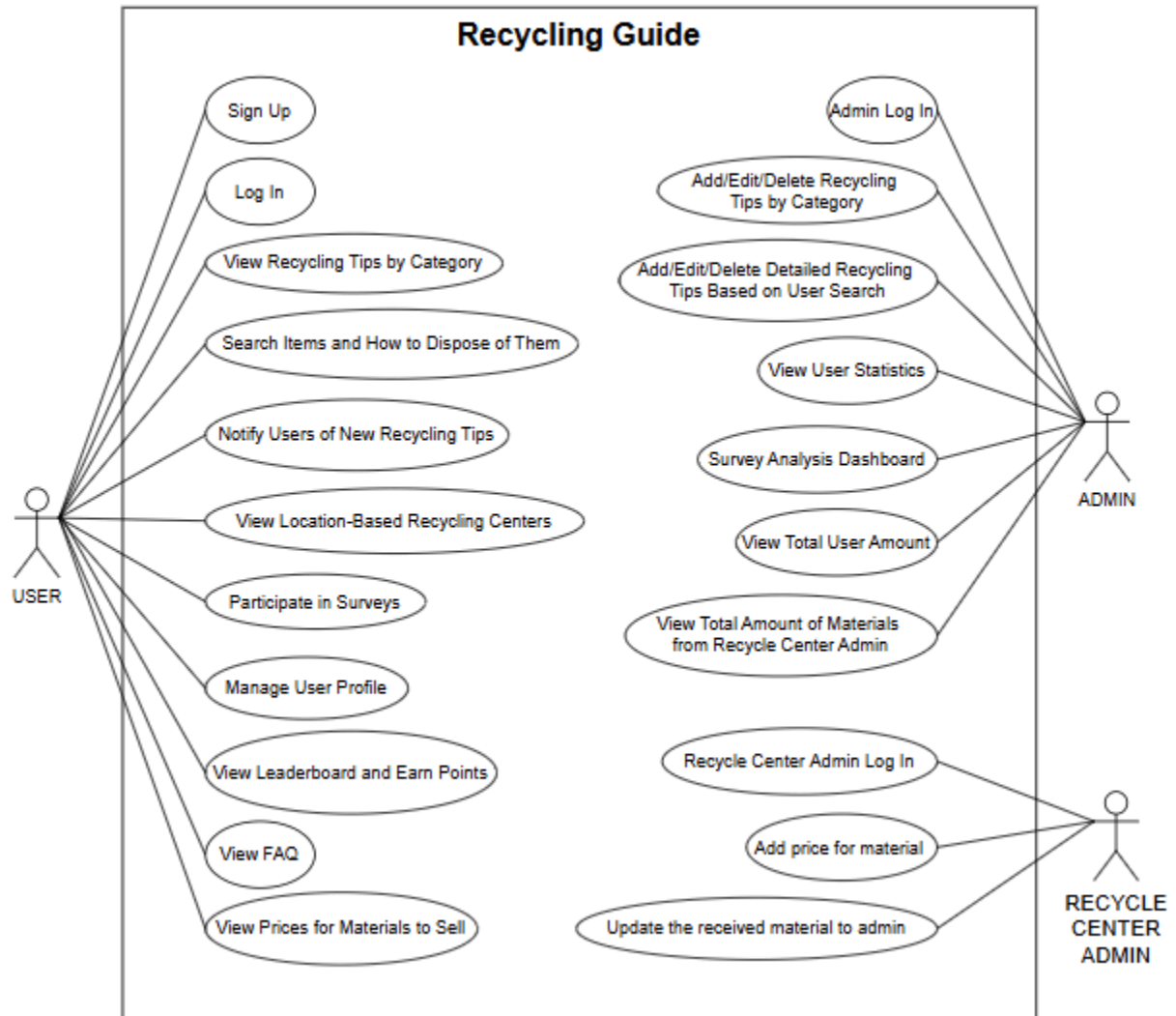


1. Develop Use Cases



2. Develop business rules

1. **User Registration:**

- Users must register with valid credentials (username, password) to access the system.
- Users must fill up all the personal information during registration including username, password, confirm password, email, phone number, gender, age and address.

2. **Recycling Tip Management:**

- All recycling tips are categorized based on material types (e.g., paper, plastic, metal).
- Users can search for specific items to view the method of how to dispose of them.

3. **Notify Users of New Recycling Tips:**

- Users will be **notified** when new recycling tips are published.
- Helps users stay updated with the latest recycling info.

4. **Recycling Tips Management:**

- Admin can add, edit, or delete recycling tips within specific categories.
- When adding a tip, ensure that the tip is categorized properly. When editing, only existing tips can be modified. Deleting a tip removes it from the system entirely.

