

**Module Title: Principles and Practices of Software Production**

**Module Code : CE00883 - 5**

**Module Leader : Dr. Alrence S. Halibas**

**Weighting: 100%**

**Submission Date and Time: December 30, 2018 at 01:00PM**

You should hand in one copy of your assignment/project by the time and date mentioned above to the appropriate 'hand-in location' at the Gulf College. Fill in the front cover (stapled together with your assignment). MAKE SURE that you fill in all the relevant details on this form. An acknowledgment will be given to you upon receiving your assignment. This is your receipt, keep it. You can submit work by post, but you must send it in a recorded delivery, it must be postmarked two days before the deadline date and a copy must be kept by you in case it is lost in the post. Faxed assignments will not be accepted. You have to attend the demonstration.

Assignments must be submitted by the due date. The due dates are different for phases. The only circumstance in which assignments can be submitted late is if an extenuating circumstances form is submitted at the same time. In these circumstances work may be submitted up to two (2) weeks late only. If the extenuating circumstances are upheld, the assignment will be graded; otherwise, a 0 will be awarded.

### **Teams**

Teams must consist of two to three students. Each student must individually submit his or her report for the first phase. Each group must submit only one report which combines all the members' reports for the second phase. Finally, the group must appear for a demonstration in the third phase.

Each team will be required to submit logbooks of their meetings which include project challenges and milestones as well as learnings/reflections.

### **Assignment Description**

An Online Helpdesk System is a web-based multi-user support system that reports real-time issues faced by users. These users may have questions or report problems that need immediate attention and solution. With this kind of system, companies can gather, monitor, and analyse issues, as well as prioritise and allocate resources for solving them.

You are required to customise an online helpdesk system for a computer brand of your choice. Your system is required to have the following basic features:

- A **Log-in page** that allows a registered Helpdesk user to enter the system according to access privilege.
- A **Manage User Accounts Page** that allows the System Administrator to add, modify, and close user accounts as well as grant access privileges.
- A **User Account Page** that allows the Helpdesk user to view all his/her issued tickets with corresponding service score for resolved tickets and service rating links for unresolved tickets.
- A **New Ticket page** that allows a Helpdesk user to issue a new ticket that is routed to the concerned department.
- A **Received Tickets page** that allows the Centre personnel to close the ticket once it is resolved.

- A **Service Rating page** that allows a Helpdesk user to rate the efficiency of the service.
- A **Frequently Asked Question (FAQ) page** that allows a Helpdesk user to search self-help topics.
- An **About Project page** that allows the Helpdesk user to view a description of the software project including the names of the project members.

## BASIC SYSTEM FUNCTIONS

1. Log-in Page
  - System displays the Log-in page.
  - A user logs in using a valid username and password.
  - System redirects the user to his User Account page.
2. Manage User Accounts page
  - System displays the User Information page.
  - System allows the System Administrator to add, edit, and delete user profiles.
3. User Account Page
  - System displays resolved or unresolved tickets.
  - System provides a page link to the Service Rating page for each unresolved ticket and displays the service rating score given for the resolved ticket.
4. New Ticket page
  - System displays the New Ticket page and auto-generates a Ticket Number.
  - System allows the user to select from a list of pre-defined Help Topics.
  - System allows the user to input his/her information including full name, email address, contact number, and others.
  - System allows the user to enter ticket details and upload a file attachment. The attachment can be a photo, screenshot, doc/pdf file, and other documents that may be relevant to understanding the problem.
  - User submits ticket and the system routes it to the responsible department.
5. Received Tickets page
  - System displays Received Tickets page with a timestamp of the received tickets.
  - Centre personnel closes the ticket and sets the status to "RESOLVED".
  - System computes the time spent in resolving the ticket.
6. Service Rating page
  - System displays Service Rating page.
  - Helpdesk user rate the efficiency of the service (1-5 stars/smiley) using the Ticket Number.
7. FAQ page
  - System displays the FAQ page.
  - System displays a list of potential problem areas and their possible solutions.
  - System allows the Helpdesk users to search for self-help topics.
8. About Project page
  - System displays project description and the names of the project members.

## **Assessment**

You must submit a software document that includes a well-organised project management plan, detailed requirements specification, architecture/design, coding, test plan, design and code reviews.

You will be assessed on the exposition of your methodology, the originality of your design, and your ability to find a solution with your team.

## **Deliverables**

### **1. The individual written final document must include:**

- 1) Requirements Specification
- 2) Project Management Planning Report  
(Worth 25 marks)

### **2. The written final group document must include:**

- 1) Analysis and Design Report
- 2) Code and Code Review Report
- 3) Test Report  
(Worth 60 marks)

### **3. A demonstration of 15-20 minutes. Marks will be awarded according to individual performance. (Worth 15 marks)**

## **Marking Scheme**

The marking scheme for each area to be assessed is detailed below. These marks are summed up to give the overall marks of 100. The marks are split into:

### **PHASE ONE: Project Planning (Due Date: Week #7– Individual Work)**

LO Assessed	Criteria		Mark	First Marker	Second Marker
1	Requirements Specification	Project Overview	5		
		Functional Requirements			
		Non-functional Requirements			
2	Project Management Planning	Manpower Requirement including Skills Matrix and Organizational Chart	5		
		Software Methodology	10		
		Project Scheduling			
		Cost Estimation			
	Quality of	Structure/Style	5		

