National University of Computer and Emerging Sciences

Eco-Friendly Habit Tracker

Group Members

Name	Roll Number
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Department of Computer Science

FAST-NU, Lahore, Pakistan

Eco-Friendly Habit Tracker

Introduction

In **today's fast-paced world**, maintaining positive habits while balancing work, health, and personal growth can be challenging. The **Eco-Friendly Habit Tracker** is designed to help users effectively manage their daily routines by providing a structured and intuitive tracking system. To ensure smooth development and implementation, the project follows an organized **To-Do List**, where key tasks are systematically planned before execution. The initial phase of development focuses on essential features such as **user registration, login, habit creation, editing, deletion, and category assignment**. By addressing these fundamental tasks, the project establishes a strong foundation for a seamless and efficient habit-tracking experience, ultimately empowering users to stay consistent and motivated in their journey toward self-improvement.

User Stories

1. **User Sign-Up and Login**
   As a user, I want to sign up and log in so that my habit data is saved and synced across devices.

2. **Habit Management**
   As a user, I want to create, edit, and delete habits and assign them to predefined categories.

3. **Progress Tracking**
   As a user, I want to see visual charts and logs of my habit performance to track my improvements.

4. **Reminders & Notifications**
   As a user, I want timely reminders to complete my habits, so I never miss an important task

5. **Detailed Habit History**
   As a user, I want to view a detailed history of my habits to analyze past performance

6. **Streaks and Goal Achievement System**
   As a user, I want to earn streaks for maintaining consistent habits so that I feel motivated to keep progressing

7. **Customizable Dashboard**
   As a user, I want to customize my dashboard to focus on the metrics that matter most to me, allowing for a more personalized experience

8. **Final Integration and Polishing**
   As a user, I want the final product to be fully integrated and bug-free, ensuring a smooth and enjoyable user experience.

User Stories and Specifications (Sprint 3)

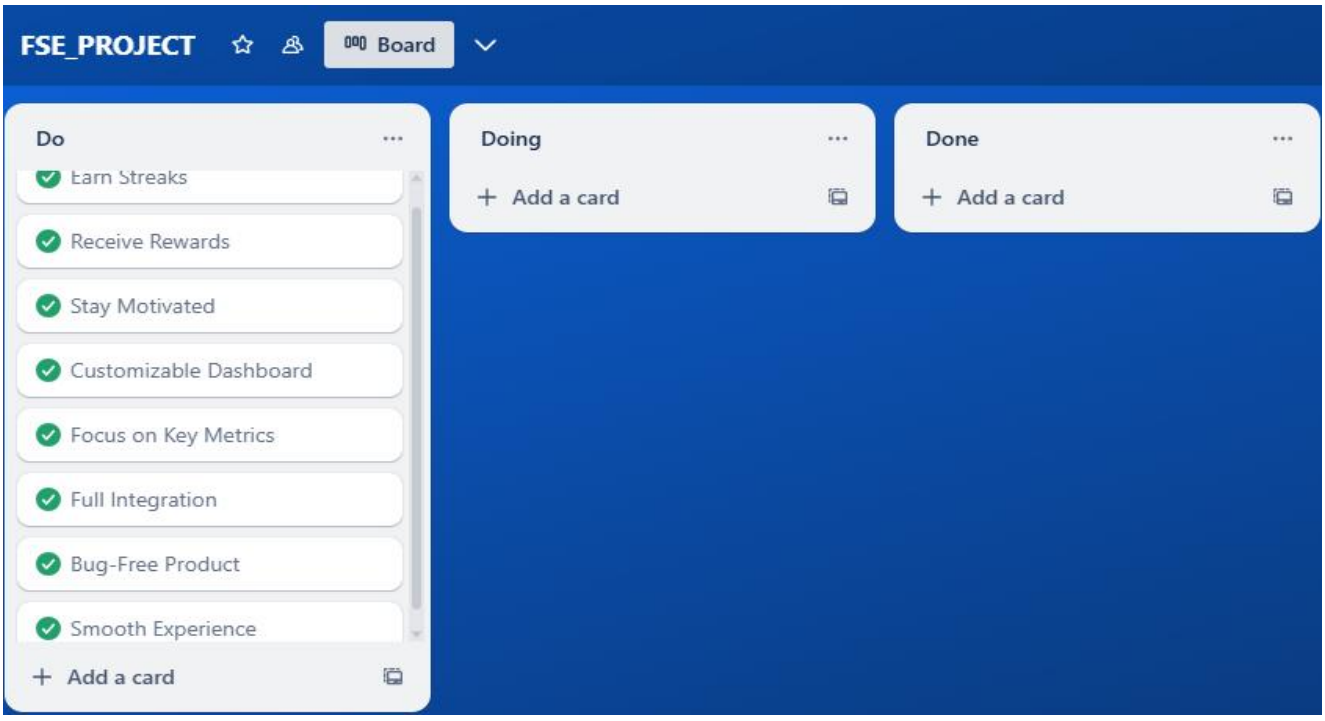
1. **Streaks and Goal Achievement System**
   - **User Story:** As a user, I want to earn streaks for maintaining consistent habits so that I feel motivated to keep progressing.
   - **Sub-User Stories:**
     - As a user, I want to receive notifications when I hit a streak milestone.
     - As a user, I want to see my current streak displayed prominently on my dashboard.
     - As a user, I want to be rewarded with badges for achieving streaks.

2. **Customizable Dashboard**
   - **User Story:** As a user, I want to customize my dashboard to focus on the metrics that matter most to me, allowing for a more personalized experience.
   - **Sub-User Stories:**
     - As a user, I want to choose which metrics to display on my dashboard.
     - As a user, I want to rearrange the layout of my dashboard components.
     - As a user, I want to save my dashboard preferences for future sessions.