5. **Category Management:**

- Admin can add new recycling categories to the system.
- Admin can edit existing recycling categories.
- Admin can delete existing recycling categories.
- The system validates category names upon creation or modification and rejects invalid entries.

6. **View Total Amount of Material from Recycle Center:**

- Admin can view the total amount of material collected at the recycling center.
- The system should categorize the materials by type (e.g., paper, plastic, metal) and display the quantity for each type.
- The total amount of material shown is updated in real-time or periodically, ensuring the system is up to date.

7. View User Recycle Category's Statistics:

- Admin can view statistics on which recycling categories (e.g., paper, plastic, metal) are most popular among users.
- Admin can view the number of users contributing to each category, the total weight or volume of materials recycled for each category, and the total number of submissions.
- The statistics are updated in real-time or periodically to reflect the latest user activities.

8. View Total Users:

- Admin can access the total number of registered users within the system.
- The system will provide a real-time update of the user count.

9. Survey Management:

- Surveys should be available for users to participate in at any time, and responses should be stored for analysis.
- Users can participate in a survey multiple times.
- Survey results will be analyzed and displayed on a Survey Analysis Dashboard for Admin.

10. User Profile Management:

- User profiles can be updatable by the user themselves, including their email, phone number, gender, age and address.

11. Leaderboards and Points :

- Users earn points by submitting daily proof of recycling.
- Users can submit multiple times per day to earn more points.
- Leaderboard ranks users based on total points.
- Rewards (e.g., badges) are given based on points accumulation.

12. FAQ Viewing

- Users can view a list of frequently asked questions (FAQ).

- The FAQ section provides answers to common questions.

13. Recycle Center Admin Price Updates:

- Prices for recyclable materials (such as paper, plastic, metals) must be updated regularly by the Recycle Center Admin.
- Prices updated will be saved into database
- Material prices will be displayed to users when users wish to recycle any item.

14. Location-Based Recycling Centers:

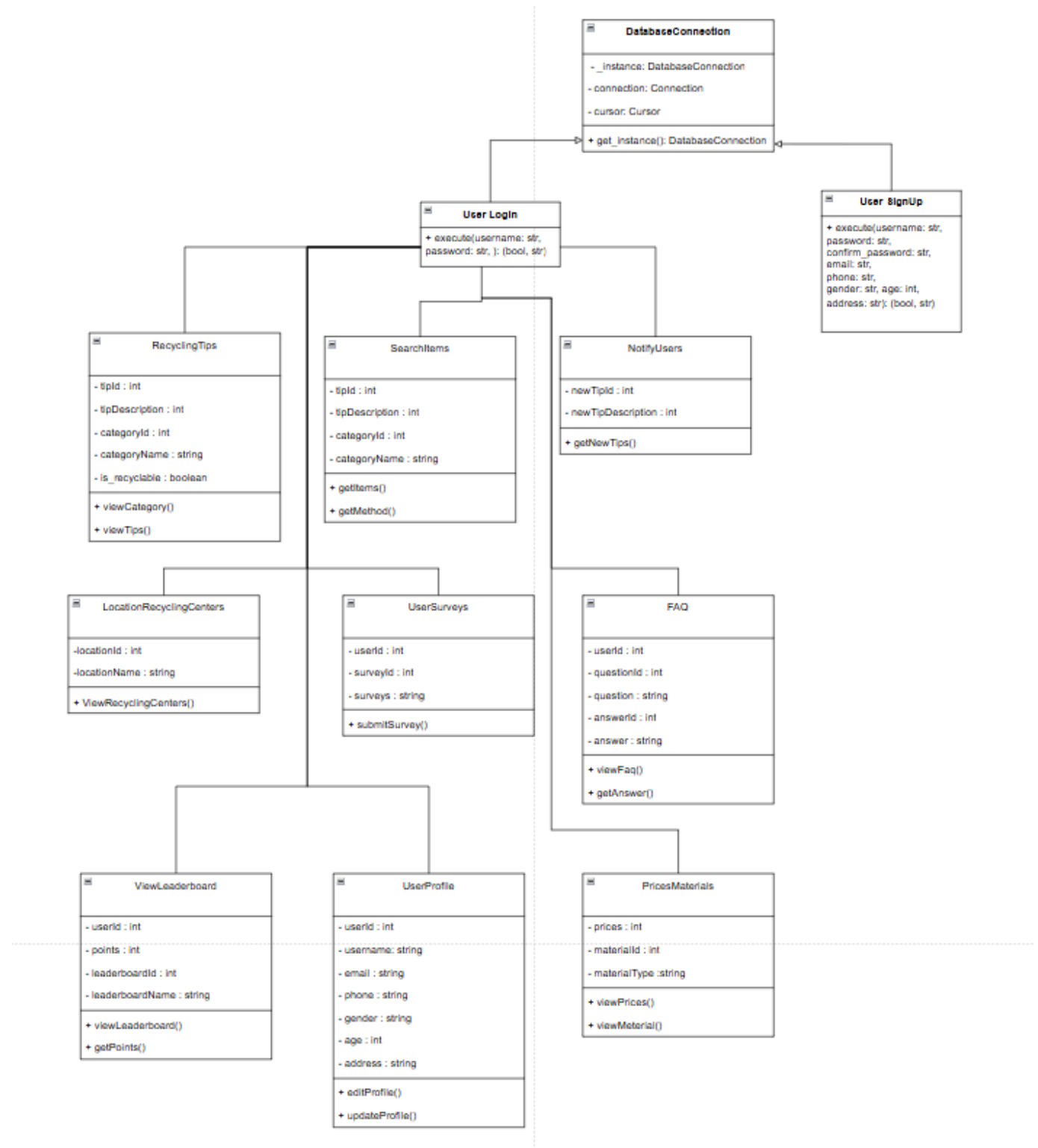
- The user's location must be accessed dynamically to show nearby recycling centers.
- Users may check the recycle center's location based on their current location.
- A mock location system simulates real-time proximity for demonstration purposes, helping users find nearby centers.

