Kwantlen Polytechnic University

INFO2413 – System Development Project

Project
January 8, 2018
Total mark: 100 marks

Due Date: by Monday April 9, 2018, class time

Introduction

The project is intended to help you understand computer software design process and activities.

Organizing

Team work (4-5 students / team)

Project Description

You have several options. Please choose one of the following options.

Project Description

Option 1: University Faculty Teaching Schedule System

This system is designed to help administrators to schedule university faculty teaching work. It could be a desktop application or a web application. The system includes the following functionalities.

1. The system provides semester-based teaching schedule.
2. The system will schedule courses from Monday to Saturday. The available time blocks are 10am-12:50pm, 1pm-3:50pm, 4pm-6:50pm and 7pm-9:50pm.
3. The system will ask users to input the details of available class rooms, for example, class room number, if the class room has computers or if the class room doesn't computers. Right now the reality is there are 4 class rooms with computers and 1 class room without computers.
4. The system will ask users to input the details of 1st-4th year courses that will be offered in the semester and the numbers of sections that each course has and if the course is needed to be taught in a classroom with computers.
5. The system will ask users to input details of faculties who will teach in the semester. Every faculty will have a list that which courses this faculty could teach.
6. The system will automatically generate schedule based on the input information and also follow the following rules.
    a. Each faculty can teach maximal 4 sections a semester.
    b. Each faculty can't teach more than 2 sections a day.

   c. 3rd and 4th year courses only can be offered after 4pm.
   d. No different sections of a same course are offered in the same time block.
7. The system will clearly show the schedule results on the screen.
8. They don't have many details right now regarding this system but they expect a flexible system and easy to extend in future.
9. (option) The schedule results can be shown in a graphic way, the user can move the schedule block and the system should check if the any move still fit in the different rules; otherwise the system will pop up a warning message.

Option 2: Stock Market Trading Alert System

This system uses API (for example, Google API) to get real time NA stock markets (NYSE and NASDAQ) data from a popular website (if you use Google API, then you will get data from Google). The system will allow users to input some trading rules, when the data you get reach one of these rules, the system will pop up an alert message for trading reminder. The system includes the following functionalities.

1. The system will ask users to input certain stocks, at this moment, you can limit number of stocks to 3-5.
2. The system will ask users to input some trading rules.
3. The system will consistently get real-time data of these stocks and at the same time, check with the trading rules.
4. The system will pop up trading alert message when there is trading rules met.

Option 3: A System to Help On-line Shoppers

With on-line shopping increase, consumers spend a lot of time searching commodity, because they need to filter and compare search results data by themselves. The system will propose a novel commodity search system to track consumer demand, and that is, when the commodity price of any website is lower than the consumer price conditions, the system will proactively notify consumers. This system results indicate that the novel commodity search system could assist consumers to search commodity, and provide historical price information of commodity for consumers to decide. The system includes the following functionalities.

1. System will ask users manually input some shopping history which is like regular shopping invoice, for example at least including the name of item and the price of item.
2. System will analyze this shopping list and "remember" what the customer like to shop and the best price they paid.
3. System will consistently check websites for these favorite items, at this moment, you can limit the number of items and number if website the system would check.
4. If there is better price on certain items, system will pop an alert to customers. The alert would show the best price, from which website and for what item, as well as the previous shopping history about this item of the customer.

Option 4: Movie Rating Analysis System

The system will recognize people's sentimental comments on movies. The comments from the viewer will be extracted along with the viewer details such as gender, location, etc…The comments will be gathered from various sources and the entry will be maintained into the excel sheet. The excel file will contain peoples name, email id, age, gender, location and comment. Based on people's comment and sentiments, the movie popularity will be rated accordingly. Based on the people's comment, a graph will be generated by the system which will be categorized as age, gender, location and god or bad comments.

1. The system will ask user to input movie name.
2. The system will start to gather the information about this movie from all kinds of internet sources.
3. The system will generate a chart to show the movie's popularity
4. The system even can show the rate of the movie based on the rates online.

Options 5: Your Choice on a Software Application.

It has to a software system. For example, it could be a database management system, or a Web application, or a mobile application, or a game. Please send the proposal to me by January 12 2018 in order to get the project approved.

Request

You suppose to follow the software develop process, from gathering requirements to software testing, to completely implement the project.

1. **There are several submissions during the process.**

- **Submission 1 – Software Requirements Specification document (SRS) (20 marks)**
- **Due date: January 29th, 2018**

    - You need to clearly define what your system will do in this submission.
    - The details in this submission should include:
        - Clearly identify the functional requirements of the project
        - Clearly identify the non-functional requirements of the project
        - Develop use case diagrams to show the functions of the project.
    - Please make sure all functional and non-functional requirements are **complete and proper** for the project.

- **Submission 2 – Software Design Document (SDD) (20 marks)**
- **Due date: February 26th, 2018**

    - You need to clearly define how your system will work in this submission.
    - Details in this submission should include:

- Clearly identify a collection of static model elements such as classes and types, their contents, and their relationships.
- Develop class diagram to show the design of the system.
- Design system architecture and use proper diagram to show it.

- **Submission 3 – Software Implementation (30 marks)**
- **Due date: April 3rd, 2018**

  - You suppose to completely finish the implementation of the project.
  - Details in this submission should include:
    - Simple implementation report which shows
      - The schedule of your implementation
      - The implementation environment
      - Acceptance criteria
    - Source codes
  - Evaluation will be based on
    - General implementation quality. You need to implement the project in a proper way. For example, if you design an on-line shopping application, then it must be a Web application instead of desktop application.
    - Detailed implementation quality. You need to implement all functionalities that are in the SRS.

- **Submission 4 – Software Testing Report (20 marks)**
- **Due date: April 3rd, 2018**

  - You suppose to completely finish the testing of the project.
  - Details in this submission should include:
    - Unit testing details
    - Integration testing details
    - System testing details
    - Acceptance testing details

Please pay attention to the **format of documents**. For example, you should indicate the relationship between the current submission and previous documents; indicate any change, and provide good text description for your diagrams.

2. (10 marks) presentation and demo

On April 9th 2018, lecture time in the classroom, every team will have 20 minutes to present and demo your project. You are expected to demo the project based on all functionalities in the SRS. Make sure the demo is smooth and correct. Each team member is requested to give presentation.

Every student is required to give presentation and stay during the whole presentation.

Detail marking criteria is as following:

1) (9 marks) Software quality which includes correct question answering and there is no system crash and no implementation errors during the presentation and demo.
2) (1 mark) Presentation participation. For example, ask questions after other team gives presentation.

Please attach a cover/title page, with: *course number, project title, your name, date of submission* for your project documents.