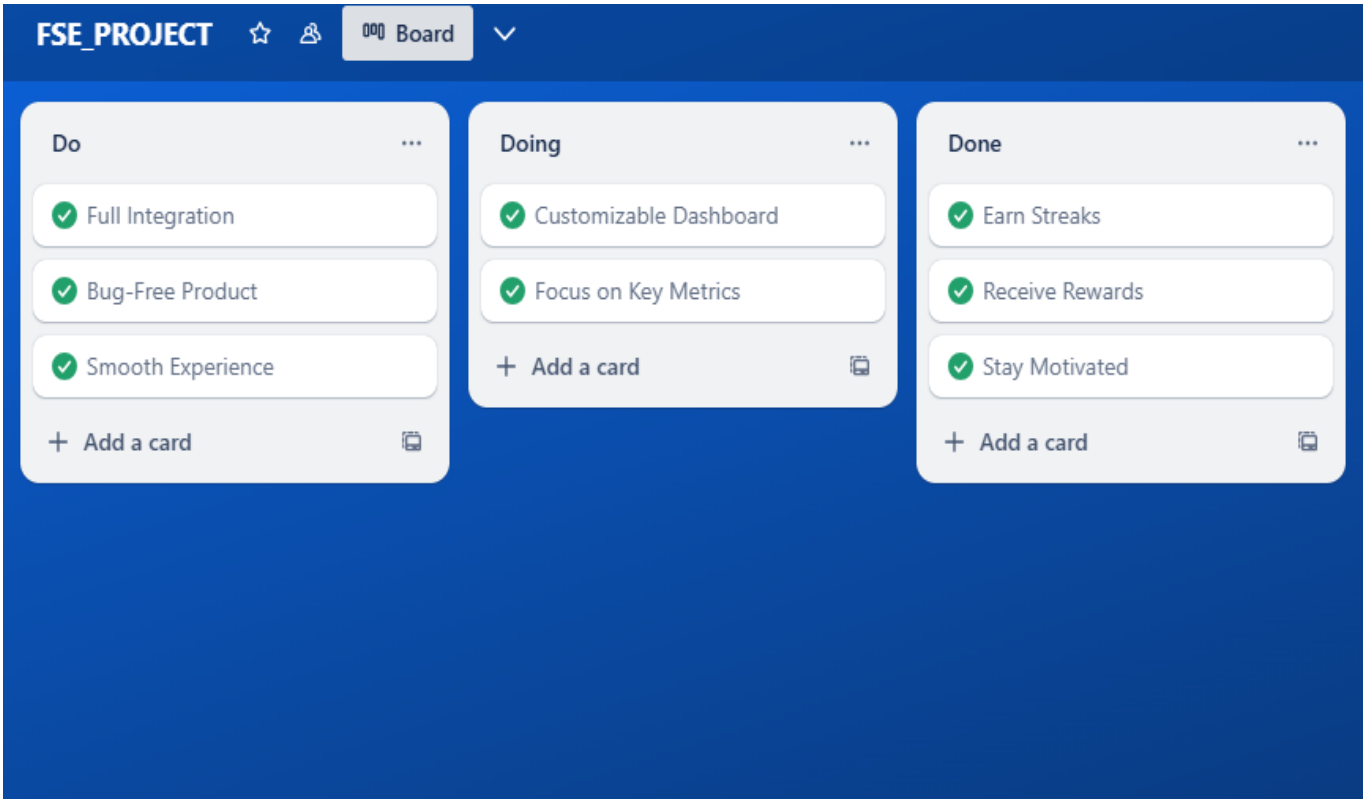
3. **Final Integration and Polishing**
   - **User Story:** As a user, I want the final product to be fully integrated and bug-free, ensuring a smooth and enjoyable user experience.
   - **Sub-User Stories:**
     - As a user, I want to report any bugs or issues easily within the app.
     - As a user, I want to receive regular updates about bug fixes and new features.
     - As a user, I want to experience seamless transitions between different sections of the app.

