COMP1041 Coursework2:
Face Mask Sales Management Website

Introduction

Woolin Auto is an automobile manufacturer based in China. During the COVID-19 period, the company decides to open a product line of face mask manufacturing, in order to mitigate the big gap between the demand and supply both inside and outside China. Recently, as the COVID-19 becomes pandemic abroad, the company would like to setup a business sector that is responsible of overseas sales of the produced face masks. The manager of the sector would like to adopt a face mask Sales Management System (SMS) to ease the management process. As one of the talented IT specialists in Woolin Auto, you are the one chosen to design and implement this SMS. Apart from that, if you copy any code from others or let someone else develop this SMS, the manager will be disappointed and immediately report this to me. Plagiarism leads to a zero mark for this coursework.

The manager asked you to build a website that provides the following basic functionalities:

1. Allow customers to order face masks or cancel the orderings.
2. Allow sales representatives (reps) to check and operate his/her sales.
3. Allow the manager to perform admin tasks and check the sale statistics.

You will need to apply all the knowledge that you acquired throughout the DBI course. **The deadline is 4 pm on Friday, the 29th of May**. Late submission will result in 5 marks loss per day and you cannot submit after 4 pm on Wednesday, the 3rd of June.

This assessment contributes 25% towards the overall module grade.

- For students who can properly access cslinux on campus or via VPN, your submission will be examined on the school's cslinux server, thus **your code MUST work on the PHP and MySQL installations on cslinux**.

- For students who cannot properly work on cslinux being affected by the COVID-19 situations,

  ✦ Please work on your local **Windows or Mac** machine as you have done in the web development part of our DBI course. If you use other systems (Linux, etc.), please let us know immediately to help you find a solution.

  ✦ **For ALL students who cannot work on cslinux**: Please notify us your project setup information, including your name, student ID, reason of being unable to access cslinux (please attach the form of absence issued by the university), your operating system, the name and link for all the software you use for the project and their versions, and a short video or word doc to show your step-by-step installation on your local machine (We need this information to properly replicate your environment on our evaluation machine). Please send the info to all three of your lecturers using your UNNC email. **The deadline of this notification is Friday 4pm, 4th May, 2020.** Any late notifications or no responses would be regarded as being able to properly work on the cslinux server in our school.

For submissions, you will need to submit all the required materials on Moodle, as will be described in the "deliverables" section below.

Core Functionality

Below is the detailed description of the minimum functionality expected in the SMS. You must use this specification to develop the functionality of the system. You may apply your own judgement to any detail that is not precisely specified below.

The website must allow a face mask buyer, a.k.a. customer, to order face masks or cancel the ordering within 24 hours with no restrictions. During the ordering process,

the customer must appoint one of the regional sale reps to contact the customer for the purchase details. Thus, the customer and the sales rep must belong to the same region. In this project, you can treat the 'region' as an acronym of 'country', such as Italy, US, etc. A registered customer should have a username, customer's real name, passport ID, telephone number, region, and email address. There is no current requirement for customers to be able to update their details, but you may add this functionality if you wish. To log in, a customer is required to input his username and password correctly. Your website must allow new users to be registered.

Sales reps are assigned by the manager. An assigned sales rep should have a username, real name, employee ID, telephone number, region, and email address. In addition, a sales rep possesses a quota, which is the maximal number of face masks he/she is allowed to sell <u>to all his/her customers</u>. The quota can be granted, re-granted, or updated by the manager. A sales rep is not allowed to modify the ordering record of a customer, but has the privilege to delete the ordering record if the customer's ordering amount exceeds his or her quota. Moreover, if 24 hours has elapsed since the initialization of a customer's ordering and this ordering violates the quota, the sales rep cannot delete it and the ordering is considered as completed and sold. The manager should subsequently be notified of this anomaly when he logs in to the system. The sales rep needs to appropriately view and operate the orderings activities as in his/her roles. The ordering should have a ordering ID, the mask types, the quantity, the amount of sales, and the customer information that make that ordering.

Woolin Auto manufactures three types of face masks: N95 respirators, surgical masks, and surgical N95 respirators. The manager is responsible of monitoring the selling status of the masks. To name a few, the manager needs to know the total no. of masks sold (w/ or w/o anomalies), total revenues, masks sold by a specific sales rep, masks sold in a region, masks under ordering, masks sold in the past weeks, statistics (such as sum, average, count) of a customer, etc. The manager can only assign a sales rep to

one region. A customer can make multiple orderings and purchase more than one type of masks.

