**This assignment contributes 30% of Total CA Marks.**

You are allowed to use <u>Visual Studio</u> to complete this Assignment. Submit the completed project folders and files (preferably in setup.exe) in CD/DVD on or before 16 Oct 2015. You should also present your UI designs.

## Aims and Objectives

The aims and objectives are:
- To understand the basics of Visual Studio 2010.
- To gain experience in developing Windows applications using C#.
- To gain experience in developing methodology.
- To gain practical skill of screen design and make use of different controls.

## Group Formation

This is a group assignment and should be done <u>in teams of 3-4 students</u>. On the assignment cover sheet you must state the contribution of each member using the format below:

| Student ID | Name | Contribution | Signature |
|---|---|---|---|
| 141234567 | Chan Tai Man | 25% | |
| 145678901 | Wong Tai Sin | 25% | |
| 141234569 | Lee Tai Kan | 25% | |
| 142345679 | Ng Tak Kei | 25% | |

## Project Scenario

ABC Craft Company organizes summer extracurricular courses for children during the summer holidays. These courses have various types and levels and include Pottery, Kung Fu, Painting (Oil and Chinese), Abacus basics, and etc. These courses are run between June and August each year and they are run on weekdays only. Usually, each type of course is run only once a week. The current room and equipment facilities allow each course to accept a maximum of 10 students only.

Currently each student pays a monthly fee of $1,000 per course. (Which means each course generates around $10,000 income per month.) The CEO thinks this is not flexible and he decides to set the monthly fee for each course based on the following formulae: (Facility operating cost + salary for the instructor) * 1.4. (Currently, the operating cost per course per month is around $2000. The monthly salary for instructors varies according to the course.)

On top of the monthly tuition fee, students also have to pay for lesson materials. Students may enroll for a minimum of one month and a maximum of three months.

At the moment, the company does the fee calculations and registrations manually. The CEO thinks that it is not competitive and decides to automate the process. The CEO has commissioned you to come up with a Summer Course Registration system to handle the fee calculations and registrations.

As an enhancement, the company will start a membership system, so that different discounts can be given to different types of members. The new computer system should also allow the manager to modify profit margins easily and add discounts promotions such credit card promotion specials.

## Basic Features

### Login
Staff login is required for getting the course fees, course registration and database maintenance functions. Once a staff member logs in, he/she will be brought to the staff menu of the system.

### Main Menu/Staff Menu
In the main menu, the system will provide links/buttons to different functions provided by the system for different kinds of users. A staff can do registration using the system. The manager can change the amount of the discounts to member customers and set the profit margin.

### Administrative Functions
The systems should have basic administrative functions to allow staff to perform adding, deleting and maintaining courses, staff, teachers and students, etc. The manager can perform more advanced functions such as modifying the profit margin and discounts for members.

### View Course Detail
Staff can view the detail of the course, such as course description, the number of places remaining, the class time (date), monthly fee (with or without discount). Currently, the monthly fee (before discount) is set at 1.4 * total cost.

### Course Registration
Staff will get the detail from the student such as membership statuses, contact phone number, email address, the course to be registered, number of months the student intend to enroll. If the course is not full the staff can proceed to register the student. The system must also check time clashes for the student (e.g. students are NOT allowed to register for two courses that run on the same week day.)

### Search Function
The system should allow staff to search for courses based on price (ranges) or number of available places (for a particular month).


## Enhanced Features

### Membership System
As an enhancement, the company will start a membership system, so that different members can enjoy additional discounts. Currently, normal members will get 10% discount and gold members will get a 20% discount.

### Promotions
The manager can set a discount to promotion items such as credit card specials. The student will get an additional 5% off when they pay the fee using credit card.

### Invoice
Staff can use the system to print out an invoice after the student has registered. The total charge can be adjusted according to discounts to members.

**Other Details**

| Course Category | Courses |
|---|---|
| AA | A1 (Mon) , A2 (Tue), A3 (Wed) |
| BB | B1 (Tue), B2 (Wed) , B3 (Fri) |
| CC | C1(Thur), C2 (Fri) |
| | |

Note: Suggested Categories (and courses) include Kung Fu (Wing Chun, Jeet Kune Do, Thai Boxing, Karate), Music (Piano, Violin), Pottery (Pot1, Pot2, Pot3), Painting (Oil, Chinese), Abacus (ABA1, ABA2..)…& etc.

| Course: | Teacher's rate | Operating charges | Monthly Course Fee based on 40% profit margin |
|---|---|---|---|
| A1 | 857/month | 2000/month | 400 /month/student |
| A2 | 3000/month | " | 700 |
| A3 | 3714/month | " | 800 |
| B1, B2 | 1572/month | " | 500 |
| B3 | 2286/month | " | 600 |
| C1 | 500/month | " | 350 |
| C2 | 714/month | " | 380 |

Note: Currently, the profit margin is set at 40% of the total cost of running the course. It can be modified by the manager.

| Courses: | Lesson material |
|---|---|
| AA | 200 |
| BB | 500 |
| CC | 1000 |

Note: Discounts are not applicable to lesson material. Lesson material is sold at cost.

**Marking Criteria**
1. *Screen layout* and *design* (arrangement of words, images etc., colors, font styles etc.) of different forms
2. Different controls

**IMPORTANT NOTICE**
Each student has to submit his/her own work. *Plagiarism* will be treated seriously.
*Late submission* will receive ZERO marks