IS224

Advanced Database Systems

MOTOR VEHICLE POOL TRACKING SYSTEM

ASSIGNMENT 2

15%

Due Date:

16th October, 2017

Create DB using MySQL

PhP Programing

Creativity is Tested

USP

THE UNIVERSITY OF THE SOUTH PACIFIC

Semester 2, 2017

Scenario

Each semester Sky University faculty members may use the vehicles owned by Sky University for officially sanctioned travel. In this course we will attempt to automate this process by creating a web-based system using PHP and MySQL. The specific requirements/features of this system are explained below.

Assessment Overview

- Faculty members may use the vehicles owned by Sky University for officially sanctioned travel. For example, the vehicles may be used by faculty members to travel to off-campus learning centers, to travel to locations at which research papers are presented, to travel to outreach programs hosted at different local schools, and to travel for public service purposes. The vehicles used for such purposes are managed by Sky Travel University's Center **(STUC)**

- Using reservation forms, each department can reserve vehicles for its faculty, who are responsible for filling out the appropriate trip completion form at the end of a trip. The reservation form includes the expected departure date, vehicle type required, destination, and name of the authorized faculty member. The faculty member who picks up a vehicle must sign a checkout form to log out the vehicle and pick up a trip completion form. (The STUC employee who releases the vehicle for use also signs the checkout form.) The faculty member's trip completion form includes the faculty member's identification code, the vehicle's identification, the odometer readings at the start and end of the trip, maintenance complaints (if any), gallons of fuel purchased (if any), and the Sky University credit card number used to pay for the fuel. If fuel is purchased, the credit card receipt must be stapled to the trip completion form. Upon receipt of the trip completion form, the faculty member's department is billed at a mileage rate based on the vehicle type used: sedan, station wagon, panel truck, minivan, or minibus.

- All vehicle maintenance is performed by STUC. Each time a vehicle requires maintenance, a maintenance log entry is completed on a pre-numbered maintenance log form. The maintenance log form includes the vehicle identification, a brief description of the type of maintenance required, the initial log entry date, the date the maintenance was completed, and the name of the mechanic who released the vehicle back into service. (Only mechanics who have an inspection authorization may release a vehicle back into service.)

- As soon as the log form has been initiated, the log form's number is transferred to a maintenance detail form; the log form's number is also forwarded to the parts department manager, who fills out a parts usage form on which the maintenance log number is recorded. The maintenance detail form contains separate lines for each maintenance item performed, for the parts used, and for identification of the mechanic who performed the maintenance. When all maintenance items have been completed, the maintenance detail form is stapled to the maintenance log form, the maintenance log form's completion date is filled out, and the mechanic who releases the vehicle back into service signs the form. The stapled forms are then filed, to be used later as the source for various maintenance reports.
- STUC maintains a parts inventory, including oil, oil filters, air filters, and belts of various types. The parts inventory is checked daily to monitor parts usage and to reorder parts that reach the "minimum quantity on hand" level. To track parts usage, the parts manager requires each mechanic to sign out the parts that are used to perform each vehicle's maintenance; the parts manager records the maintenance log number under which the part is used.
- Each month STUC issues a set of reports. The reports include the mileage driven by vehicle, by department, and by faculty members within a department. In addition, a detailed parts usage report is also filed each month. Finally, a vehicle maintenance summary is created each month.

- Considering the growing use of the vehicles, the STUC wants a computerized web-based Vehicle system that incorporates the above functionality and adds on some more abilities.

What to do

This assignment must be done in teams of, three students. You are required to choose team member(s) and an appropriate team name. Teams consisting of more than three students will not be accepted without approval.

1 Implement the Online Motor Vehicle Pool Tracking System (MVPTS). The MVPTS should be able to do the following:

- **STUC Admin should be able to:**
  - Login!
  - View, create ,update and delete a vehicle
  - View a list of vehicles of the system – **vehicle Report.**
  - View, create, update and delete mechanics.
  - View a list of mechanics who have an inspection authorization may release a vehicle back into service
  - View a list of employees of the system.
  - View, create, update and delete vehicle maintenance information/details. This is to specify the vehicles that enter a maintenance log at a given day.
  - View a list of details that contains separate lines for each maintenance item performed, for the parts used, and for identification of the mechanic who performed the maintenance– **vehicle maintenance information summery Report.**
  - View, create and update vehicle maintenance log action.
  - View a list that includes the vehicle identification, a brief description of the type of maintenance required, the initial log entry date, the date the maintenance was completed, and the name of the mechanic who released the vehicle back into service – **vehicle maintenance action summery Report.**

- View, create and update parts inventory.
- View a list of all part types on hand, the units/parts that are involved in each maintenance item performed along with the cost.- **parts Report**
- View a list of parts sign outs used to perform each vehicle's maintenance – **sign-out report**

- **Mechanics should be able to**:
  - Login!
  - View, create, update, or delete sign outs for parts – mechanics are requires to sign out the parts that are used to perform each vehicle's maintenance
  - View a list of parts sign outs used to perform each vehicle's maintenance– **sign-out report**
  - Add and update vehicle maintenance log action
  - View a list of all vehicles under maintenance (log action)
  - View, create and update a vehicle log line
  - View a list of details that contains separate lines for each maintenance item performed, for the parts used, and for identification of the mechanic who performed the maintenance– **vehicle maintenance information summery Report.**
- **Sky University Employees**
  - Login!
  - View vehicles for availability

- The system should display the current vehicle details on the homepage of the system so that anyone can see the current status of all vehicles.
- Include a help section/page so that it is easy to learn how to use the system.

