FACULTY OF COMPUTING
UTM Johor Bahru

Semester II 2024/2025

Subject : System Analysis and Design (SECD2613)
Section :
Task : Phase 3 – Analysis and Design (15%)
Due : 27th June 2025

Phase 3 Guidelines

	Task	Deliverables
1	Extract and update accordingly from Phase 2 submission	• Overview of the Project • Problem Statement • Proposed Solutions • Current business process/workflow • Logical DFD (AS-IS)
2	**Systems Analysis:** • Find out what is done and why it is done, records all events/activities • Generate models (diagrams) showing who does what, when? • Refines your model on requirements, add more details • Generate new model showing just what is done (logical model) • Check your analysis with the users	• Logical DFD (TO-BE) System 1. Context Diagram 2. Diagram 0 3. Child Diagram • Identification of Process Specification (From Logical DFD (TO-BE) System)
3	**Systems Specifications:** • States what the new system will do (context diagram) • Generate logical diagrams for new systems (DFD level 1, 2) • Defines processes at all levels (lower levels DFD)	
4	**Systems Design:** • How the new system will fulfill specifications • Which part will be done by computer / which will be done manually? • What size/type of computer? • Use of networking and communication i.e. web-based / stand-alone?	• Physical DFD (TO-BE) System 1. Diagram 0 2. Child Diagram 3. Partitioning 4. CRUD Matrix 5. Event Response Table 6. Structure Chart 7. System Architecture
5	**System Wireframe** Develop system prototype based on system design (Phase 3) - Input Design - Output Design Design of the developed system	• Non-working prototype demo/video • Final report (based from Phase 3)

Prepare a System Design Final Report as below:

1.0 Overview of the Project
2.0 Problem Statement
3.0 Proposed Solutions
4.0 Current Business Process/Workflow
5.0 Logical DFD (AS-IS)
6.0 System Analysis and Specification
    6.1 Logical DFD TO-BE system (Context Diagram, Diagram 0, Child)
    6.2 Process Specification (based on Logical DFD TO-BE)
7.0 Physical System Design
    7.1 Physical DFD TO-BE system (Diagram 0, Child, Partitioning, CRUD Matrix, Event Response Table, Structure Chart, System Architecture)
8.0 System Wireframe (Input Design, Output Design)
9.0 Summary of the proposed system.

Phase 3 Mark Allocation

	ITEM	%
PLO2 (Apply)	**System analysis and specification aspect for CLO3 (Part B)**	**3**
	Technical report for CLO3 (Part D)	**2**
PLO3 (Problem Solving)	**Physical system design aspect for CLO3 (Part C)**	**3**
	Prototype (System design – GUI) (Part E)	**7**
PLO7 (Teamwork)	**Self/Peer Evaluation (Part A)**	**3**
TOTAL		**18**

PHASE 3 RUBRIC

note: Rubric is taken from Assessment for Learning Handbook and Prototype/Product Assessment Rubric.

PART A (3%) **Teamwork**				
Criteria	**High (4)**	**Average (3)**	**Low (2)**	**Unsatisfied (1)**
Teamwork	The team worked **WELL TOGETHER** to achieve objectives. Each member contributed in a valuable way to the project.	The team worked **WELL TOGETHER MOST OF THE TIME**, with only a few occurrences of communication breakdown. Members were mostly respectful of each other.	The team worked together **most of the time**, **POSSIBLE FAILURE** to collaborate when appropriate. Some members would work independently, without regard to objectives or priorities.	Team did **NOT COLLABORATE** or communicate well.
Part B (3%) **System Analysis and Specification Aspects**				
Criteria	**High (4)**	**Average (3)**	**Low (2)**	**Unsatisfied (1)**
Identify the requirement based from the case study.	Correctly interpreted **ALL** business rules with **CLEAR** idea on the input, process and output.	Correctly interpreted **MOST** of the business rules with **GOOD** idea on the input, process and output.	I**NACCURATELY** interpreted the business rules with **WRONG** idea on the input, process and output.	**UNABLE** to interpret the business rules with **NO IDEA** on the input, process and output.
Produce a context diagram for the proposed system based from the case study.	**GOOD** understanding of the requirement and name of the main process, entities and data flows are **ACCURATE** and **SUITABLE**.	**PARTIAL** understanding of the requirement and have **MINIMAL ERROR** in naming the main process, entities and data flows.	**INCORRECTLY** understand the requirement and put **INACCURATE** name for the main process, entities and data flows.	**FAIL** to understand the requirement and put **WRONG** name for the main process, entities and data flows.

Produce Diagram 0 and (possible child diagram) for the context diagram.	**ACCURATE** use of names in entities, processes, data flows and data store – **ALL** names are appropriately used in regard of its requirement.	Some **MINOR** errors in the use of names in entities, processes, data flows and data store – **FEW** names are not clear/suitable with its requirement.	**INACCURATE** use of names in entities, processes, data flows and data store – the name **DID NOT** correlate with its requirement.	**WRONG** use of names in entities, processes, data flows and data store. Shows **NO** understanding in identifying the entities, processes, data flows and data store.
PART C (3%) **Physical System Design Aspects**				
Criteria	**High (4)**	**Average (3)**	**Low (2)**	**Unsatisfied (1)**
Development and Target Environments (Physical Requirement)	Able to describes **ALL** the physical environment (including hardware and software) in which the project will be used, including any other systems that the project will interface.	Able to describes **MOST** of the physical environment (including hardware and software) in which the project will be used.	Able to describes a **MINIMAL** requirement of the physical environment (including hardware and software) in which the project will be used.	**FAIL** to describes a **ANY** requirement of the physical environment (including hardware and software) in which the project will be used.

