**GUIDE**   
**( Goals for Understanding and Improving Daily Education ) Database**   
**Project Documentation**

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**PROJECT OVERVIEW**   
 GUIDE is a user-friendly time management application designed to maximize daily learning for both teachers and students. In addition to offering an inbuilt timer to monitor study periods and breaks, it assists users in creating and organizing to-do lists for educational assignments. Users can increase productivity and learning results by using GUIDE to effectively organize their daily educational tasks, maintain attention, and develop their time management skills.. This database system serves as a practical implementation of the concepts learned in the Database Management System course, such as database design, SQL scripting, and data manipulation.

**ENTITY-RELATIONSHIP DIAGRAM (ERD)**   
 The ERD represents key entities in GUIDE, including Users, User Activity, and Page Session. Each entity has attributes essential for data management.

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Figure 1. Entity Relationship Diagram

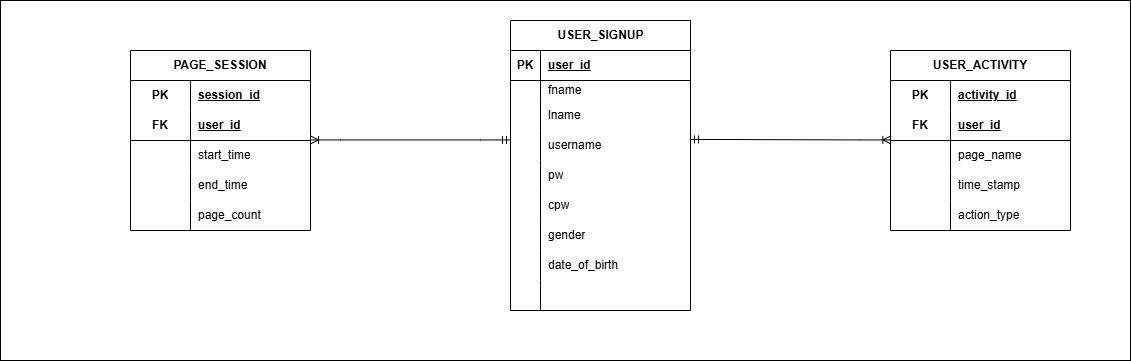


Figure 2. Entity Relationship Diagram

**Entities and their Relationships**

|  |  |  |
| --- | --- | --- |
| **1.** | **Users and User Activity** | |
|  | **Type**: One-to-Many (1:N) |
|  | **Description**: Each user can have one or more user activity, but each user activity must only |

belong to one user.

|  |  |  |
| --- | --- | --- |
| **2.** | **Users and Page Session** | |
|  | **Type:** One-to-Many (1:N) |
|  | **Description:** Each user can have multiple page session, but each page session must be |

associated to only one customer.

**SQL SCRIPTS**

 Create Database

**CREATE DATABASE USER\_DB;**

 Use databases

**USE user\_db;**

 Create Tables

**CREATE TABLE USER\_SIGNUP (**   
**user\_id INT AUTO\_INCREMENT PRIMARY KEY,**   
**fname VARCHAR(255) NOT NULL,**   
**lname VARCHAR(255) NOT NULL,**   
**username VARCHAR(255) NOT NULL,**   
**pw VARCHAR(255) NOT NULL,**   
**cpw VARCHAR(255) NOT NULL,**

**gender CHAR(1),**   
 **date\_of\_birth DATE**   
**);**

**CREATE TABLE USER\_ACTIVITY (**   
 **activity\_id INT AUTO\_INCREMENT PRIMARY KEY,**   
 **user\_id INT,**   
 **page\_name VARCHAR(255),**   
 **timestamp TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,**   
 **action\_type VARCHAR(50),**   
 **FOREIGN KEY (user\_id) REFERENCES user\_signup(user\_id) );**

**CREATE TABLE PAGE\_SESSION (**   
 **session\_id INT AUTO\_INCREMENT PRIMARY KEY,**   
 **user\_id INT,**   
 **start\_time TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,**   
 **end\_time TIMESTAMP NULL,**   
 **page\_count INT DEFAULT 0,**   
 **FOREIGN KEY (user\_id) REFERENCES user\_signup(user\_id) );**   
*.*

**Here are the QUERIES used in the accessing of the database:**

 Inserting a record into the user\_activity table.

**- - INSERT INTO user\_activity (user\_id, page\_name, action\_type) VALUES (%s, %s, %s)**

 Selecting an active session from the Page\_Sessions table.

**- - SELECT session\_id FROM Page\_Sessions WHERE user\_id = %s AND end\_time IS NULL**

 Updating a session's page count in the Page\_Sessions table.

**- - UPDATE Page\_Sessions SET page\_count = page\_count + 1 WHERE session\_id = %s**

 Inserting a new session into the Page\_Sessions table.