Note:

You may add more forms or features to your application if you need to do so. BUT your online motor vehicle pool tracking system should at least provide the features listed above.

2 You are required to use **MySQL** database, **PHP version 5 with mysqli as the API**, and **HTML** to implement this system. You can make use of JavaScript, CSS, AJAX, jQuery ,Classes and objects, etc to design your website.

3 Create your own database structure (tables) using your MySQL database. As a guide refer to the Motor Vehicle Pool Tracking System ERD file available on Moodle under assignment 2 specification, include all SQL script you used to create the tables in your MySQL database. The script should be named according to the team name, for example; ***Orions_Belt.sql.***

4 You are required to generate your **own test data** for this assignment. Make sure your team has tested your system with valid operational data as well as some exceptional or invalid data.

5 Marks will also be awarded for original, user friendly and elegant design.

Individual Development Tasks

Each member must choose only one of the following feature sets and implement all the forms/reports that fall under the particular feature set. For example, Feature Set 1 will be done by member 1, Feature Set 2 will be done by member 2, and finally, Feature Set 3 will be done by member 3. You will present your own feature set during the Presentation Session.

Manage = CRUD - Create, Read, Updated and Delete ***Refer to the specific forms and reports as illustrated on page 3 & 4***		
Feature Set 1	**Feature Set 2**	**Feature Set 3**
STUC Admin • Manage vehicles • Manage vehicle maintenance	**STUC Admin** • Manage mechanics • Manage parts inventory	**Mechanics** • Manage maintenance • Manage parts (sign-outs only)

Team Development Tasks

All members of the team will need to collaborate to complete the following features:

Form
Login form
Help section page/Form
View vehicles for availability
Search form Vehicle: We expect users to search for vehicles using type/description
Search form Mechanics: We expect users to search for mechanics that inspected the vehicles using employee's names.
Search form Vehicle maintenance: We may search for maintenance logged/performed using for a particular date

Submission Instructions

Submission in this particular case would mean to finish implanting the system and the SQL script by the due date set for this assignment - **Monday, 16th October, 2017. 11:55 PM (Fiji Standard Time (FST))**. We will not accept "corrected versions" submitted through other channels, nor will we accept late assignments.

1. Submit/Upload the ZIP file containing all files used in developing the online motor vehicle pool tracking syste and the SQL script using the "Assignment 2 DropBox" link that is available under "Course Assessments" block on Moodle.
2. Name the ZIP file as the SXXXXXXXX_SYYYYYYYY_SZZZZZZZZ _ SWWWWWWWW .zip where SXXXXXXXX_SYYYYYYYY_SZZZZZZZZ and SWWWWWWWW are the Student IDs of the team members.
3. LATE SUBMISSION OR INCORRECT SUBMISSION = ZERO (0) ASSESSMENT MARK AWARDED.

Presentation

All Laucala Campus students will be required to demonstrate/present their systems to the marker in week 14. I will make the signup sheets available on Moodle (at a later date) and your team will be required to sign up for one of the sessions and demo/present the system to the marker. ALL team members MUST be present for the demo (if you doing the assignment in teams). Each presentation will last a maximum of 15 minutes. You are required to explain and show how your online motor vehicle pool tracking system works, and how the user will use the system. The marker will also ask you to explain how the system works and explain PHP code, etc. There is no need for you to make any PowerPoint presentations. You will be required to demo the system that you upload on Moodle. Any changes made to system after the due date will not be considered. DO NOT change your database after the due date as this may result in your team getting ZERO!

Plagiarism

Any kind of plagiarism or cheating like submission of work that is not your own will lead to a ZERO (0) score AND you will be subject to disciplinary action. Discussing is permitted however you must avoid giving the team's working copy or the final assignment file to anyone. This increases the risk of your team assignment being cited as a plagiarized work.

No two teams should submit same or similar documents. All such cases will be dealt with severely including a mark of zero (0) and possible disciplinary action.

Note: If you need clarifications while doing this assignment, you may post a message on the **Assignment 2 Help! Forum** located on the IS224 Course Page under the Assessments block. Students are advised to read through the responses for postings made by other students before posting their own to avoid repetition of the queries.

Good Luck!