Agile Methodology and Design Thinking

AY2024/2025 April Semester

Project Part 1: Project Proposal (Case Study - Define (20%))

Introduction

This is an **individual** project.
Project Part 1 consists of Case Study - Define (20%) only.

The purpose of this project is to understand how to apply Agile methodology concepts, design thinking processes for a problem scenario.

You will be given a problem scenario, and based on the scenario, you are required to devise a solution to address the issue at hand.

Do note that project part 1, 2 and 3 **are related**.

Problem Scenario

McDonald's, nestled within the vibrant campus of Temasek Polytechnic, faces a problem that threatens its sustainability. While business thrives on regular school days with a steady influx of students and staff, it faces significant downturns during school holidays or term breaks. The restaurant experiences a constant rush during peak hours, notably lunch, leading to extensive queues that deter potential customers. Conversely, during off-peak hours, such as 2-4pm, the restaurant remains largely vacant, resulting in underutilised resources.

Compounding the issue, McDonald's employs traditional methods for both queue management and order processing. The conventional queueing system, where customers wait outside the restaurant for a seat, worsens wait times during peak periods. Similarly, the traditional order-taking process, where customers queue at the counter to make an order and payment, contributes to inefficiencies and slow service.

Furthermore, the restaurant suffers from a lack of visibility beyond the campus community. Despite its popularity among students and staff, the broader public remains unaware of McDonald's existence within the campus premises.

Faced with these challenges, Tommy Lee, the owner of McDonald's (TP Branch), seeks a transformative solution to secure the restaurant's future.

Recognizing the potential of information technology, Tommy turns to you for innovative strategies to address the restaurant's operational inefficiencies and enhance its visibility.

As an IT student, you are tasked with leveraging your expertise to devise a comprehensive solution that tackles McDonald's multifaceted challenges.

Project Proposal (100 marks) (20% of overall)

You are required to submit a **proposal** for a problem scenario.

The proposal must include the following components:
- Problem Identification (10 marks)
  - List down all the problems identified from the scenario.

- Solution, Key Features and Users Interaction (30 marks)
  - List down all the functionalities of your proposed solution. (15 marks)
    - Web App or Mobile App
  - Specify potential users of your solution and how they interact with the application (15 marks)

  Note: Use Adobe XD to aid in showing the key features. (Lo-Fi design).

- Design Aids (60 marks)
  Utilize design aids to strengthen understanding of users' needs, emotions, and motivations, to prove the viability of the proposed solution.

  - Create a Persona that represents a segment of your target audience (20 marks)

  - Create a context map to gain an understanding of the broader environment surrounding your proposed solution (20 marks)

- o Construct an Empathy Map to deepen your understanding of your users' needs (20 marks)

Project Part 1 template can be found in LMS under the Assessment folder. You must be prepared to explain your proposal and the processes involved when requested by your tutor.

Submit the proposal into LMS under the Assessment folder.
Proposal must be named with the format *YourName_StudentID_YourClass_Part1.docx*
(e.g.: JohnTan_1234567D_P01_Part1.docx)

Please ensure that you have a backup copy of your Adobe XD design and report in case there is a problem with the online submission.

The deadline for part 1 submission is on **Week 5, Thursday 16th May 2024 at 22:00hrs.**

Penalty for Late Submission

late and <1 day: 10% deduction from absolute mark given for the assignment
late >=1 and <2 days: 20% deduction from absolute mark
late >=2 days : No marks awarded

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Project Grading Criteria

The grading criteria of Project Proposal (Case Study - Define (20%) will be based on the following:

Criteria	In Context	Performance Level				
		A	**B**	**C**	**D**	**F**
Problem Identification (10 marks)	**Completeness**	Identifies the core problems from the provided scenario with deep insight and clarity. Provides thorough analysis and demonstrates a profound understanding of the underlying issues.	Identifies most of the core problems from the provided scenario with clarity and insight. Presents analysis supported by evidence demonstrating a good understanding of the underlying issues.	Identifies some of the core problems from the provided scenario with some clarity. Presents analysis but may lack depth or thoroughness in some areas.	Unable to identify the core problems from the provided scenario.	Missing/minimal effort done on component Non-submission or clear evidence of plagiarism detected (disciplinable offence)
Solution, Key Features and Users Interaction (30 marks)	**Comprehensiveness**	Solution, Key Features, and Users of Application are exceptionally well-written, demonstrating a thorough understanding of the subject matter Comprehensive Lo-Fi prototype to display all key features of the proposed solution	Solution, Key Features, and Users of Application are well-written, showing a solid understanding of the topic. Lo-Fi prototype elaborates on most of the key features of the proposed solution	Solution, Key Features and Users of Application are fairly written with adequate supporting points Lo-Fi prototype elaborates on some of the key features of the proposed solution	Solution, Key Features and Users of Application are poorly written without any supporting points. No lo-fi prototype present to elaborate on any features.	Missing/minimal effort done on component Non-submission or clear evidence of plagiarism detected (disciplinable offence)

Criteria	In Context	Performance Level				
		A	B	C	D	F
Design Aids – Persona (20 marks)	**Accuracy Comprehensiveness**	Persona is designed professionally and accurately represents the potential user	Persona is well-designed and accurately represents the potential user	Persona is designed fairly and represents the potential user with adequate accuracy	Persona is poorly designed and minimally represents the potential user with little accuracy.	Missing/minimal effort done on component Non-submission or clear evidence of plagiarism detected (disciplinable offence)
Design Aids - Context Map (20 marks)	**Accuracy Comprehensiveness**	Accurate, clear, comprehensive, and well-organized context map that effectively communicates the business design aspects.	Mostly accurate, clear and organized context map with minor gaps in information or organization.	Adequate context map but lacks clarity in some areas or significant gaps in information.	Unclear or incomplete context map with several gaps in information and organization.	Missing/minimal effort done on component Non-submission or clear evidence of plagiarism detected (disciplinable offence)
Design Aids - Empathy Map (20 marks)	**Accuracy Comprehensiveness**	Provides detailed insights into the emotions, thoughts, and experiences of stakeholders.	Provides insightful observations on the emotions, thoughts, and experiences of stakeholders.	Provides basic insights into the emotions, thoughts, and experiences of stakeholders.	Provides little insight into the emotions, thoughts, and experiences of stakeholders.	Missing/minimal effort done on component Non-submission or clear evidence of plagiarism detected (disciplinable offence)

End Of Part 1 Specification