**- - INSERT INTO Page\_Sessions (user\_id, page\_count) VALUES (%s, %s)**

 Retrieving user credentials from the USER\_SIGNUP table.

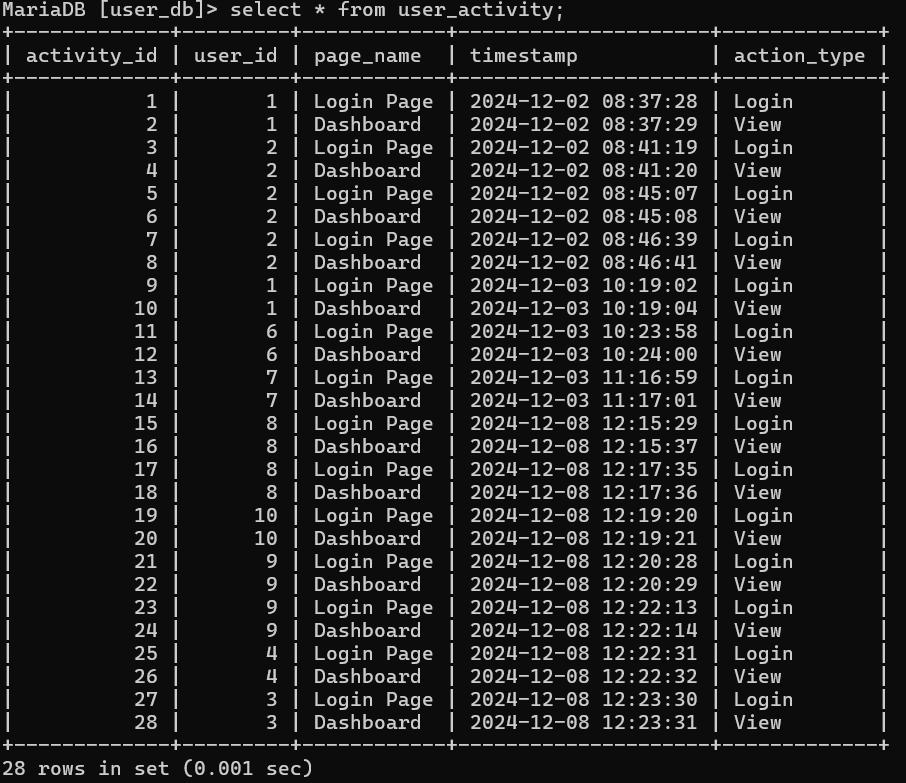
**- - SELECT \* FROM USER\_SIGNUP WHERE username = %s AND pw = %s**