CW2 Deliverables

Submit a zipped file on the CW2 submission entry in Moodle (To be created).

The name of the zip file should follow this format: YourID_givenName_familyName.zip

For example: 123456_John_DOE.zip

In the root folder of the zip file, you need to include:

1. A report called "Reference.pdf" that contains the structure your SMS, the technical details of your design and implementation.
    a. Your Entity-Relationship Diagram,
    b. Your SQL "create table" statements, they must be valid ones.
    c. A brief discussion on why/how your design will work.
    d. A walk through of your SMS, including brief explanation and screenshots of each aspect you have done.
    e. What external libraries are used?
2. A folder called "src", storing all your <u>original</u> code. Your SQL scripts used to create your tables should also be stored in this folder. Automatically generated JavaScript or PHP code is NOT considered to be original.
3. A folder called "published", storing the generated code. If you code everything yourself, you don't need to create this folder.
4. A folder called "test" that contains a demo test data and instructions on how to test your system, including a guidance for us to open your website on cslinux.

Technological Requirements

The website and its information must be written using the technologies presented during the course of this lecture.

- **MySQL** - Should be used to store the information used in this system (All data required to run your implemented SMS).
- **PHP -** Should be used to authenticate users and manage the data being used in the system.
- **HTML, CSS, and JS** - Should be used to specify the structure of the interface (the website) and its data that users interact with, to inform the styling and aesthetic appearance of the SMS, and for client-side validation and dynamic updates of the website (if necessary).

Third party libraries **can** be used but **must be fully open source** whose license allows for use in a commercial/enterprise setting. You must detail any third-party libraries used in the reference document.

Your system **must be** deployed and operational on the school's cslinux server. You may not use external, third party hosting providers.

You should test your final website on a variety of different browsers but should ensure it displays well on the latest version of Google Chrome or Firefox. There is no requirement for this coursework to render well on a mobile device, but only a desktop environment. Your SMS should function and appear as desired on the university's lab machines.

Your system will be tested in the latest version of Google Chrome and Firefox on a monitor with a resolution greater than (or equal to) 1366x768.

Notes

Here are some general notes/warnings regarding the coursework. (Note - this might get updated during the coursework period as new questions/observations come in.)

- Be careful with PHP versions, *cslinux* runs a particularly old (PHP 5.3.3) version of PHP. Ensure that any language features or libraries you use are compatible with the installed version of PHP. No updates or software installation will be performed.
- It is important that you use images legally! You can search for images licensed under creative commons. To do so, you need to filter the image search results using creative commons license.
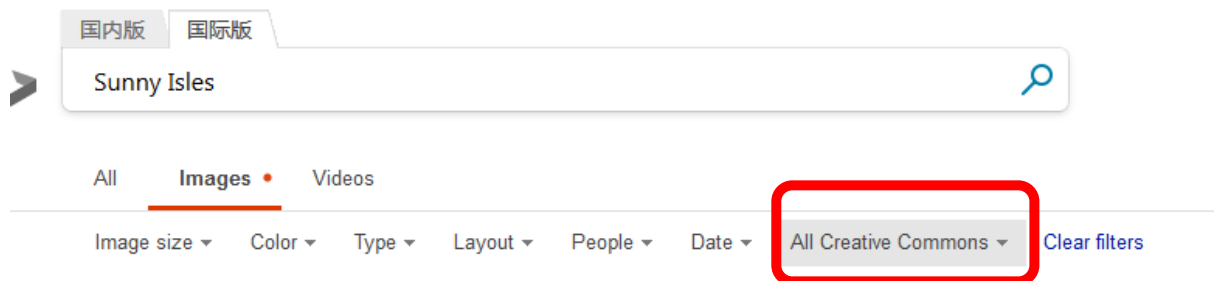
- Using library is permitted. But using someone else's template is considered to be plagiarism! This leads to zero mark.
- Validation. Remember what you were taught in class, validate both on the client and server side. Security and data integrity is a key aspect of web based systems. Ensure that your application correctly handles any input data from users.