System Analysis and Design

Project Description

2022-2023 (3)

Petra.com is an E-store that would like to develop a new system to allow customers to purchase/order items online. The new system will handle web interface with customers, purchasing orders with suppliers, items shipping, payment processing, items inventory and customer history tracking.

**You are required to analyze and design this system using the structural approach.**

**Project Stages**

1. Requirement Elicitation (100 marks)
2. Requirement Analysis (100 marks)

**Stage 1: Requirement Elicitation Details:**

***Individual preparation work: Due Date:* 18/8/2023 *(Total 55)***

* Search the web to gain domain understanding of the required system. Each student should submit a soft copy of a preparation document that includes the following sections:

1. Introduction: state the problem definition (6 marks)
2. Examples of existing systems: from your web search write about three systems similar to the project. Include the name and URL reference for each system and a paragraph describing the features of the system. (10 marks)
3. Stakeholders: Who are the stakeholders of this system? (6 marks)
4. Services: What are the services that should be included in such a system? (8 marks)
5. Elicitation techniques: Mention two interactive techniques that you suggest to use to collect requirements, and prepare **5 questions** for each technique. (20 marks)
6. Conclusion and References (5 marks)

***Group work: Due Date:* 27/8/2023 *(Total 45)***

With your group perform and document the following tasks:

1. Write a questionnaire to collect the opinions of the intended users of the system. (questionnaire should contain at least 10 questions not including the general questions) (10 marks)
2. Distribute the questionnaires and collect statistical results (specify the sample size and distribution method used) (15 marks)
   * 1. Count the number of answers for each question
     2. Calculate the average for each question and show them in table and graph format
     3. Write conclusions based on the results.
3. Produce the functional requirements list for the system (20 marks)

**Stage 2: Requirement Analysis Details:**

***Group work: Due Date:* 3/9/2023 *(Total 100)***

A **physical data flow diagram** for the system and parts of the data dictionary should be submitted, as described below:

1. The context diagram of your DFD model
2. Diagram 0
3. Two child diagrams of any non-primitive process in diagram 0
4. A description of **two** of the data stores in your DFD as should be entered in the data dictionary
5. A description of **2 data structure** in your DFD as should be entered in the data dictionary
6. A description of **3 data flows** in your DFD as should be entered in the data dictionary
7. A description of **3 data elements** in your DFD as should be entered in the data dictionary

***Individual work:* (**Project Discussion)

Each student will be individually asked to defend the proposed solution. The student mark in the discussion will be used as a weight to calculate your final mark in stage 2.