**SAMPLE DATA**

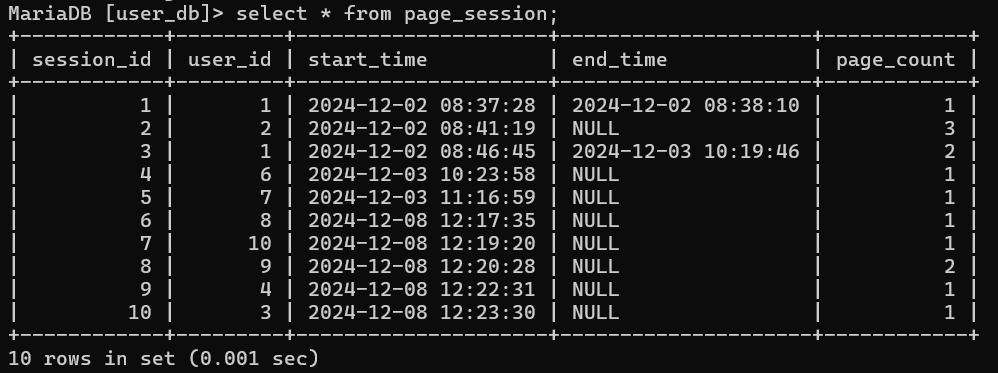
**User\_signup Database Data:**



**User\_activity Database Data:**



**Page\_session Database Data:**

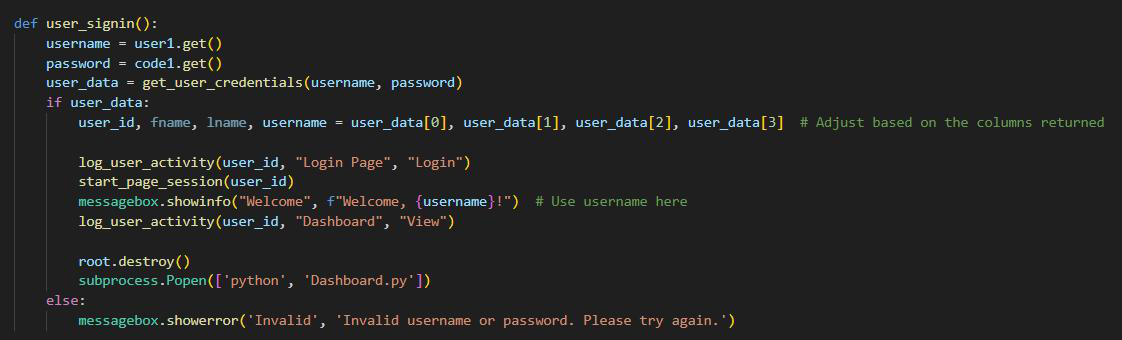


**Functions used in accessing of the database:**

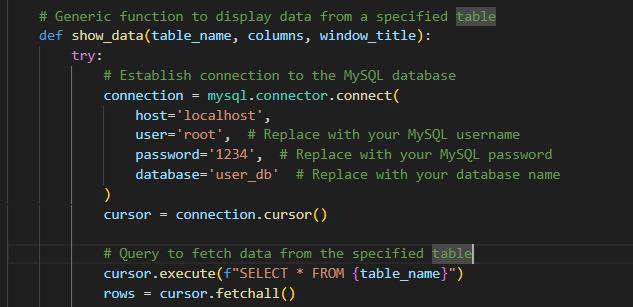
 **LoginPage.py**



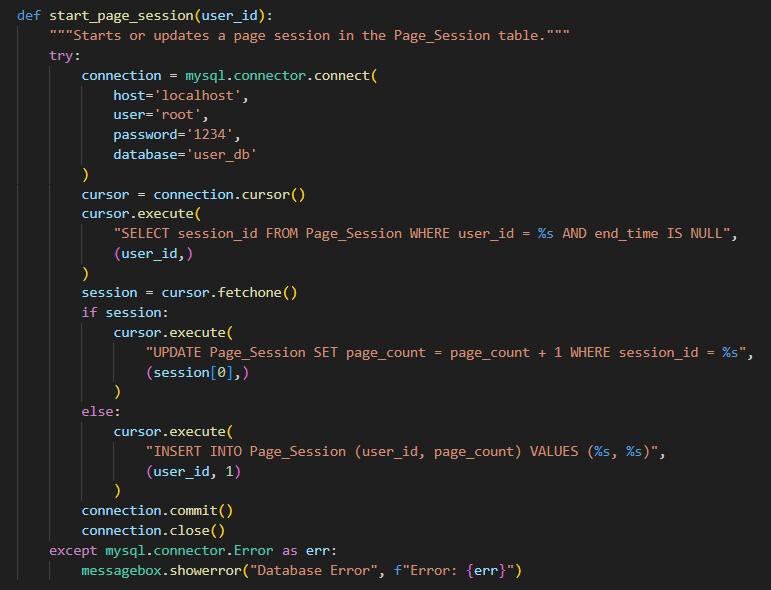


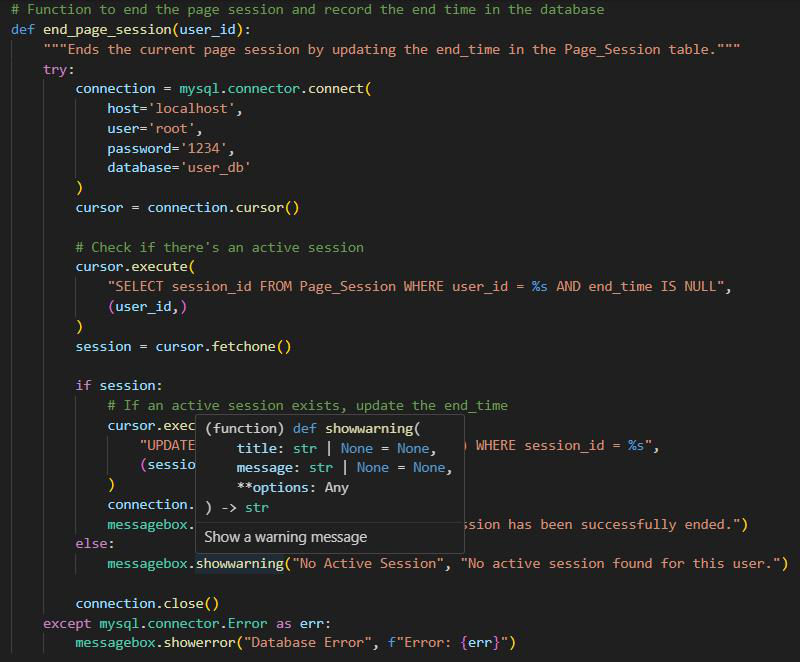


**AdminPage.py**



**Dashboard.py**





**Signup.py**