15. Recycle Center Materials Statistics:

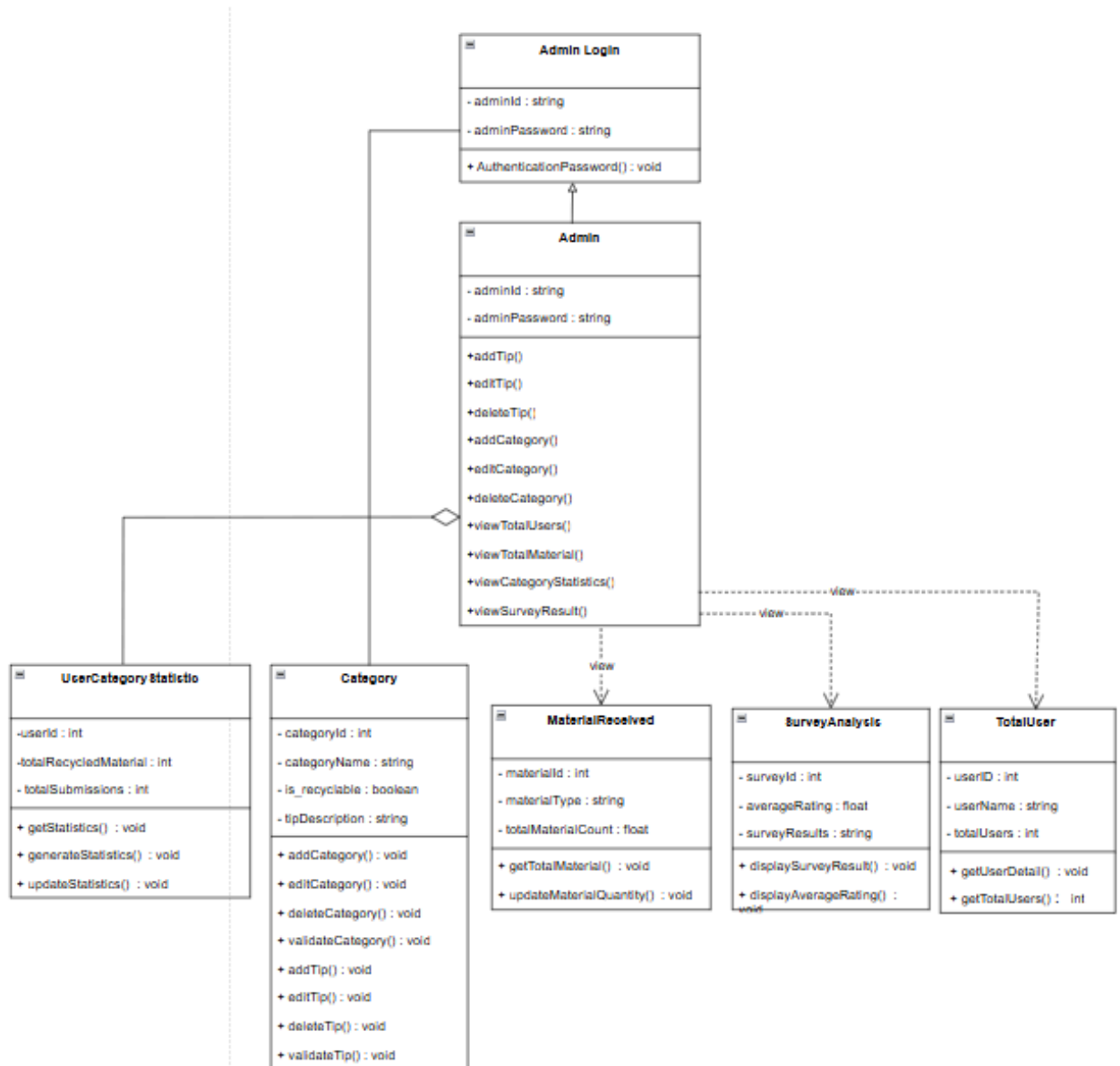
- Materials recycled in a specific recycle center will be calculated and saved into database
- Recycle center admin and system admin have the authority to check on the statistics for further development.