PART D (2%) TECHNICAL REPORT				
Criteria	**High (4)**	**Average (3)**	**Low (2)**	**Unsatisfied (1)**
Introduction	**HIGHLY** informative and understandable. Demonstrates **FULL UNDERSTANDING** of the project. **COMPLETE** project description.	**SOMEWHAT** informative and understandable. Demonstrates **FAIRLY UNDERSTANDING** of the project. **ADEQUATE** project description.	**NOT VERY** informative or understandable. Demonstrates **SOMEWHAT UNDERSTANDING** of the project. **LIMITED** project description.	**NOT** informative and not understandable. Does **NOT DEMONSTRATE** an understanding of the project. **POOR** project description.
Content of report	Contents are **COMPLETE** and **CLEARLY** written. **APPROPRIATE** use of figures. Presents information in **LOGICAL INTERESTING** sequence.	Contents are **SOMEWHAT** complete but **NOT CLEARLY** written. **INAPPROPRIATE** use of figures. Presents information in **LOGICAL** sequence.	Contents **INCOMPLETE** and poorly written. **MOST** figures are **NOT CAPTIONED** and **POORLY** explained. **DIFFICULT** to understand the information because of jumps around.	**FAILS** to identify, summarize or explain the contents. Figures are **NOT CAPTIONED** and **NOT RELEVANT**. **CANNOT** understand because there is no sequence of information.
System planning and design	Correctly interpreted **ALL** planning, requirement, analysis and design of the proposed with **CLEAR** idea on the input, process and output. **GOOD** understanding in designing the DFD and naming of the main process, entities and data flows are **ACCURATE** and **SUITABLE**.	Correctly interpreted **MOST** of the planning, requirement, analysis and design of the proposed with **GOOD** idea on the input, process and output. **PARTIAL** understanding in designing the DFD and have **MINIMAL ERROR** in naming the main process, entities and data flows	I**NACCURATELY** interpreted the planning, requirement, analysis and design of the proposed with **WRONG** idea on the input, process and output. **INCORRECTLY** understand the design of the DFD and put **INACCURATE** name for the main process, entities and data flows.	**UNABLE** to interpret the planning, requirement, analysis and design of the proposed with **NO IDEA** on the input, process and output. **FAIL** to understand the design of the DFD and put **WRONG** name for the main process, entities and data flows
Conclusion	**CLEAR** discussion on achievement, limitation or contribution. **RELEVANT** suggestions for future works.	**SOMEWHAT** clear discussion on achievement, limitation or contribution. I**NSUFFICIENT** suggestions for future works.	**LIMITED/MINIMAL** discussion on achievement, limitation or contribution. **LIMITED/MINIMAL** suggestions for future works.	**NO** discussion on achievement, limitation or contribution. **NO** suggestions for future works

PART E (7%) PROTOTYPE (SYSTEM DESIGN - GUI)				
Criteria	**High (4)**	**Average (3)**	**Low (2)**	**Unsatisfied (1)**
Appropriateness to target user	Prototype uses terms and symbols **APPROPRIATE** to target user. Look and feel **APPROPRIATE** to target user. Usability **APPROPRIATE** to target user.	Prototype designed for a **WELL-DEFINED** target user. Usability are **APPROPRIATE** to target user.	Prototype designed **WITHOUT** well-defined target user in mind. **SOME** usability is **NOT** appropriate for target user.	Prototype designed **WITHOUT** well-defined target user in mind. **MOST** usability is **NOT** appropriate for target user.
Prototype's Interaction Usability	User interface uses a **SIMPLE** and **NATURAL** interaction style. **INTUITIVE**, **EASY** to learn and use.	User interface uses a **SIMPLE** interaction style. **EASY** to use once you learn it.	SOME user interface is **COMPLICATED** and **HARD** to use.	**HARD** to figure out how to even get started using the prototype.
Completeness	Provided a **COMPLETE** feature set in a prototype. **EVERYTHING** needed as defined in the system design is included.	The prototype was too **SIMPLE** but the feature set is complete. The working of some of the **MINOR** features is **UNCLEAR**.	The prototype **LACKS** few important features that it should provide. The working of some of the **IMPORTANT** features is **UNCLEAR**.	Too much still remain to be done to evaluate the usefulness of the GUI - **INCOMPLETE** interface. Multiple features still do **NOT** exist in the prototype.
Prototype's Graphical Design	Prototype is visually **APPEALING** and **APPROPRIATE** to target user. **GREAT** use of colors, fonts, graphics, and layout.	Prototype's appearance is **APPROPRIATE** to target user. **PLEASANT** looking, clean, well-organized GUI.	Prototype is **LESS** appealing and **NOT** appropriate to target user. **BORING** or **OVERLY** cluttered interface.	User interface design seems **INAPPROPRIATE** for the problem area.
Creativity	A novel user interface that is **NATURAL** to use. Interaction with prototype is **INTUITIVE** and **FUN**.	A **FEW** interesting tweaks to the conventional GUI interface.	**SOME** playful graphics and/or colors, but essentially common windows GUI.	Very **SIMILAR** with other programs (too common or plain).