ReDI School of Digital Integration

ReDI Student Management System

Python Hybrid final Project

by Akinsope Idowu

We use tech to connect human potential and opportunity with dignity & humility

Motivation Behind the Project

- *As ReDi school grows across locations and students number increases, a robust system is essential to manage students records effectively.*

- *Redi Admins can access course,grades, semester, and year all in one place and reduce manual work.*

- *This project gave me the opportunity to create an easy way to export ReDi student data while ensuring that sensitive student data is stored securely with only admin login.*

The Process

- **Step 1:** Created project blueprint
- **Step 2:** Listed out system functionalities (add, update, delete, search,view,export, exit tasks).

- **Step 3:** Created MySQL database schema to store student data.

- **Step 4:** System was designed using python OOP to implement functionality and Tkinter for GUI.
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- **Step 5:** Treeview was used to enhance output readability and allow easy scroll to view student data.

- **Step 6:** Try, Except was used for error handling.

Features & Functionality

- Admin can Login, show password and forgot password
- Add,Update,search,delete,view, export student data, exit
- Student data is updated in MySQL everytime a change is made.
- Student grades are calculated, updated and displayed automatically when student score is entered.
- Student Data is shown in a tabular form.
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- All data can be exported and stored locally in a csv file.

Results & Real-World Impact

- **Result:** A functioning and user friendly python application built to manage ReDI student records efficiently

- **Impact:**

  - Learning and real world application of Python OOP, Tkinter, MySQL

  - Project features can be improved.

  - Project can be included in my portfolio for job search

- **Real-world use case:** Project is useful for NGOs like ReDI to adopt technology for better efficiency.

Challenges & Solutions

- **Data Storage and Security:** `mysql.connector` was used to enable structured and secured data handling.
- **Authentication:** Login details is required to prevent unauthorised access to student data.

- **Data Export:** CSV writer allows data to be saved locally.
- **GUI :** Tkinter, TTK themes was used to improve visibility and overall user experience.

Conclusions & Future Improvements

- Attendance tracking and report card modules could be added
- Cloud data storage could be integrated.
- Data Visualisation tools like Matplotlib could be added to visualise and analise attendance trends.
- Email Integration to enable teachers send automated emails to students.

Potential Uses

- ReDI school admins for managing student records
- ReDI school teachers for updating student grades and monitor academic records.
- ReDI students for viewing their personal academic grades and emails from teachers.

Thank you!