	Report	References			
<b>Total Marks</b>			25		

**PHASE TWO: Analysis and Design, Code, and Test (Date: Week #12 – Group Work)**

	Criteria		Mark	First Marker	Second Marker
LO Assessed	Software Documentation				
4	Document Version Control		5		
	Record of Group Meetings				
3, 4	Analysis and Design	Data Model	5		
		Process Model	5		
		UI Design	5		
	Code	Sample Codes and Code Review	5		
	Test	Test Report	5		
LO Assessed	Software Functionality				
3,4	Log-in page		10		
	Manage User Accounts page				
	User Accounts page				
	New Ticket page		5		
	Received Tickets page		5		
	Service Rating page		5		
	FAQ page		5		
	About Project page				
Total Marks			60		

**PHASE THREE: Demonstration**

**In the same week of the final report submission**

LO Assessed	Criteria	Mark	First Marker	Second Marker
1, 3, 4	Knowledge and Understanding	5		
1, 3, 4	Demonstration	10		
	<b>Total Marks</b>	15		
			<b>FIRST MARK</b>	<b>SECOND MARK</b>
<b>Grand Total</b>				
				<b>AGREED MARK</b>

**NOTE: Failure to book an appointment and demonstrate your assignment in EACH PHASE will result in ZERO (0) marks.**

#### Assessment Criteria

Grading of the assignment will be based on the following criteria:

##### **A.) A mark of 70 – 100%**

- Fulfil all the criteria for B (below);
- Delivers all items in the three (3) phases;
- Provides a full project overview and articulates precisely what is to be achieved for the project;
- Develops clearly an exceptional project management plan, including the manpower and skills matrix as well as the software methodology, project schedule, and cost estimates;
- Demonstrates high-level skills in analysis, prototyping, and (data and process) modelling, coding and testing as defined in the requirements specification using appropriate diagrams and tools;
- Performs professional documentation with structure and style and full explanation of all the figures and tables and proper referencing; and
- Demonstrates thorough knowledge and understanding as well as exceptional range of skills as evidenced in the report and demonstration.

Students may achieve the marks as indicated above by satisfying a combination of the criteria for other mark ranges.

##### **B.) A mark of 60 – 69%**

- Fulfil all the criteria for C (below);

- Delivered most, if not all, items in the three (3) phases;
- Provides a clear project overview and evidently explains what is to be achieved for the project;
- Develops a suitable project management plan, including the manpower and skills matrix as well as the software methodology, project schedule and cost estimates;
- Demonstrates substantial skills in analysis, prototyping and (data and process) modelling, coding and testing as defined in the requirements specification using appropriate diagrams and tools;
- Produces a sound documentation with only minor spelling and/or grammatical errors, communicates ideas in a clear way using appropriate terminologies, almost complete explanations of figures and tables, and clear evidence of referencing; and
- Demonstrates sufficient knowledge and understanding as well as range of skills as evidenced in the report and demonstration.

Students may achieve the marks as indicated above by satisfying a combination of the criteria for other mark ranges.

**C.) A mark of 50-59%**

- Fulfil all the criteria for D (below);
- Delivered some, if not all, of the items in the three (3) phases;
- Provides a moderate description of the project and its objectives;
- Develops a project management plan that may have some components missing such as the manpower and skills matrix as well as the software methodology, project schedule, and cost estimates;
- Demonstrates reasonable skills in analysis, prototyping and (data and process) modelling, coding and testing as defined in the requirements specification using appropriate diagrams and tools;
- Produces documentation with a good structure of a typical system using acceptable terminologies, and provides explanations of selected figures and tables and some evidence of referencing;
- Demonstrates moderate level of knowledge and understanding as evidenced in the report and demonstration.

Students may achieve the marks as indicated above by satisfying a combination of the criteria for other mark ranges.

**D.) A mark of 40-49%**

- Delivered some of the items in the three (3) phases;
- The documentation describes briefly the items in the phases and met only the minimum criteria;
- Provides a modest description of the project and its objectives;
- Develops a project management plan that may be incomplete;
- Demonstrates basic skills in analysis, prototyping and (data and process) modeling, coding and testing as defined in the requirements specification;
- Produces a documentation that is marginal in terms of structure, provides explanations to some figures and tables only, and there is no or less attempt to reference; and
- Demonstrates basic level of knowledge and understanding as evidenced in the report and demonstration.

Students may achieve the marks as indicated above by satisfying a combination of the criteria for other mark ranges.

**E.) A mark of 0-39% (Fail - If met with any one of the following criteria)**

- It lacks some or majority of the items in the three (3) phases;
- Majority of the items in the explained are irrelevant or incoherent the assignment;
- Very few of the items are documented and explained, and the answers may be incorrect or incomplete;
- Demonstrates an inadequate level of knowledge and understanding as evidenced in the report and demonstration. There is a significant gap in grasping the fundamental concepts of software analysis, prototyping, and (data and process) modelling, coding and testing;
- The documentation is very basic or poor with no referencing; and
- Does not show a good understanding of the assignment problem as evidenced in the report and demonstration.