MIS3306 Database Management Systems

Project 1

40 points

* *Names and Contributions* (5 points deduction for insufficient information)

Clearly list the names in your group and describe the contribution of each member. The list below is an exemplary list of contributions. Your team members may have other contributions but you have to describe clearly.

* + Craft the idea: describe the organization and the database needs
  + Craft the idea: describe the database systems
  + Draw the ER diagram
  + Refine the ER diagram
  + Call meetings, coordinate tasks, and manage schedule
  + Other contributions: please describe clearly

**Answer:**

|  |  |
| --- | --- |
| Group Member Name | Contribution (pick from the list or describe yourself) |
| Shamila Fernandez | * + Craft the idea: describe the database systems   + Draw the ER diagram   + Refine the ER diagram   + Draw the ER diagram   + Craft the idea: describe the organization and the database needs |
| Estell Simmons | * + Craft the idea: describe the database systems   + Refine the ER diagram   + Draw the ER diagram   + Call meetings, coordinate tasks, and manage schedule   + Craft the idea: describe the organization and the database needs |
| Karim El Issa | * + Craft the idea: describe the database systems   + Refine the ER diagram   + Draw the ER diagram   + Craft the idea: describe the organization and the database needs |
| Aaron Alex | N/A |
|  |  |

# This document includes three sections:

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# Learning Objectives

From the project 1 you and your team will learn the following objectives in team works:

1. (Module 3) Identify the relational model’s basic components
2. (Module 3) Describe the relational database model’s logical structure – tables and their characteristics
3. (Module 3) Explain functional dependence, types of keys, and integrity rules
4. (Module 3) Identify appropriate entities and the relationships among the entities in the relational database model
5. (Module 4) Describe how relationships between entities are defined, refined, and incorporated
6. (Module 5) Describe the main extended entity relationship (EER) model constructs and how they are represented in ERDs and EERDs
7. (Module 5) Describe the characteristics of good primary keys and how to select them

# Requirements

You must read the Project Guidance for detail requirements before working on the project questions below.

# Project Questions

1. (10 points) Project Description

The description should include two paragraphs:

(1) Describe the (real or fictitious) organization (what it does) and the main problems/challenges (why it need databases).

(2) Describe the database system in your project, including the specifications of the users, applications, functions, and the database management system.

**Answer :** The car dealership, “Everything Must Go” recently implemented a MySQL database to create a website that keeps record of vehicle types, customers, sales associates, and all sales that are processed. Before the implementation of this database, there was no  
structure or organization within the company. Sales associates would undercut each  
other ultimately stealing sales and commission. Customers having knowledge of this  
disorderly conduct would seek out sales associates that were participating in deceptive  
business practices. Sale orders were not processed efficiently, or in a timely manner  
resulting in inaccurate inventory and availability being displayed to customers shopping  
online before visiting the lot caused a bad customer experience.  
The dealership offers a variety of vehicles; coupes, motorcycles, trucks and sedans for  
the customer to choose from. Upon entering the dealership, customers are greeted by  
one salesperson, the customer only has one salesperson. Salesperson may encounter  
several customers in one day and are assigned to those customers whether the  
customer purchases the day of or weeks later by creating a sales order slip. The  
salesperson creates a sales order slip specific to the customer and the vehicle type;  
each sales order can only have one vehicle listed per slip, but the customer is able to  
purchase as many vehicles as they choose. There is a slip created for each vehicle  
purchased that list vehicles type, customer and salesperson. Since the new database,  
salespersons are able to keep track of their customers, all sales orders whether  
complete or not are to be entered into the system and the system will alert the sales  
person that all the information is not complete forcing the sales person to provide a  
follow up date and notate the next course of action for this customer before moving on,  
if sales person does not provide follow up information on incomplete sales slip they must  
remove the slip from the system.

1. (25 points) Design ERD for the Database

Design and draw the ER model for the database. The diagram should specify entities, attributes, relationships (e.g., identifying/non-identifying, one-to-one/one-to-many, etc.), and cardinalities (e.g., maximum/minimum cardinalities) for the database.

**Answer:**

A diagram of a company

Description automatically generated

1. (5 points) Idea Creativity and Technical Difficulty

This is for grading purpose only. Do not answer here.