3. Develop Class diagrams for your project based on business rules

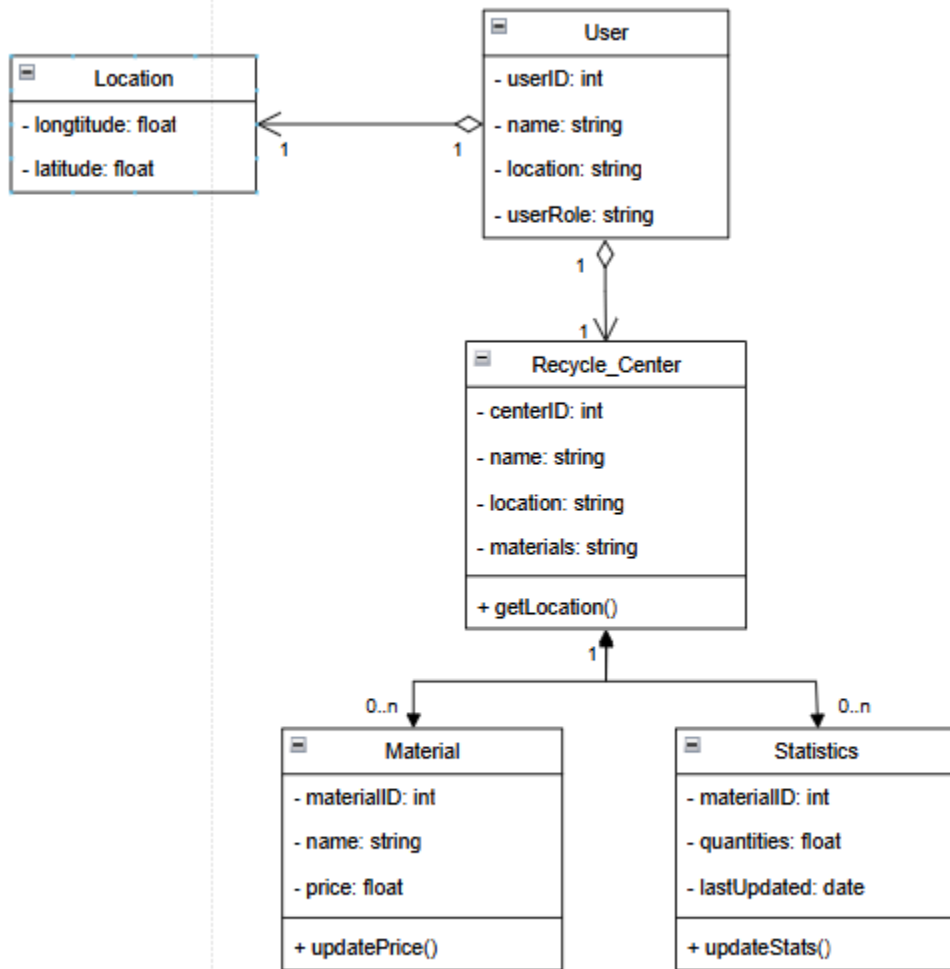
User Class Diagram



Admin Class Diagram

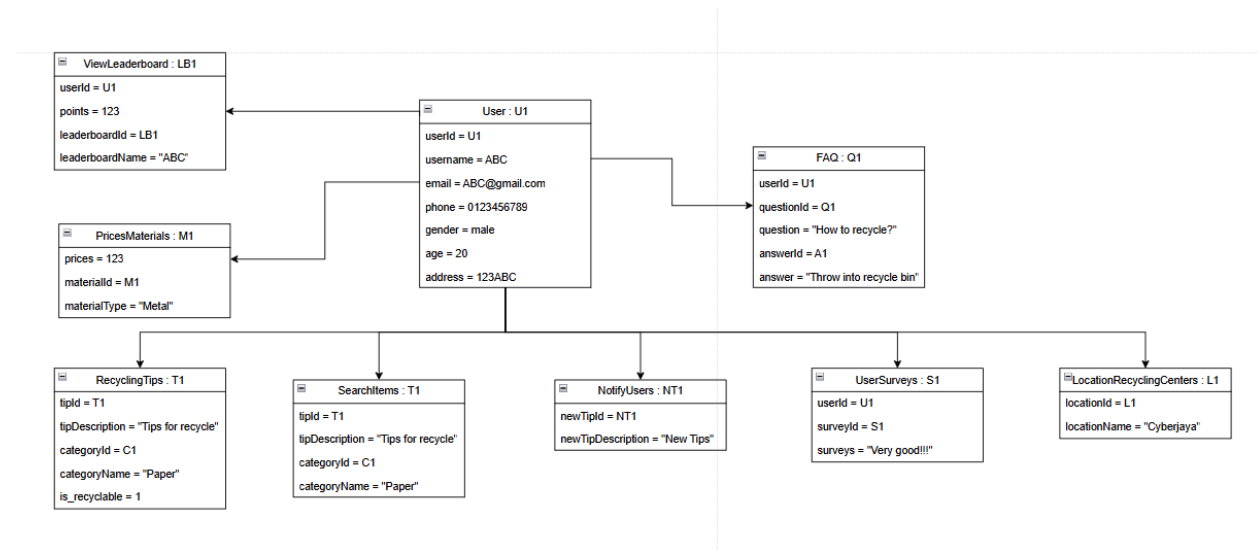


Recycle Center Admin

