**Department of Information and Technology**

**(Tuen Mun)**

Higher Diploma in Software Engineering (IT114105)

Module Name : Internet & Multimedia Applications Development

Module Code : ITP4523M

Submission Deadline : Phase 1: 5th teaching week of Semester 3

Phase 2: 8th teaching week of Semester 3

Hand in Methods : *To be announced by the lecturer*

This Group Project : 30% of total module marks (*also it is part of EA components)*

**The result of EA will not be counted if you do not meet the minimum 70% attendance requirement (if any) governed by the general academic regulations of your programme/course unless approval of the campus principal has been granted.**

1. Objectives

In this project, students are asked to:

* build a web application which provide different functions for salesperson and manager*.*
* apply software development skills to develop a website which is user-friendly, interactive, robust, and easy to maintain.
* apply the knowledge that you learned in this module to solve the tasks. (i.e., HTML, CSS, JavaScript, PHP, SQL commands and Python)

1. A simplified procedure to show how the web application will be used

There are two user roles for the management System:

* 1. Salesperson can place orders and manage customer accounts.
  2. Manager can manage items and review customer’s order.

1. Design for Salesperson (Interface Design: 15 marks; Function: 30 marks)

|  |  |
| --- | --- |
|  | Done By |

* 1. Place orders

Managed to create orders into the system with all necessary information Leung Chu Shing

View product information

List of items that available in stock for salesperson to choose

(Show items when stock quantity is greater than zero)

Required information for creating an orderas below:

1. Order ID
2. Customer’s Email
3. Staff ID
4. Order Date & Time
5. Delivery Address (optional)
6. Delivery Date (optional)

\* *orderID* should be generated automatically by the system as Primary Key

\* *deliveryAddress & deliveryDate* should be input when the items need to be delivery

* 1. View orders of the customer

Managed to view the corresponding customer’s order with necessary information when the customer’s email is provided.

Required information for receipt page:

* 1. Order ID
  2. Customer’s Email
  3. Customer’s Name
  4. Customer’s Phone Number
  5. Staff ID
  6. Staff Name
  7. Order Date & Time
  8. Delivery Address
  9. Delivery Date
  10. Item ID
  11. Item Name
  12. Order Quantity
  13. Total Price

Function requirement:

Items are ordered by name in descending order.

* 1. Update order with delivery information

Managed to update the specified order with the delivery information.

**Required information for the delivery:**

1. Delivery Address
2. Delivery Date
   1. Delete order

Delete the specified order including all the related records from database.

Function requirement:

* Create a “delete” button to delete the receipt including the related data in table *Orders*, *ItemOrders* from the database.

1. Python Plug-in: Discount Calculator (Function: 10 marks)

Develop a simple Python flask application to calculate the discount from the original total price. The RESTful API should accept the HTTP GET request and process the response from the Python program.

|  |  |
| --- | --- |
| **Request** | /api/discountCalculator |
| **Input** | Key: “discount”  Value: Original total price |
| **Response** | New total price |

The discount rates are as follow:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Original total price | >=$3000 | >=$5000 | >=$10000 | default |
| Discount Rate | 3% | 8% | 12% | 0% |

1. Design for Manager (Interface Design: 15 marks; Function: 30 marks)

|  |  |
| --- | --- |
|  | Done By |

* 1. Insert and edit items’ information

Managed to insert or update the item with the following information. Lam Kin Wing

Required Item information:

1. Item ID
2. Item Name
3. Item Description
4. Stock Quantity
5. Price

\**itemID* should be generated automatically by the system as Primary Key.

* 1. Generate monthly report

Managed to view the monthly sales record of all staffs by providing the month.

Required information for monthly report page:

1. Staff ID
2. Staff Name
3. Number of order records from each staff in that month
4. Total sales amount from each staff in that month
   1. Delete customer and their records

Delete the specified customer record with all the related receipt records from database.

Function requirement:

* Create a “delete” button to delete the specified customer record including the related data in table *Orders*, *ItemOrders* and *Customer* from the database.

1. Form your project group

Each student needs to form a project group, **the maximum number of students in each group is 2.** Strongly recommend you to form a group to complete this project as you can benefit from sharing skills/codes amongst your members, and you can learn to plan, coordinate, and integrate work done by each member. Study carefully the given ERD and table structures before you start the implementation.

1. Additional requirements of your project
   1. Your web site should only use PHP as the server-side programming language (i.e. not ASP, ASP.NET, JSP, servlet etc.), however, you may use JavaScript and CSS for specific purposes. The database server used must be mySQL (version 5.0 or above).
   2. In your PHP code, you must ensure to use the following *parameter values* for the following mySQL database functions :  
       $conn = *mysqli\_connect*($hostname, $username, $password, $database);  
      set to the values below in a PHP script which is *shared by* the web pages :  
       $hostname = "**127.0.0.1**";  
       $database = "**projectDB**";  
       $username = "**root**";  
       $password = "";
2. Items to submit (Phase 1) (30% of total project marks)

Submit all UI design using CSS and HTML. Submission deadline will be announced by the

lecturer.

