Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
College of Computer and Information Sciences
Sta. Mesa, Manila

# DATABASE ADMINISTRATION
# FINAL PROJECT

## I. Project Title (e.g. Learning Management System)

## II. Description

A website description is a brief statement or summary that provides an overview of what a website is about, what it offers, and who it is intended for. It should be concise and clear, and should give users an idea of what to expect when they visit the website. A website description may include information about the website's purpose, the products or services it provides, its target audience, and any unique features or benefits that set it apart from other websites. A good website description can help attract and engage visitors, and can help establish the website's brand and identity.

**Example:**

A learning management system (LMS) is a software platform that facilitates the delivery and management of online learning content, courses, and training programs. It allows users to create, organize, and deliver learning materials, track and monitor learner progress, and evaluate performance.

The LMS typically provides a user-friendly interface for learners to access course materials and engage in learning activities such as quizzes, assignments, and discussion forums. Instructors or course administrators can use the system to create and manage course content, set assessment criteria, and monitor learner progress and engagement.

LMSs also typically provide features for reporting and analytics, allowing administrators to track learner progress, evaluate course effectiveness, and generate insights into learner behavior and engagement.

Some key benefits of using an LMS include increased flexibility and accessibility for learners, improved tracking and reporting capabilities, and the ability to deliver consistent training across a geographically dispersed audience.

## III. Purpose

The purpose of a website is to provide information, products, or services to users who visit the site. Websites can serve a variety of purposes, such as providing a platform for communication, e-commerce, marketing, education, entertainment, or social interaction. The purpose of a website depends on the goals and objectives of the organization or individual who created it, as well as the needs and interests of the intended audience.

**Example:**

The purpose of a learning management system (LMS) is to provide a centralized platform for delivering, managing, and tracking learning content and training programs. LMSs are used by educational institutions, corporations, and government organizations to deliver online training, e-learning, and distance learning programs.

## IV. Database Schema

A database schema is a blueprint or a plan that defines the structure of a database, including tables, columns, relationships, and constraints. It provides a framework for organizing and storing data in a database, and ensures that data is stored in a logical and consistent manner. A database schema defines the entities (objects or concepts) that are stored in the database and the attributes (properties) of those entities. It also specifies the relationships between different entities and the constraints that apply to those relationships. By providing a clear and structured way of organizing data, a database schema makes it easier to maintain and manage a database, and to ensure that data is accurate and consistent over time.