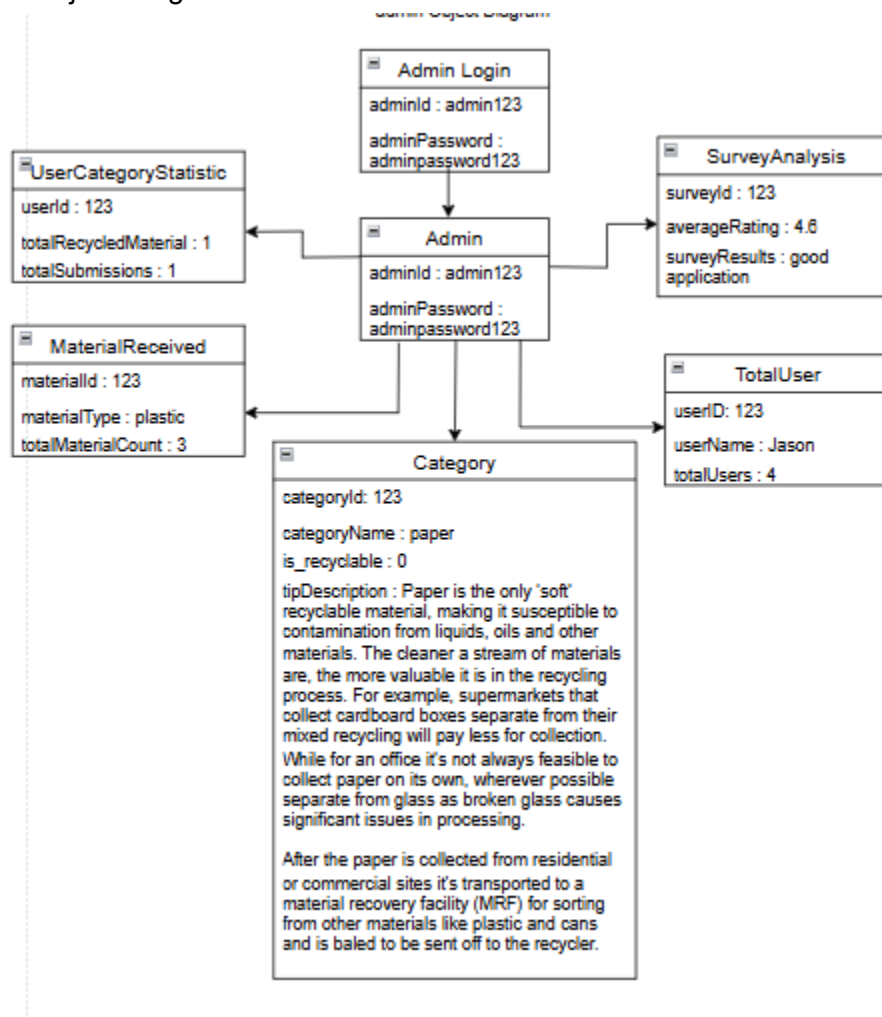


4. Develop object diagrams based on business rules

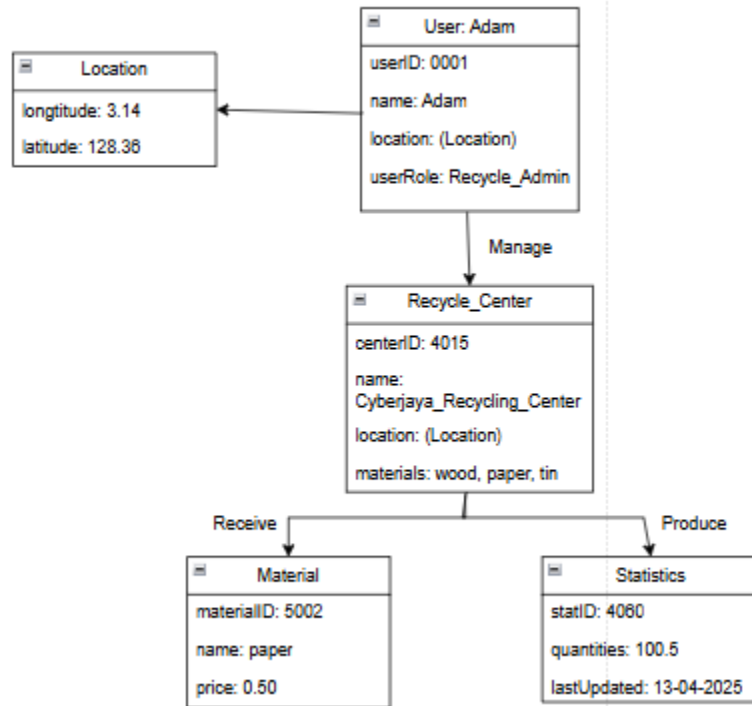
User Object Diagram



Admin Object Diagram

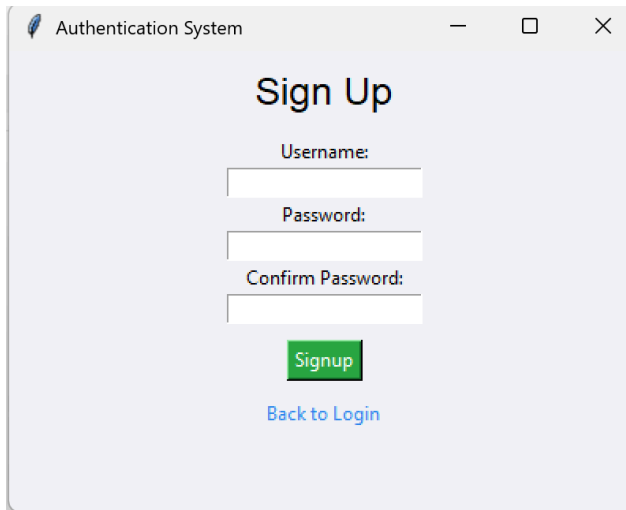


Recycle Centre Admin Object Diagram



5. Develop ideation of user interface

User Interface



Authentication System

Sign Up

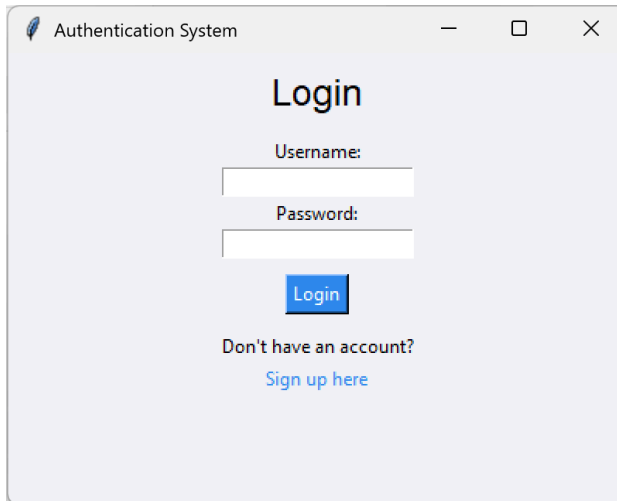
Username:

Password:

Confirm Password:

[Signup](#)

[Back to Login](#)



