UNIVERSITY OF CALOOCAN CITY
COLLEGE OF ENGINEERING
Phase 8A Package 11, Block 199, German Village, barangay 176 Bagong Silang, Caloocan City, 1428

PROGRESS REPORT NO.1	
Course Code: CpE201	**Program: CPE**
Course Title: Data Structure and Algorithm	**Date Performed: September 13, 2025**
Section: 2A	**Date Submitted: September 13, 2025**
Name: **Laput, Mark Danielle E.** **Sumel, Hendrix Nathan L.**	**Instructor:** Engr. Maria Rizette H. Sayo

1.Objectives

- To allow users (customers) to register, login, and place computer shop service orders.
- To provide administrators with the ability to view all orders, process them, and manage user accounts.
- To ensure account security using password hashing.
- To implement a simple yet interactive user interface using Jupyter widgets.
- To demonstrate database handling (SQLite) for persistent storage of users and orders.

2. Discussion

The Computer Shop Queue App shows how Python with SQLite and ipywidgets can make a simple but working system for handling orders. Storing users and orders in the database makes the data permanent, and the password hashing adds some security.

Having two roles, admin and customer, made the system organized. Customers just place and view orders, while admin can see everything, process orders, and manage accounts. The functions were separated well, so the code is easier to understand and can be improved later.
The outputs proved the system works: customers can submit orders, admins can process them, and settings can be updated. The interface with widgets also made it more friendly compared to plain code. Still, there are some limitations.

It only runs in Jupyter Notebook, admin needs to type order IDs manually, and it doesn't support many admins at the same time. But even with these, the project already works as a simple order management system and can be improved into a web or desktop app in the future.

3. Materials and Equipment

- **Desktop and Laptop**
- **Wifi Connection**
- **Google Colab and Github**

4. Procedure

Database Design:

- **Two tables were created:**
  - **users (for storing account credentials and roles).**
  - **orders (for storing customer orders linked to users).**

2. **User Authentication:**
   - **Passwords are hashed using SHA-256 for security.**
   - **Only registered users can log in, with role-based access (admin vs customer).**
3. **Customer Dashboard:**

- **Customers can place new orders.**
- **Customers can view their submitted orders.**

4. **Admin Dashboard:**
   - **Admin can view all customer orders.**
   - **Admin can process orders (change status from "Pending" to "Processed").**
   - **Admin can change account info and customize UI colors.**
5. **UI Implementation:**
   - **Interactive widgets (Text, Password, Button, Output, ColorPicker) are used for inputs and dashboard navigation.**

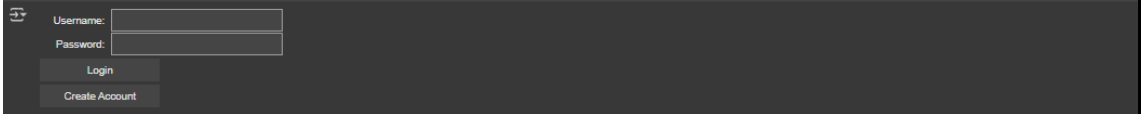
5. Output

```
            if new_username and new_password:
                update_account(self.current_user[0], new_username, new_password)
                with self.settings_output:
                    clear_output(wait=True)
                    print("Account info updated successfully.")
                    self.current_user = authenticate(new_username, new_password)  # Update the current user details
            else:
                with self.settings_output:
                    clear_output(wait=True)
                    print("Please enter a new username and password.")

    def apply_ui_changes(self, b):
        # Apply background and text color changes
        self.ui_colors['background'] = self.bg_color_input.value
        self.ui_colors['text'] = self.text_color_input.value
        display(f"Applied new UI settings: Background - {self.ui_colors['background']}, Text - {self.ui_colors['text']}")

        # Update the UI display colors dynamically
        display(widgets.HTML(f"<div style='background-color: {self.ui_colors['background']}; color: {self.ui_colors['text']}; padding: 20px;'>UI Customization Applied</div>"))

# Run the ComputerShopQueueApp
app = ComputerShopQueueApp()
```



6. Conclusion

The project of the Computer Shop Queue Application was able to meet its main goals. A working system was built where customers can register, login, and place their orders, while admins can check all orders, process them, and even manage account details. By using SQLite, the data stays saved, and with password hashing, the accounts are more secured.

The program showed how role-based access is important in keeping the system organized, and the use of ipywidgets made the interface more user-friendly compared to just console output. The flow of the app was simple: login first, then go either to the admin side or the customer side, depending on the account. Even though it has some limitations like only running in Jupyter Notebook, needing manual order ID input, and no support for multiple admins at once, the project still works well as a basic queue and order management system. It also opens up many chances for improvement, like making it into a full web or desktop app, adding more automation, and supporting more users.

In the end, this project showed how combining Python, database, and UI tools can create a practical system, and it gave good learning on how to handle user accounts, security, and data management.

UNIVERSITY OF CALOOCAN CITY
COLLEGE OF ENGINEERING
Phase 8A Package 11, Block 199, German Village, barangay 176 Bagong Silang, Caloocan City, 1428

Lab Activity Rubric

Criteria	Ratings						Pts
SO 7 PI 1 **Student Outcome 7.1** Acquire and apply new knowledge from outside sources. threshold: 4.8 pts	6 pts Excellent | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently and applies knowledge learned into practice	5 pts Good | Educational interests and pursuits exist and flourish outside classroom requirements,knowledge and/or experiences are pursued independently	4 pts Satisfactory | Look beyond classroom requirements, showing interest in pursuing knowledge independently	3 pts Unsatisfactory | Begins to look beyond classroom requirements, showing interest in pursuing knowledge independently	2 pts Poor | Relies on classroom instruction only	1 pts Very Poor | No initiative or interest in acquiring new knowledge	6 pts
SO 7 PI 2 **Student Outcome 7.2** Learn independently threshold: 4.8 pts	6 pts Excellent | Completes an assigned task independently and practices continuous improvement	5 pts Good | Completes an assigned task without supervision or guidance	4 pts Satisfactory | Requires minimal guidance to complete an assigned task	3 pts Unsatisfactory | Requires detailed or step-by-step instructions to complete a task	2 pts Poor | Shows little interest to complete a task independently	1 pts Very Poor | No interest to complete a task independently	6 pts
SO 7 PI 3 **Student Outcome 7.3** Critical thinking in the broadest context of technological change threshold: 4.8 pts	6 pts Excellent | Synthesizes and integrates information from a variety of sources; formulates a clear and precise perspective; draws appropriate conclusions	5 pts Good | Evaluate information from a variety of sources; formulates a clear and precise perspective.	4 pts Satisfactory | Analyze information from a variety of sources; formulates a clear and precise perspective.	3 pts Unsatisfactory | Apply the gathered information to formulate the problem	2 pts Poor | Gather and summarized the information from a variety of sources but failed to formulate the problem	1 pts Very Poor | Gather information from a variety of sources	6 pts
SO 7 PI 4 **Student Outcome 7.4** Creativity and adaptability to new and emerging technologies threshold: 4.8 pts	6 pts Excellent | Ideas are combined in original and creative ways in line with the new and emerging technology trends to solve a problem or address an issue.	5 pts Good | Ideas are creative and adapt the new knowledge to solve a problem or address an issue	4 pts Satisfactory | Ideas are creative in solving a problem, or address an issue	3 pts Unsatisfactory | Shows some creative ways to solve the problem	2 pts Poor | Shows initiative and attempt to develop creative ideas to solve the problem	1 pts Very Poor | Ideas are copied or restated from the sources consulted	6 pts
							Total Points: 24