**Example:**

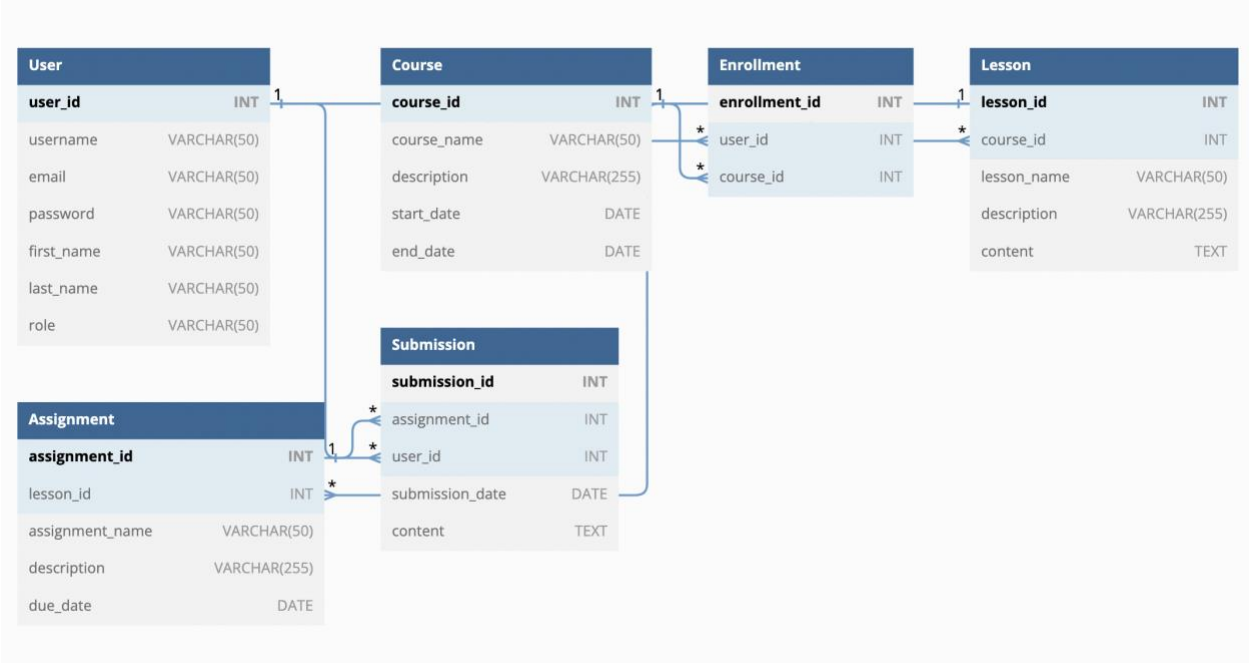
**A. SQL Command**

```
CREATE TABLE User (
  user_id INT PRIMARY KEY,
  username VARCHAR(50) NOT NULL UNIQUE,
  email VARCHAR(50) NOT NULL UNIQUE,
  password VARCHAR(50) NOT NULL,
  first_name VARCHAR(50) NOT NULL,
  last_name VARCHAR(50) NOT NULL,
```

```
  role VARCHAR(50) NOT NULL
);

CREATE TABLE Course (
  course_id INT PRIMARY KEY,
  course_name VARCHAR(50) NOT NULL,
  description VARCHAR(255) NOT NULL,
  start_date DATE NOT NULL,
  end_date DATE NOT NULL
);

CREATE TABLE Enrollment (
  enrollment_id INT PRIMARY KEY,
  user_id INT NOT NULL,
  course_id INT NOT NULL,
  FOREIGN KEY (user_id) REFERENCES User(user_id),
  FOREIGN KEY (course_id) REFERENCES Course(course_id)
);

CREATE TABLE Lesson (
  lesson_id INT PRIMARY KEY,
  course_id INT NOT NULL,
  lesson_name VARCHAR(50) NOT NULL,
  description VARCHAR(255) NOT NULL,
  content TEXT NOT NULL,
  FOREIGN KEY (course_id) REFERENCES Course(course_id)
);

CREATE TABLE Assignment (
  assignment_id INT PRIMARY KEY,
  lesson_id INT NOT NULL,
  assignment_name VARCHAR(50) NOT NULL,
  description VARCHAR(255) NOT NULL,
  due_date DATE NOT NULL,
  FOREIGN KEY (lesson_id) REFERENCES Lesson(lesson_id)
);

CREATE TABLE Submission (
  submission_id INT PRIMARY KEY,
  assignment_id INT NOT NULL,
  user_id INT NOT NULL,
  submission_date DATE NOT NULL,
```

```
  content TEXT NOT NULL,
  FOREIGN KEY (assignment_id) REFERENCES
Assignment(assignment_id),
  FOREIGN KEY (user_id) REFERENCES User(user_id)
);
```

### B. Database Diagram




## V. Table Description

A table description in SQL is a set of instructions that define the structure and characteristics of a table in a relational database. A table description includes information such as the name of the table, the names and data types of its columns, and any constraints or rules that apply to the data stored in the table.

| **Table Description: table_name** | |
|---|---|
| **Purpose** | [Provide a brief explanation of the purpose of the table] |
| **Columns** | [List all the columns here] |

| **Column Name** | **Data Type** | **Constraint** |
|---|---|---|
| column1 | datatype | constraint |
| column2 | datatype | constraint |
| … | … | … |

| **Constraint Name** | **Type** | **Columns** |
|---|---|---|
| constraint1 | type | column1 |
| constraint2 | type | column2 |
| … | … | … |

Populate the table with data:

| **column1** | **column2** | **…** |
|---|---|---|
| value1 | value1 | … |
| value2 | value2 | … |
| value3 | value3 | … |
| … | … | |

## VI. SQL Queries

SQL queries for websites are commands written in SQL that retrieve data from a database and display it on a website. These queries are typically used to populate web pages with data, perform search operations, and provide functionality such as login authentication, user registration, and data manipulation. SQL queries can also be used to update or modify data in the database based on user input, such as inserting new records, updating existing records, or deleting records.

**Example:**

1. Retrieve all users who are enrolled in a specific course:

```
SELECT User.first_name, User.last_name
FROM User
JOIN Enrollment ON User.user_id = Enrollment.user_id
```

```
JOIN Course ON Enrollment.course_id = Course.course_id
WHERE Course.course_name = 'Course Name';
```

**Description:** This query joins the User, Enrollment, and Course tables to retrieve the first name and last name of all users who are enrolled in a specific course.