Authentication System

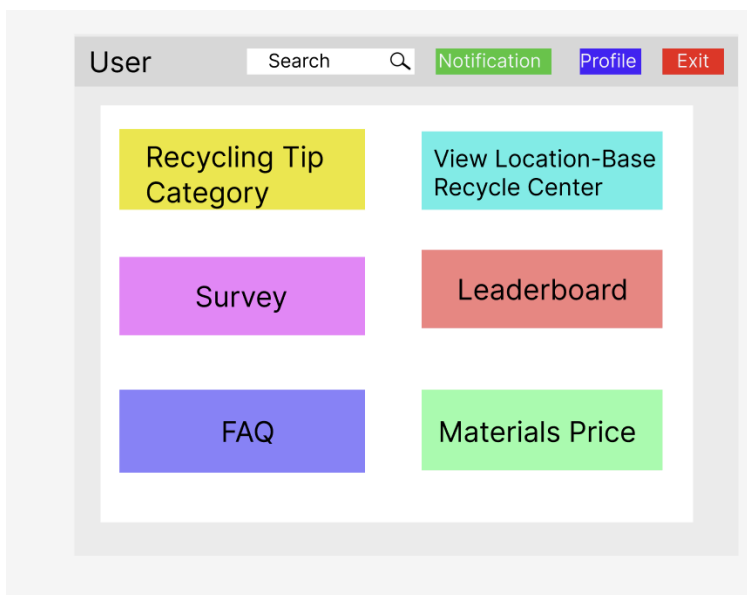
Login

Username:

Password:

[Login](#)

Don't have an account?
[Sign up here](#)



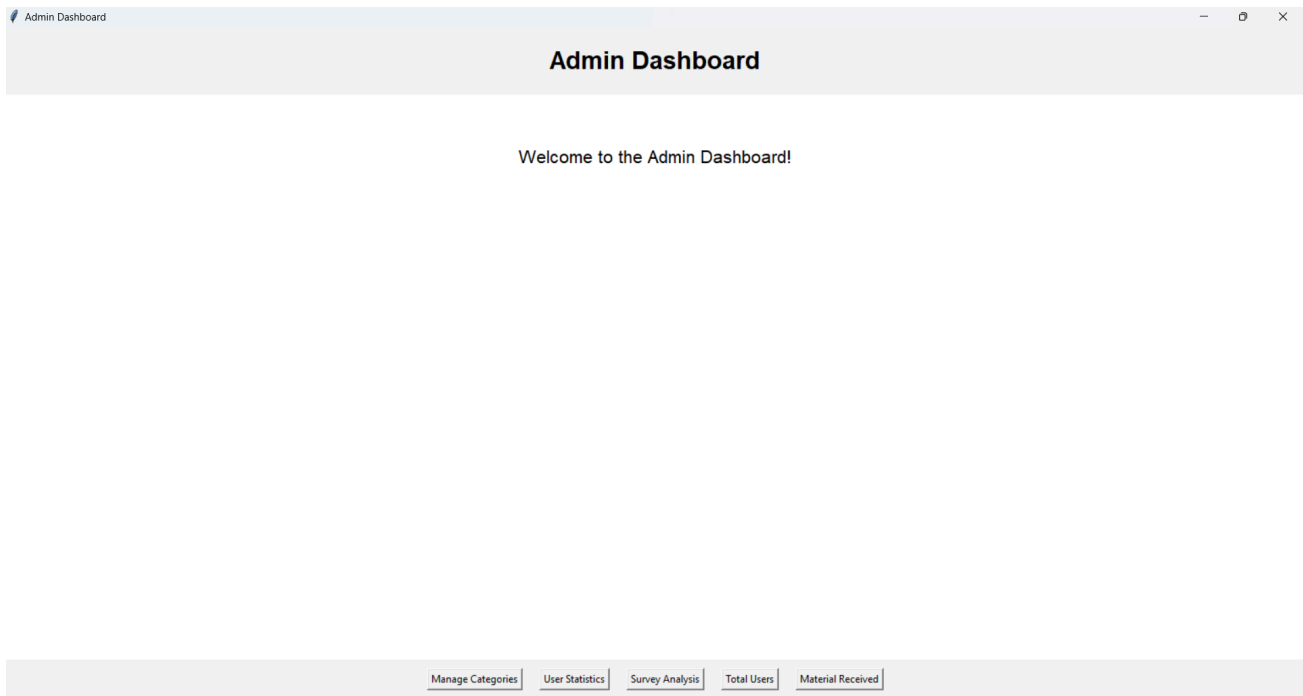
User

Search

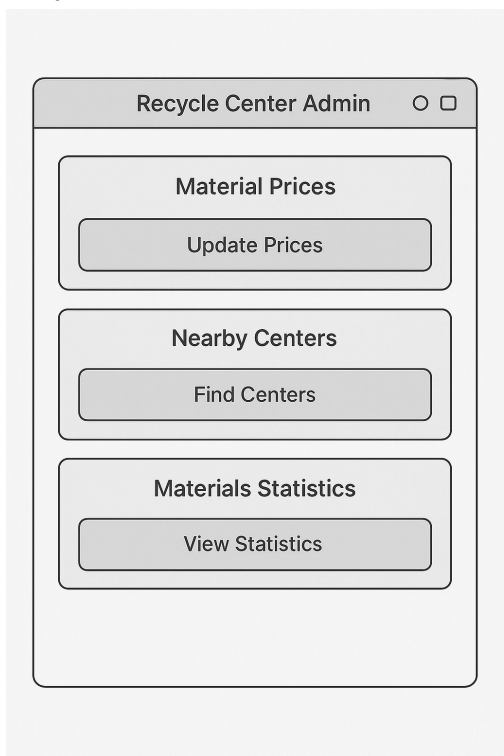
[Notification](#) [Profile](#) [Exit](#)

