

# Weekly Progress Report

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Domain: Python Development

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**Week Ending: 03**

## **I. Overview:**

Week 3 focused on enhancing the **usability, functionality, and backend logic** of the Quiz Game. Work was done to transition the quiz question source from local JSON files to a lightweight SQLite database. Additionally, efforts were put into building a user profile system, tracking multiple attempts, and displaying historical scores. The interface also received improvements in terms of design consistency and error handling.

## **II. Achievements:**

### **1. Database Integration:**

- Replaced the JSON-based question storage system with an SQLite database.
- Created tables for Questions, Categories, and UserScores to support a scalable structure.

### **2. Feature Expansion:**

#### **Name of the project:- PyQuiz**

- Added user login and session tracking for personalized quiz attempts.
- Developed a history view showing past quiz scores, topics attempted, and performance summary.

### **3. GUI Enhancements:**

- Improved layout using Tkinter grid() system for better component alignment.

- Added feedback messages for correct/incorrect answers and end-of-quiz stats display.

### III. Challenges:

#### **1. Database Query Optimization:**

- Faced issues with slow retrieval and incorrect joins between question and category tables.
- Solved using indexed foreign keys and parameterized queries.

### IV. Learning Resources:

#### 1. SQLite & Python:

- Followed SQLite tutorials from *Real Python* and *w3schools* for CRUD operations.
- Learned to integrate SQLite with Tkinter applications using `sqlite3` module.

#### **2. Educational App Design:**

- Studied UI/UX principles for learning apps, focusing on feedback loops and score visualization.
- Watched educational app teardown videos for gamification strategies.

### **V. Next Week's Goals:**

#### **1. Leaderboard Feature:**

- Build a leaderboard to compare top scores across users and quiz categories.
- Display best-performing users and encourage repeated playthroughs.

#### **2. Timer & Accessibility:**

- Add countdown timer per question with pause/resume option.
- Begin testing accessibility features like keyboard navigation and color-blind safe themes.

## **VI. Additional Comments:**

- Planning to conduct a demo session with 2–3 test users to gather feedback on game flow and motivation