System Analysis and Design

Spring Semester 2019-2020

Project Description

1. The project is to be carried out by teams of four. The names of the teams' leaders will be announced by the instructor.
2. Choose any institution, organization or company that provide certain products, services or both then develop a Web Based Information System that best support these products and/or services at lowest maintenance cost.

You are required to ***analyze*** and ***design*** this web based system using the different tools presented during System Analysis and Design course. So, your project should consist of the following stages:

1. *Planning*
2. *Requirement determination*
3. *Requirement structuring*

Stage 1: Planning:

Through this stage, the student should develop A Baseline Project Plan (BPP):

- Introduction **(1 points)**
  - ✓ Project scope defined
    - Units affected
    - Who inside and outside the organization would be involved
    - Interaction with other systems
    - Range of system capabilities
- Project Workbook **(1 points)**
  - ✓ Project overview
  - ✓ Project scope & risks
  - ✓ Management procedure
  - ✓ Data description
  - ✓ Project charter
  - ✓ Project schedule. (Use Microsoft Visio to prepare Gantt chart)
- System Description **(1 point)**
  - ✓ Outline of possible alternative solutions
  - ✓ Narrative format
- Feasibility Assessment **(1 point)**
  - ✓ Project costs and benefits
  - ✓ Technical difficulties
  - ✓ High-level project schedules
- Management Issues **(1 points)**

- ✓ Outlines concerns that management may have about the project
- ✓ Team composition
- ✓ Communication plan
- ✓ Project standards and procedures

- Value Chain Analysis **(1 points)**
  - ✓ Describe the set of related activities as a value chain (Diagram)
  - ✓ Estimate the approximate cost and benefit incurred in each activity.

- Functional Decomposition Diagram (Microsoft Visio) **(1 points)**
  - ✓ Prepare a functional decomposition diagram and show the roles assigned for each students in the group.

- Mission Statement, objective Statement, competitive strategy, and
  - Each one should be described in a narrative format **(1 point)**

Stage 2: Requirement determination:

Through this stage, the student should develop ***one*** document:

Individual preparation work: **(1 point)**

- Search the web to gain domain understanding of the required system. Each student should submit a hard copy of a preparation document that includes the following sections:
  1. Introduction: state the problem definition
  2. Examples of similar existing systems: from your web search write about three systems similar to the project. Include the name and URL reference for each.
  3. Determine the stakeholders and the services to be presented in your web site.
  4. Mention **two** interactive techniques that you suggest to use to collect requirements, and prepare **5 questions** for each technique.
- Participate in JAD session and do not forget to include the taken notes in your document.

Group work: **(2 point)**

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)

2. Distribute the questionnaires and collect statistical results (specify the sample size and distribution method used)
    i. Count the number of answers for each question
    ii. Calculate the average for each question and show them in table and graph format
    iii. Write conclusions based on the results.

3. Draw Entity-to-function matrix for the proposed system.

Stage 3: Requirement structuring:
Group work:

A **logical data flow diagram** for the proposed system (web site) should be submitted, as described below:

- Prepare a DFD diagram as following:
    1. The context diagram of your DFD model (Microsoft Visio) **(1 points)**
        - Describe the context diagram in narrative format
    2. Level- 0 diagram (Microsoft Visio) **(1 points)**
        - Describe the level 0 diagram in narrative format
    3. Two children diagrams of any non-primitive process in Level- 0 diagram (Microsoft Visio) **(1 points)**
        - Describe the two children diagram in narrative format
    4. Prepare E-R digram for the proposed system (Microsoft Visio) **(1 points)**
    1. Add cardinality constraints to the E-R diagram.

Stage 4: Report Quality **(5 points)**

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 and 3.