Recycling Tip Category	View Location-Base Recycle Center
Survey	Leaderboard
FAQ	Materials Price

Admin Interface

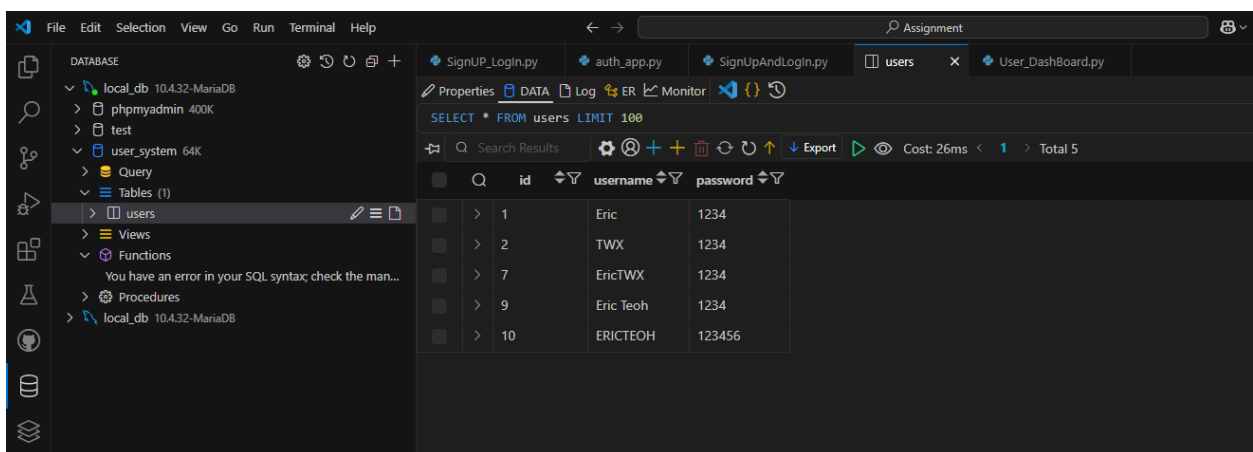
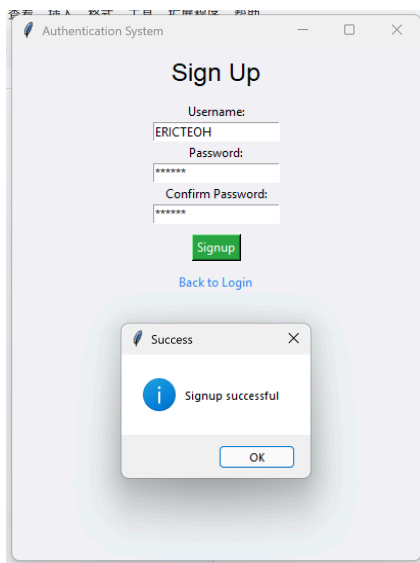
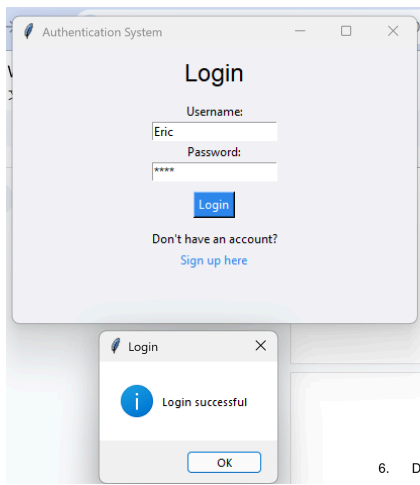


Recycle Centre Admin Interface



6. Develop simple program for sign-up and login processes

<https://drive.google.com/drive/folders/1URWRg2WEoreBY1UkKLnSHe4iLRYKvlge?usp=sharing>



7. Develop an algorithm input for your system and show how it runs. Send files to me so I am to run.

Admin manage category function, can

https://drive.google.com/drive/folders/1GjQyODyIGITp_cvNE_1Bj3xjPJh7ngbM?usp=sharing

Mock algorithm for recycle center admin(Update prices)

https://drive.google.com/file/d/13W3uxoelba_-y74CQXtg3_vKVOJkaWJ9/view?usp=sharing