1. Items to submit (Phase 2) (70% of total project marks)
   1. A ***CD-ROM*** or ***DVD-ROM*** which stores a ***softcopy of all files*** for the whole web site. All files must be stored in non-compressed format (no .zip or .rar files please!)
   2. provide a SQL script file ***CreateProjectDB.sql*** to let the lecturer to re-create the database and test data
   3. for the SQL script file ***CreateProjectDB.sql***, it must contain *CREATE TABLE* commands to setup the database tables in **projectDB** database. Include necessary *INSERT* statements to add additional sample records you want to provide. The following is a sample SQL script :

drop database IF EXISTS **projectDB**;

create database **projectDB** character set utf8;

use **projectDB**;

You must specify the **InnoDB** engine for a database table :

ENGINE = **InnoDB**

Full explanation of different ***mySQL database engines*** :

<http://dev.mysql.com/doc/refman/5.0/en/storage-engines.html>

drop table IF EXISTS **Users**;

Create table **Users** (

userName Varchar(30) NOT NULL,

userPswd Varchar(10),

Primary Key (userName)) **ENGINE = InnoDB**;

INSERT INTO **Users** (userName, userPswd) VALUES

('admin1', 'secret1'),

('admin2', 'secret2');

* 1. a ***demonstration*** of your completed web site should be recorded by   
     a *30-day free-trial software Camtasia Studi*o 8  
     (<http://discover.techsmith.com/try-camtasia/clkn/https/www.techsmith.com/download/camtasia/>).   
     You should save different parts of your demonstration into different **.mp4** files. In a *Word* document named **video\_list.docx**, briefly describe the main content of each demo video file you have created. The video files will facilitate the lecturer to have in-depth evaluation of your web application. Here are some online tutorials for **Camtasia Studio 8** <http://www.techsmith.com/tutorial-camtasia-current.html> :  
     ***Getting Started: 1 - Record Full Screen*** :   
     <http://www.techsmith.com/tutorial-camtasia-record-full-screen.html>   
     ***Produce and Share an MP4 Video*** *:*   
     <http://www.techsmith.com/tutorial-camtasia-produce-and-share-mp4-video.html>

1. Assessment criteria of your project
   1. The functions implemented can perform correctly in *general* and *special* situations
   2. *Enough detail* of database records and extensive *data validation*
   3. Techniques used to promote *code reusability* (e.g. share common PHP/JavaScript/CSS files amongst different web pages) and *standardize the user-interface* of the web pages
   4. Coding style (e.g. indentation, meaningful variable names, modularity by user-defined functions etc.) and meaningful *comment* is added to program codes
   5. *Creativity* to enhance implemented functions so that they become easy to use, more interactive to the users or can handle some problems in real life situation
   6. Screen design and overall *quality of the integration* of different functions in the web site
2. A guideline for web development

It is a step-by-step approach I suggested for inexperienced web developers to develop the web site easily:

* decide what information to be displayed and design a number of web pages in HTML code (not PHP code at this stage) to display the information
* think about the site structure by creating different sub-folders to store files of different purposes (e.g. **images** folder to store image files, **style** folder to store CSS files, **Connections** folder to store files which define the settings for database connection) and design the linkages between the pages. You can easily view the site structure using DW8's site map view
* create HTML web pages (do not add JavaScript so soon) and design the layout with HTML codes and CSS rules. It is a good practice to check your .html files can pass the XHTML validation after completing a .html file
* when using CSS, it is preferred to create *external CSS files* (stylesheets) which can be reused in other web pages, so that other pages can have consistent formatting
* use DW CS6's template features which can help you to create a new page with a standard layout and also it provides common editable regions for web pages created from the same template.
* define frameset(s) and navigation bar or menu to link up different pages
* add JavaScript code to produce more interactive behaviors (such as validate data in the form, highlight a table row with different background color when the mouse moves over a table row). It is preferred to use *external JavaScript file* which will be reused in other web pages
* replace hyperlink text with image / button to beautify the links. Dreamweaver can help you to create nice Flash buttons easily
* finally, it comes to the hardest work, that is to convert some of the HTML codes into PHP codes in order to generate dynamic contents from data extracted from database, cookie and PHP pre-defined arrays ($\_POST, $\_GET, $\_COOKIE, $\_SESSION, $\_FILES, $\_SERVER etc.)

1. Penalty for plagiarism

* Each student needs to submit his/her own work. Plagiarism (抄襲) will be treated seriously.
* All group projects that have been found involved wholly or partly in plagiarism (no matter these projects are from the original authors or from the plagiarists) will score ZERO marks. Furthermore, disciplinary action will be followed.

**Late submission will receive ZERO marks**