugs/issues overlooked. Testing results in the program functioning correctly.	Testing follows Agile XP methodology. There is clear evidence (screenshots and annotations) of the steps taken to identify and fix bugs or issues encountered. Minor enhancements may be required for the program to run correctly and efficiently.	There is evidence (screenshots and annotations) of steps taken to identify and fix bugs or issues. Some of these are left undetected. The program is complete, but inaccuracies prevent it running correctly.	No submission, or: Testing is incomplete, with limited attempt to identify and fix bugs or issues.	/10
	8-10 marks	6-7 marks	5 marks	0-4 marks	
Task 4 Documentation (LO2, LO3)	Both deliverables are provided in industry-standard format and are error-free. They provide a fit-for-purpose, concise and accurate description of the program you designed.	Both deliverables are provided in an industry-standard format. They clearly describe the program you designed. A few minor errors or inconsistencies make it hard to follow in parts.	Both deliverables are provided, and clearly relate to the program you designed. Formatting is inconsistent and/or only partially follows industry conventions. Documentation is hard to follow.	No submission, or: Incomplete submission; And/or format does not follow conventions and is very difficult to understand due to frequent errors and omissions.	/5
	4-5 marks	3-3.5 marks	2.5 marks	0-2 marks	
				Total	**/55**