Scrum Boards

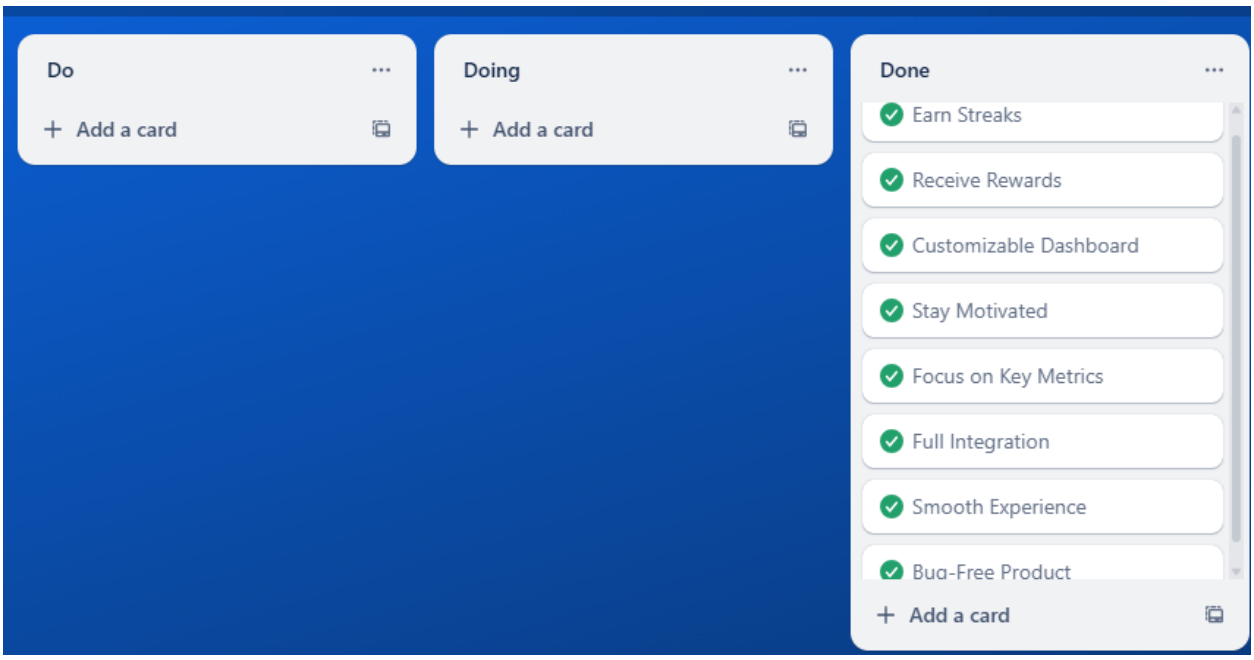
Snapshot1



Snapshot2



Snapshot3



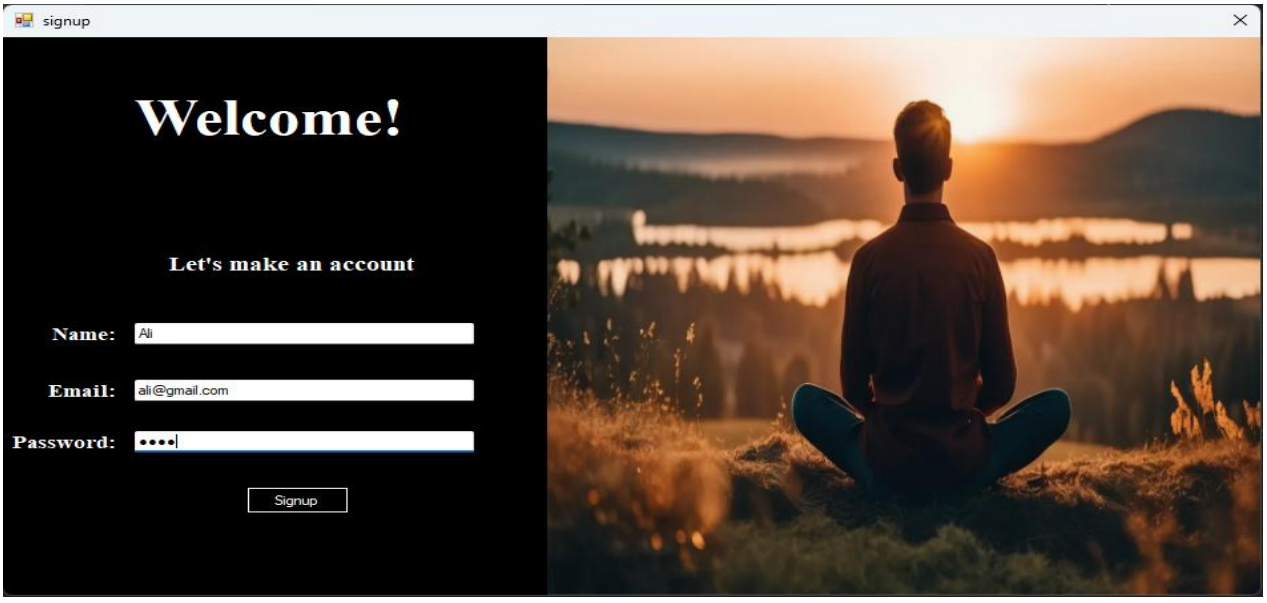
Workload Division

Team directory

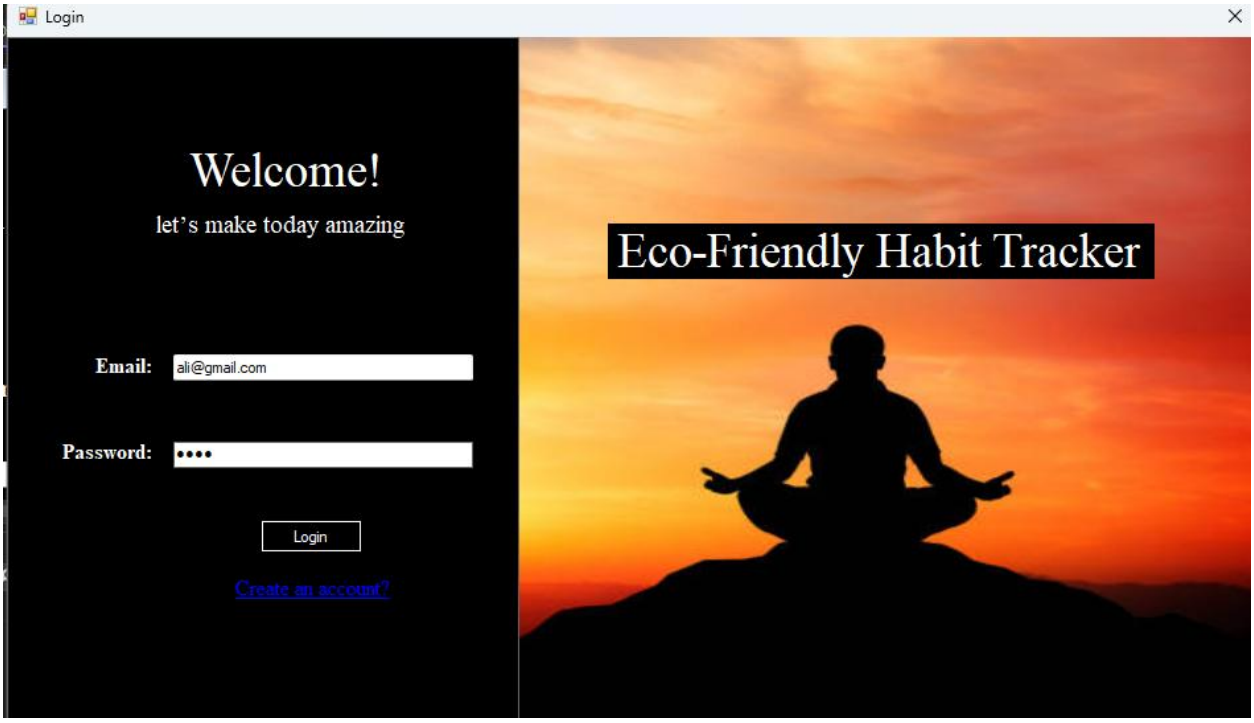
Team Member	Role	Responsibilities
Muhammad Daniyal Qureshi	Lead & Backend Developer	Backend development, database integration, API implementation, and ensuring data security.
Muhammad Ahmad	Frontend Developer & Architect	UI development, integration of charts and reminders, frontend logic implementation, and interface responsiveness.
Muhammad Sufyan	Requirement Engineer & Tester	Requirement documentation, functional testing, validation of features, and bug reporting.

Full Implementation Screenshots

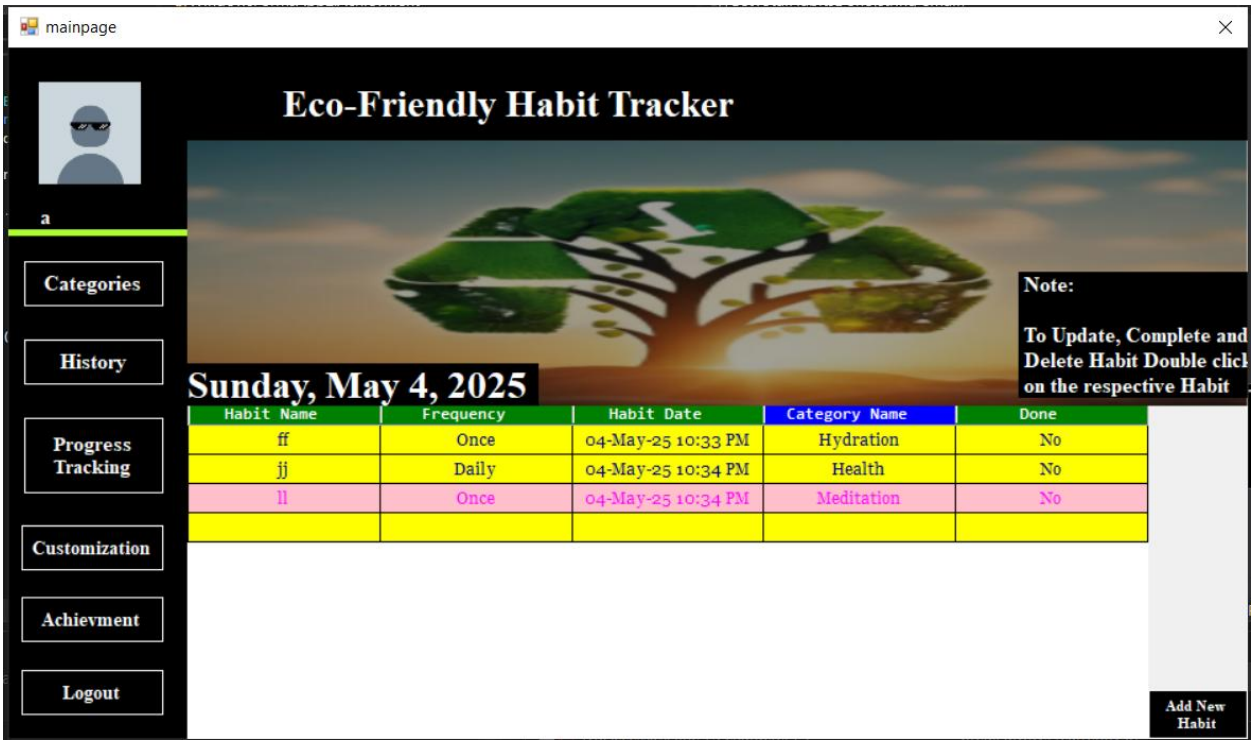
Signup:



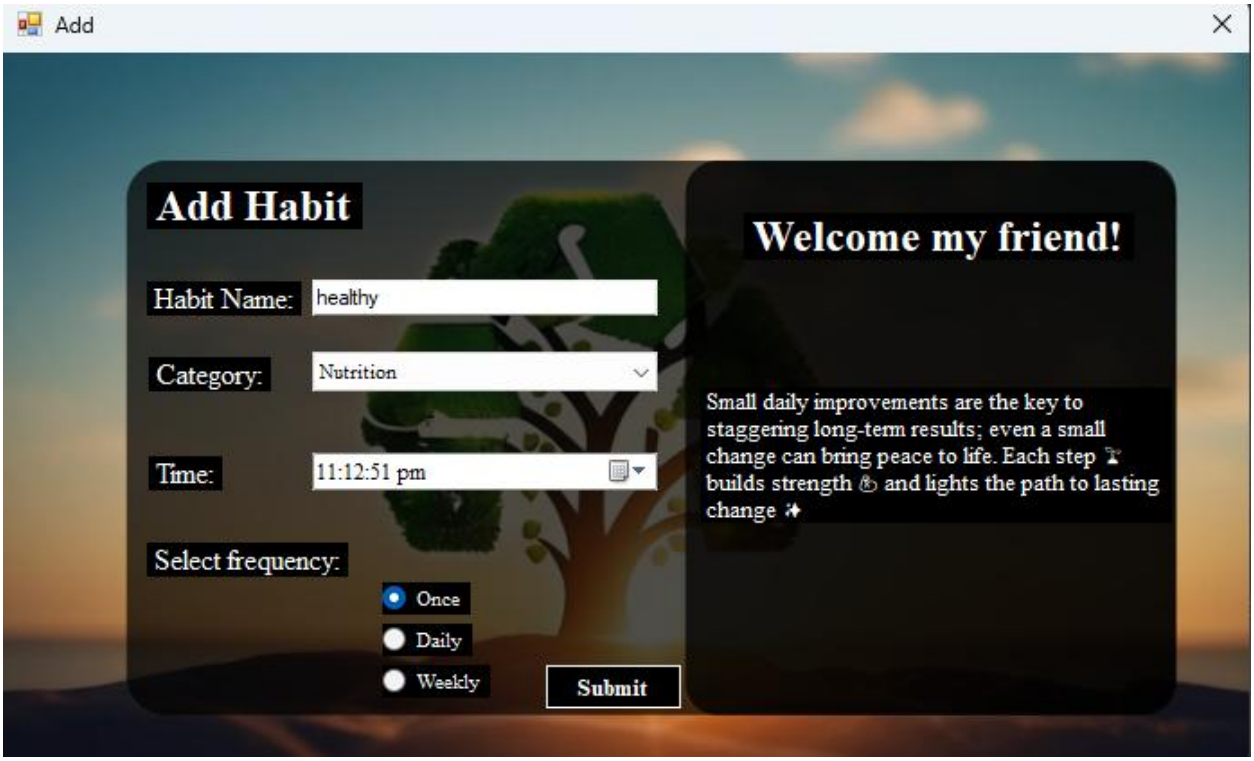
Login:



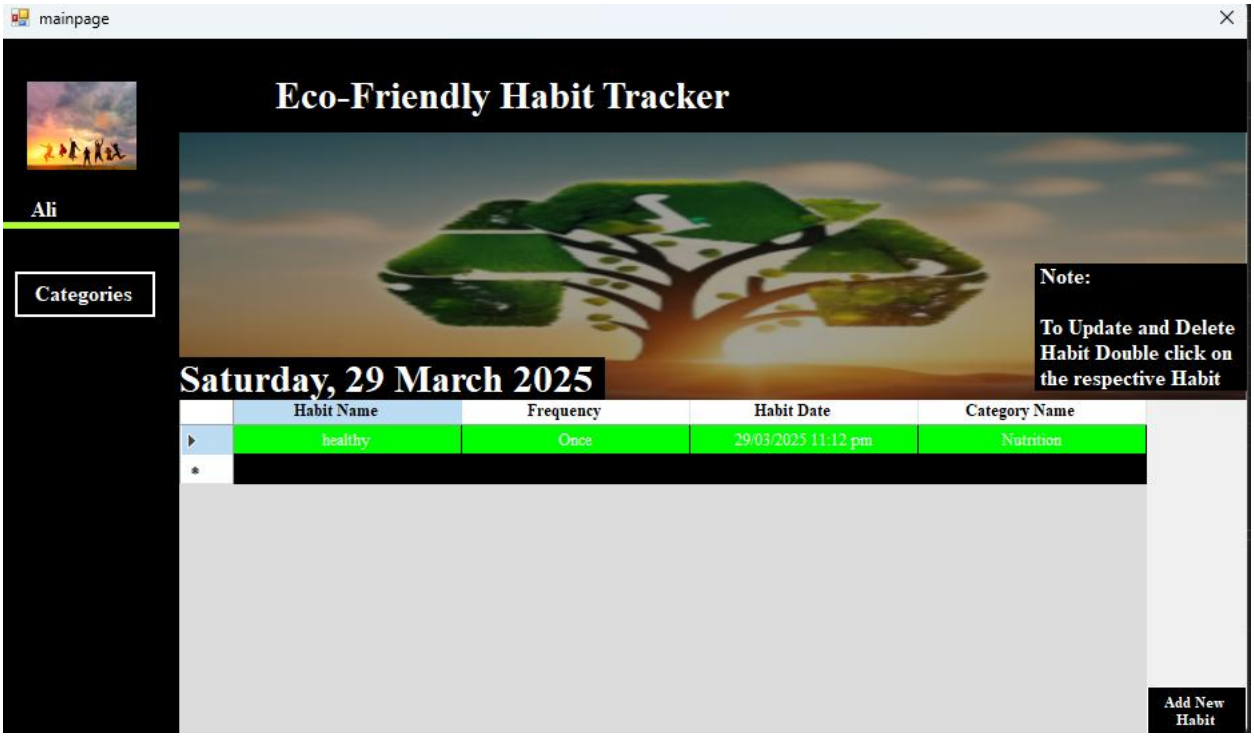
Main Page:



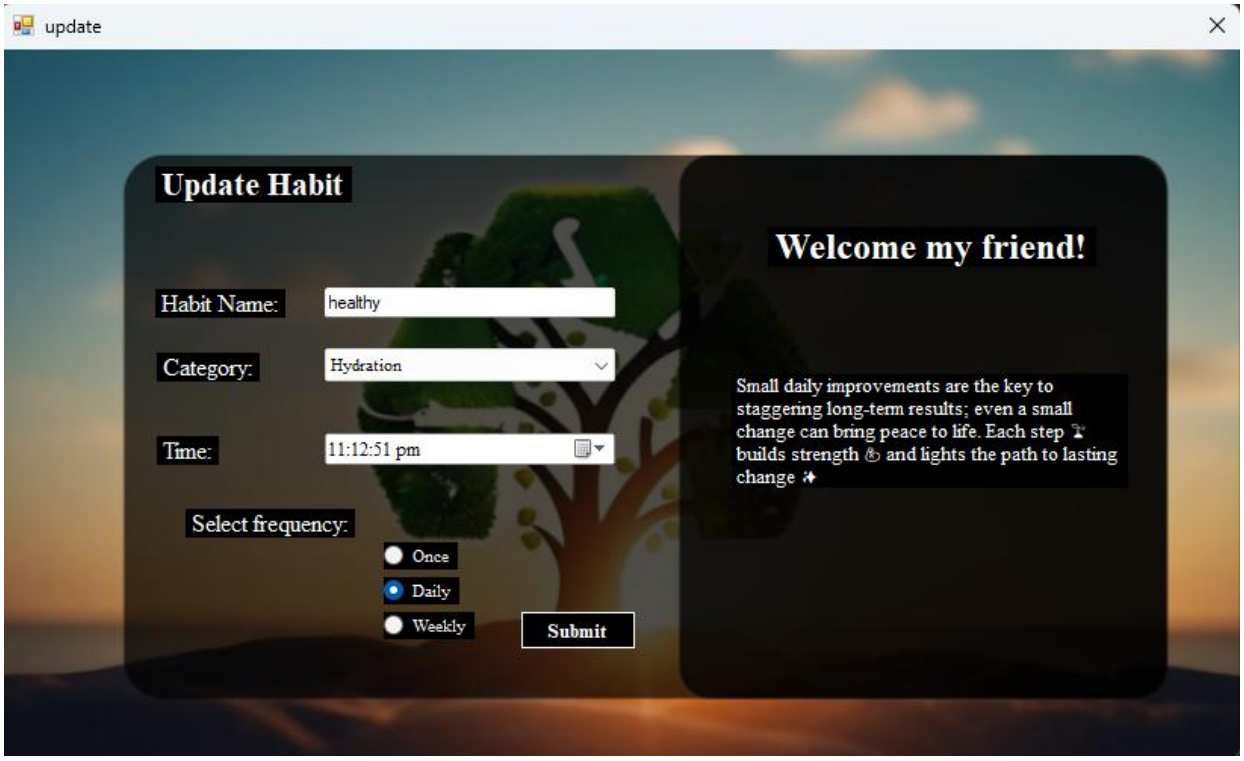
Add Habit:



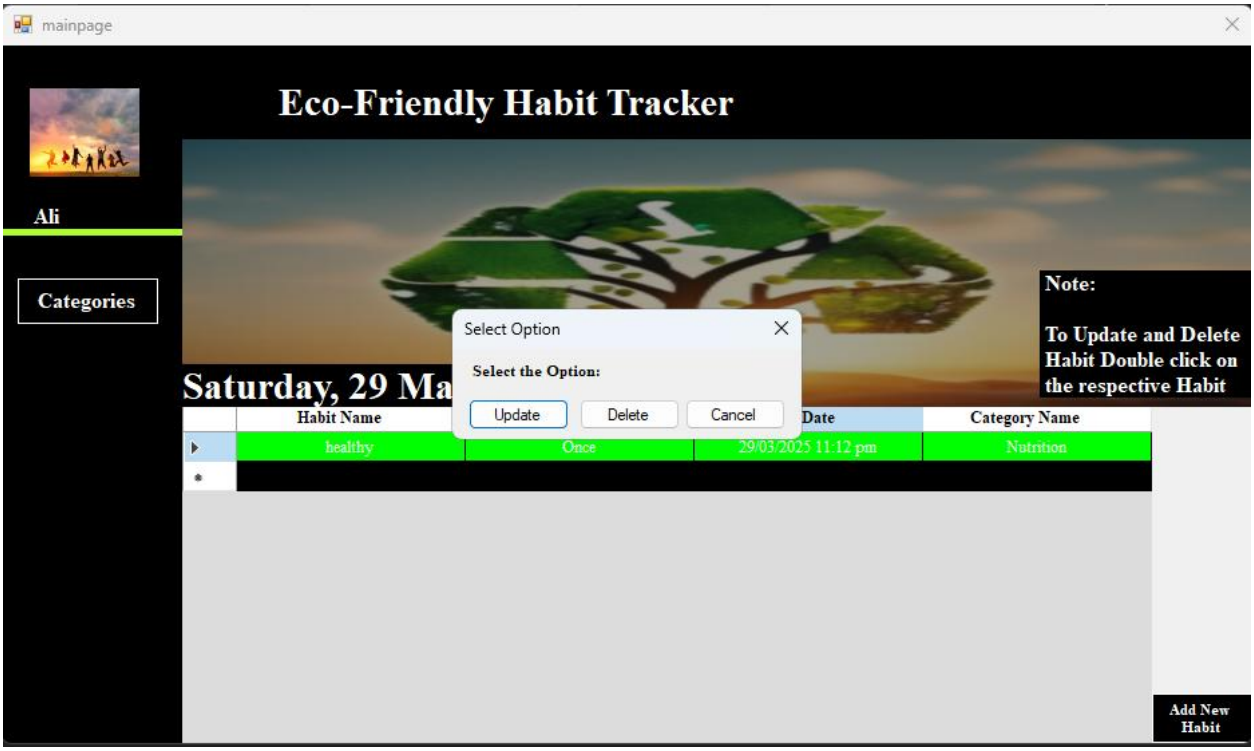
Upload Picture:



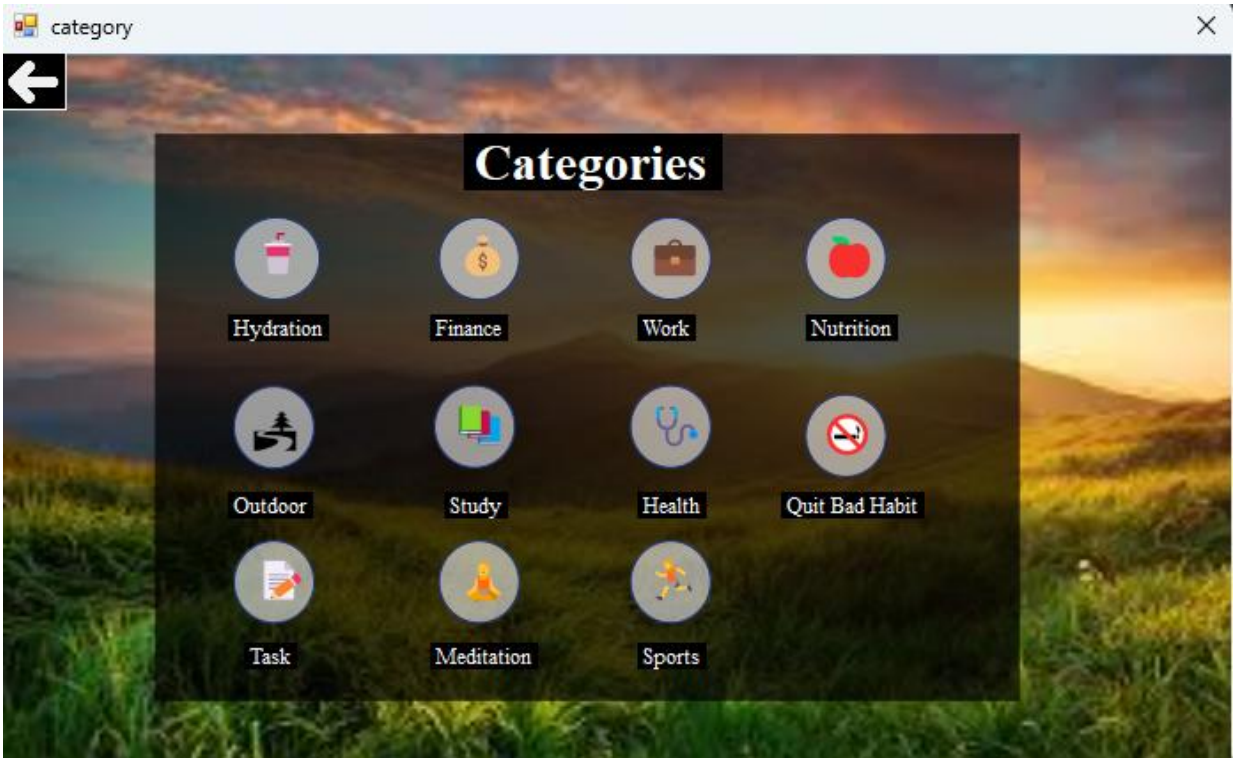
Update Habit:



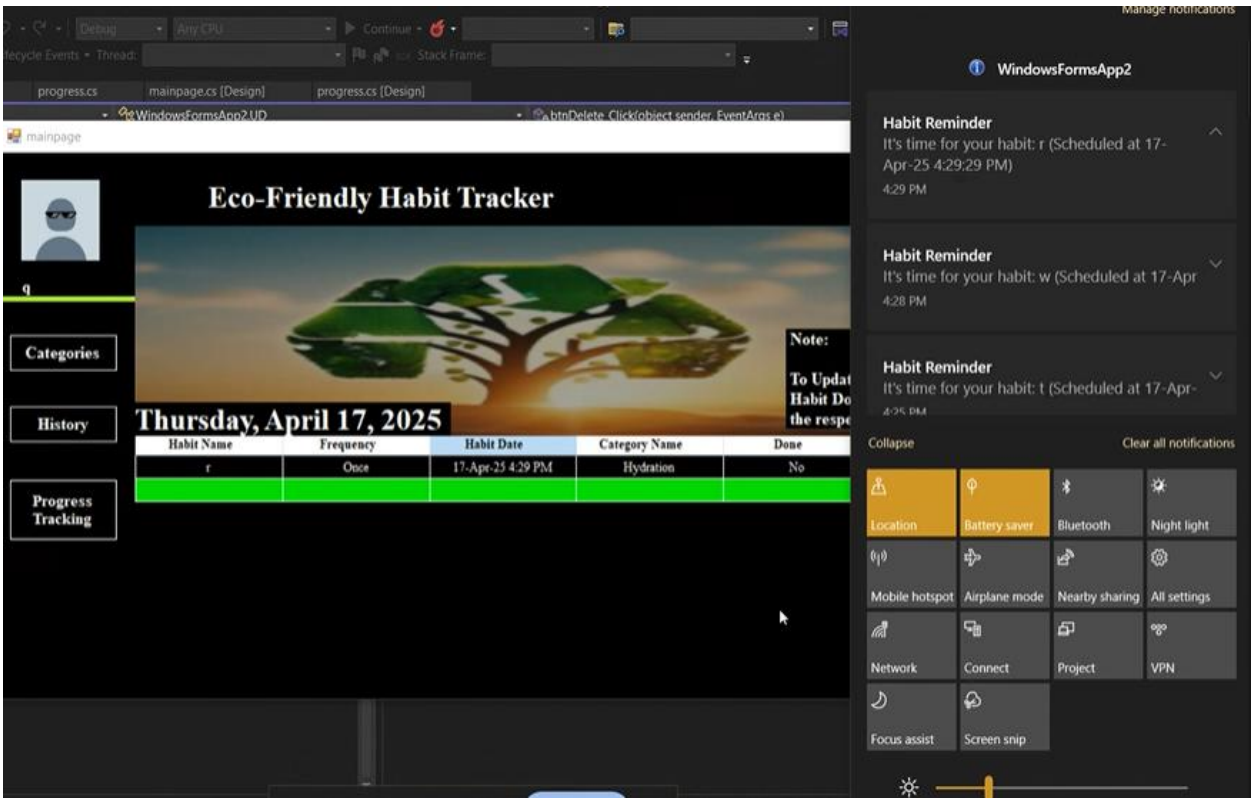
Delete Habit:



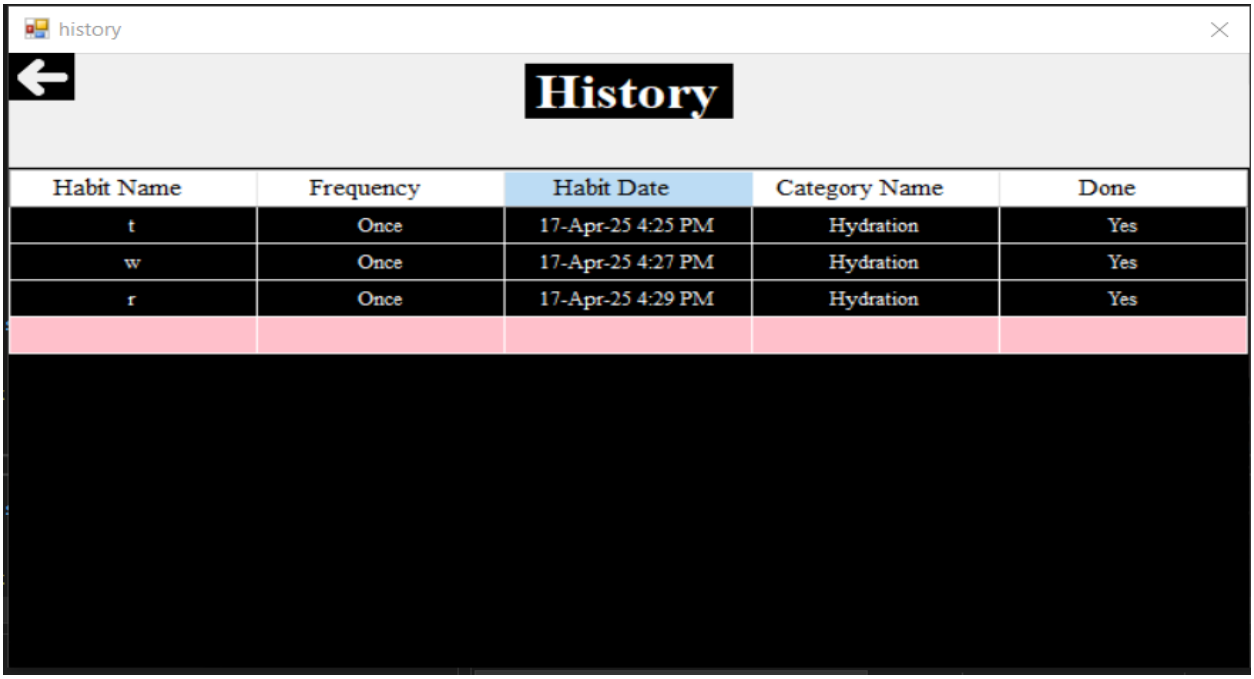
Habit Categories:



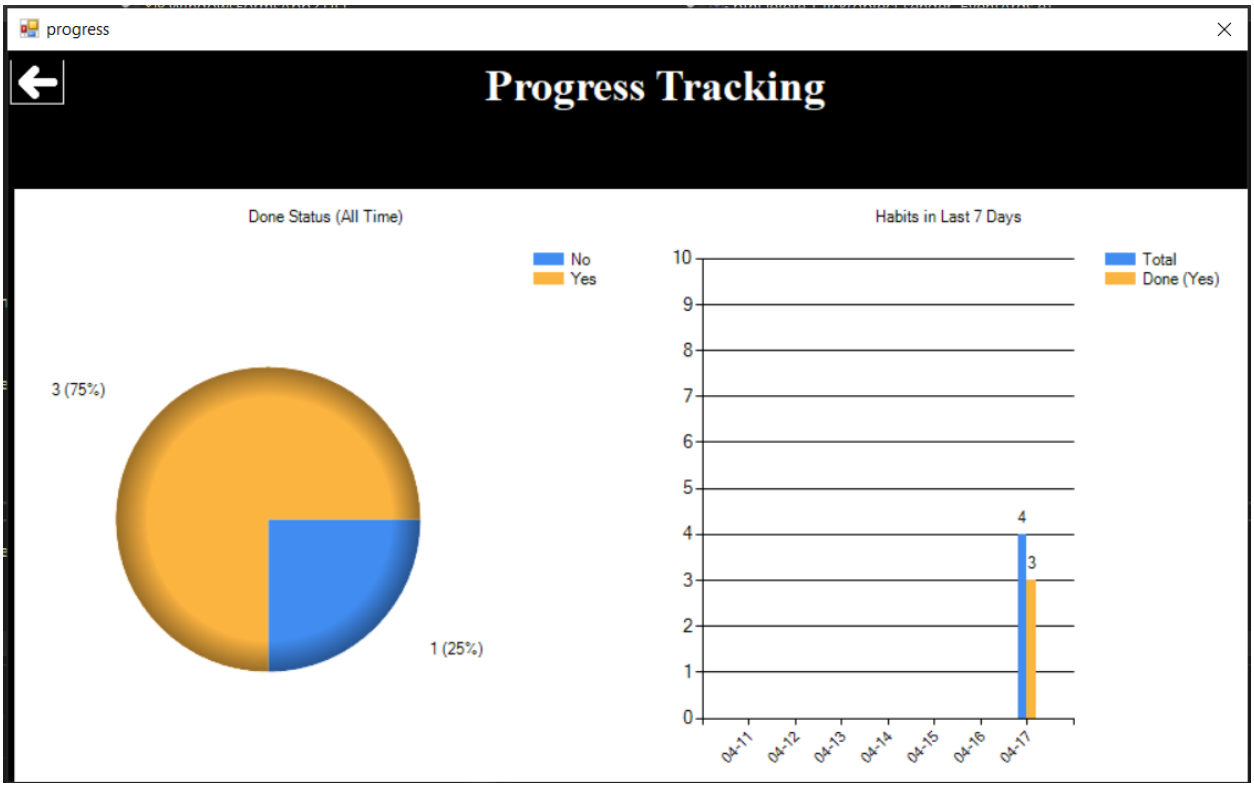
Notifications and Reminders:



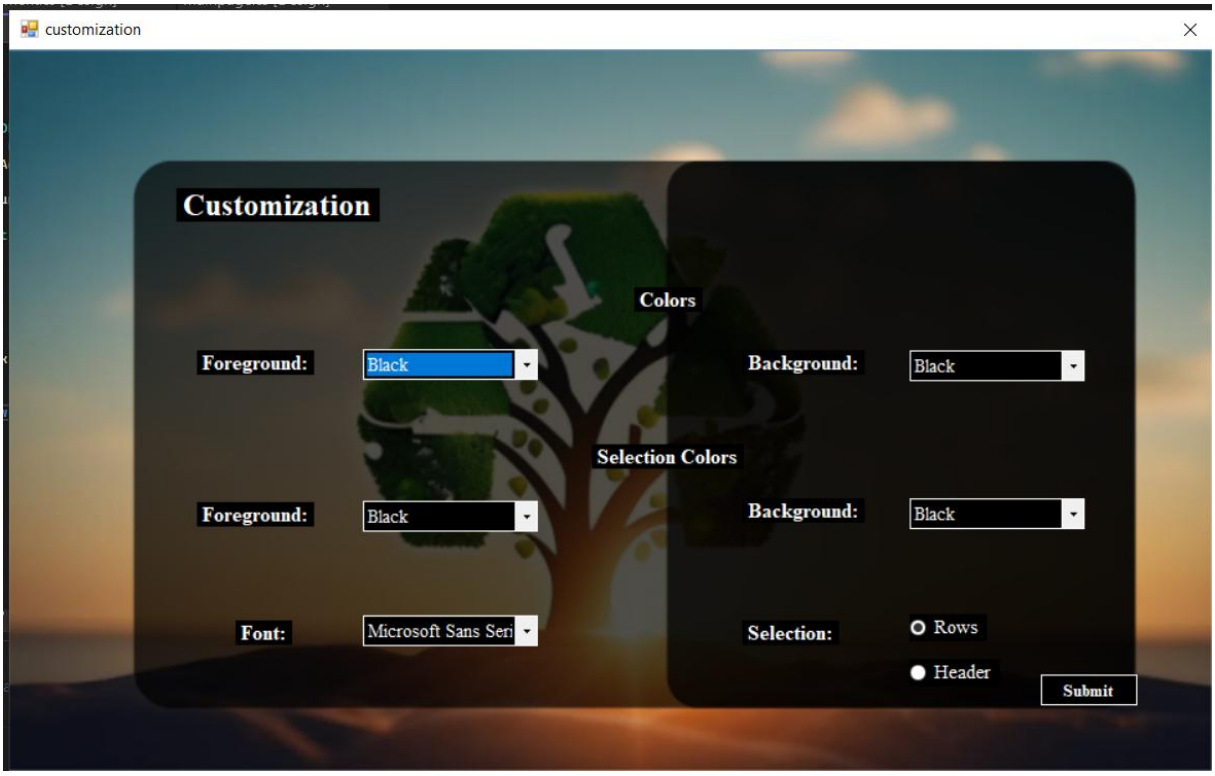
History:



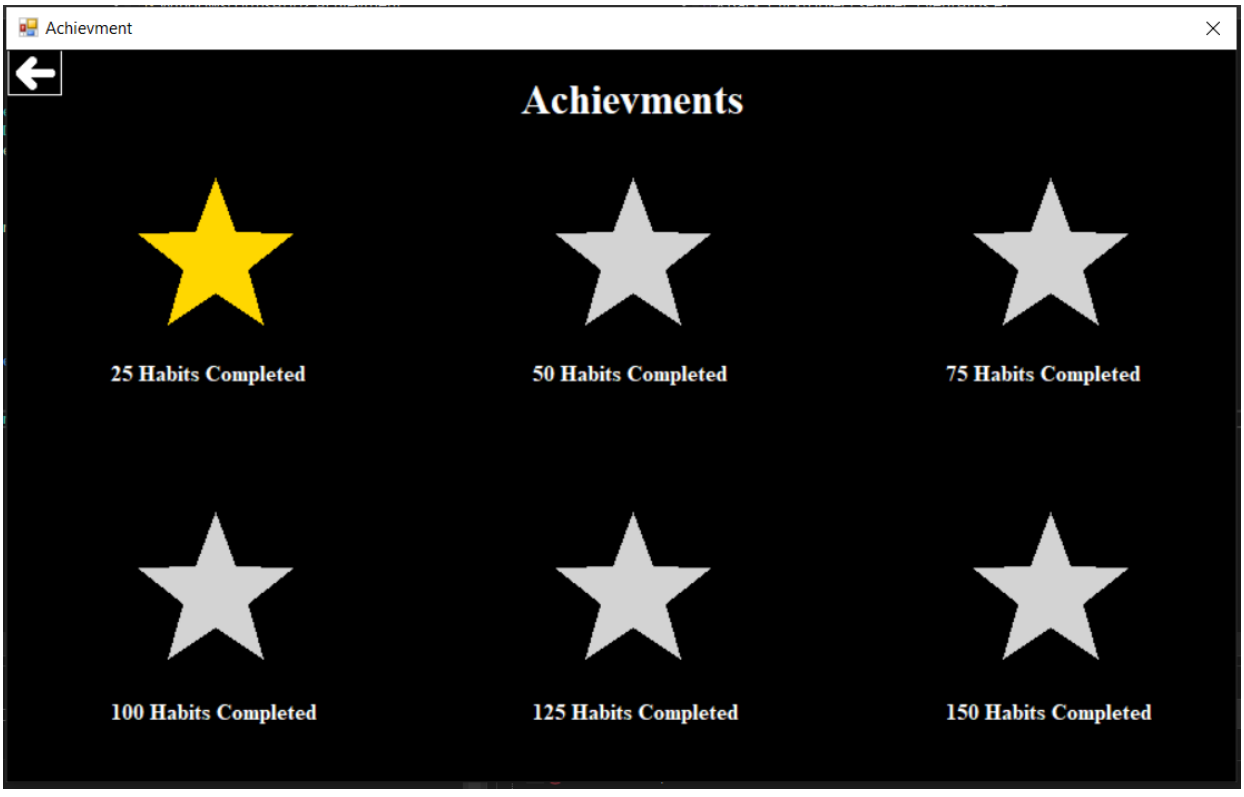
Progress Tracking:



Customization of Dashboard:



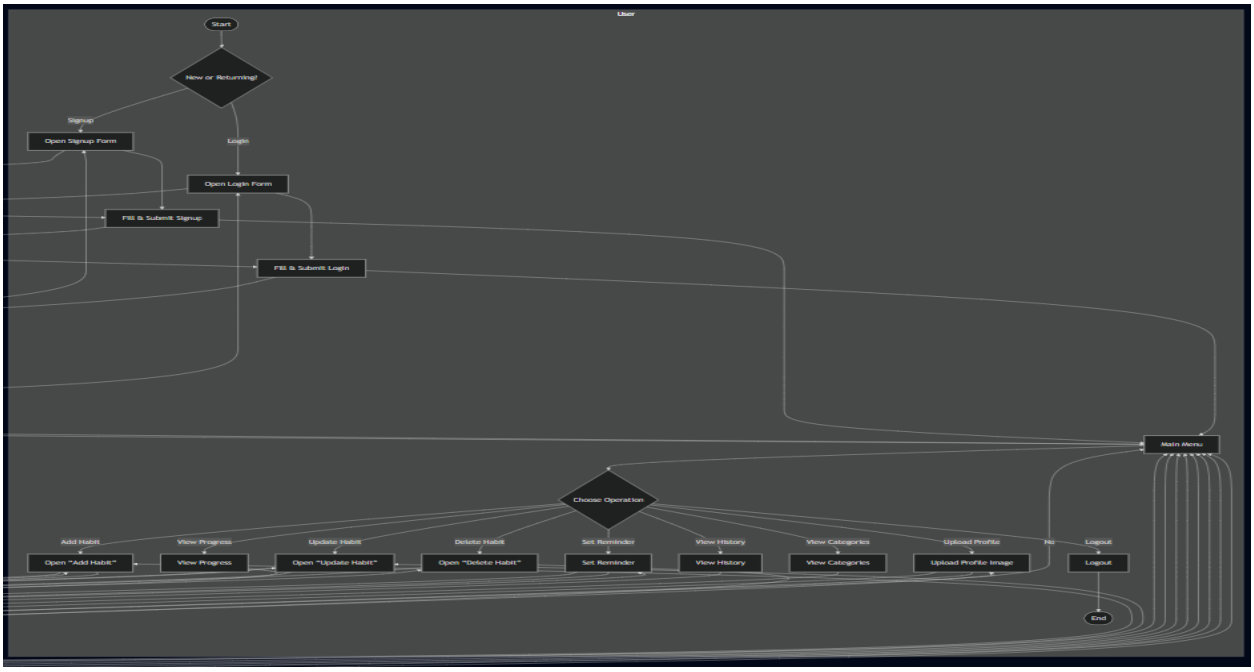
Streaks and Goal Achievement:



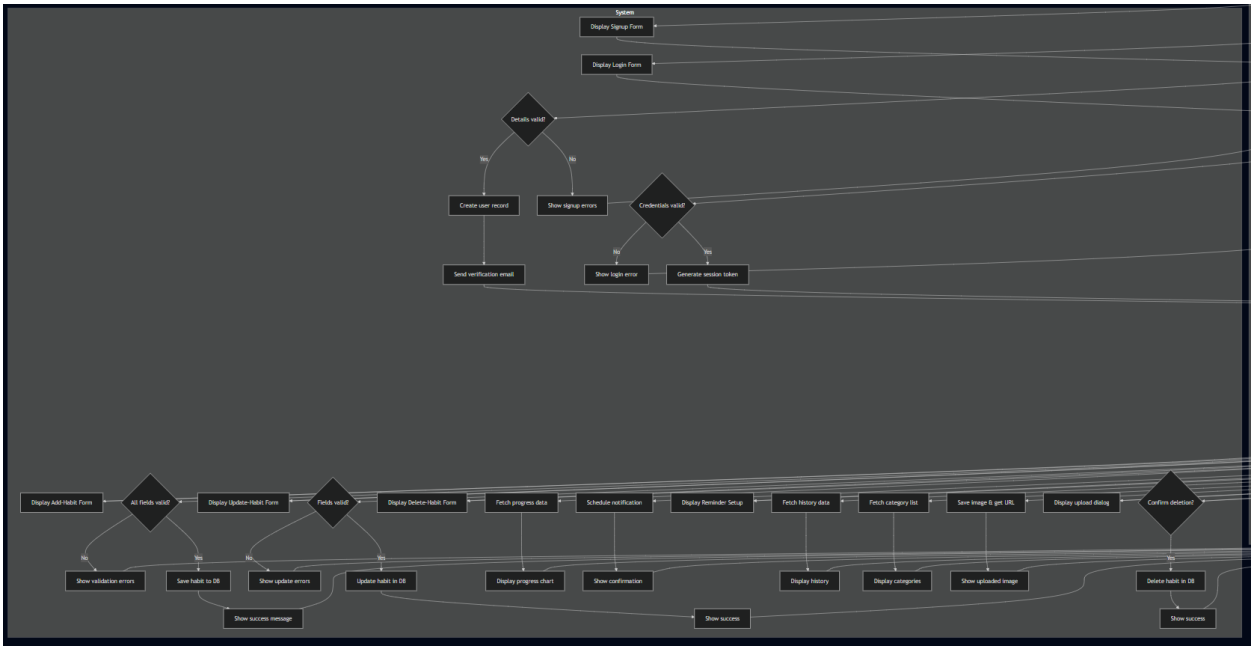
Design

1) Activity Diagram

Page 1:

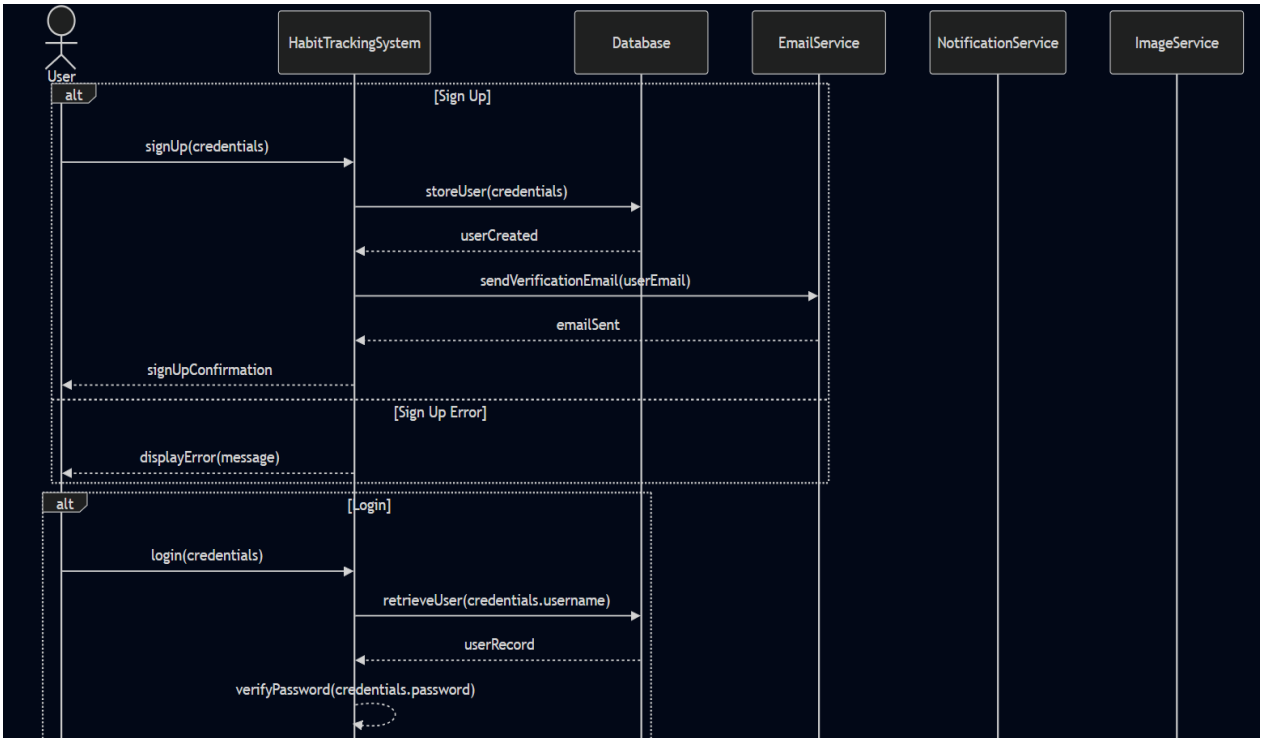


Page 2:



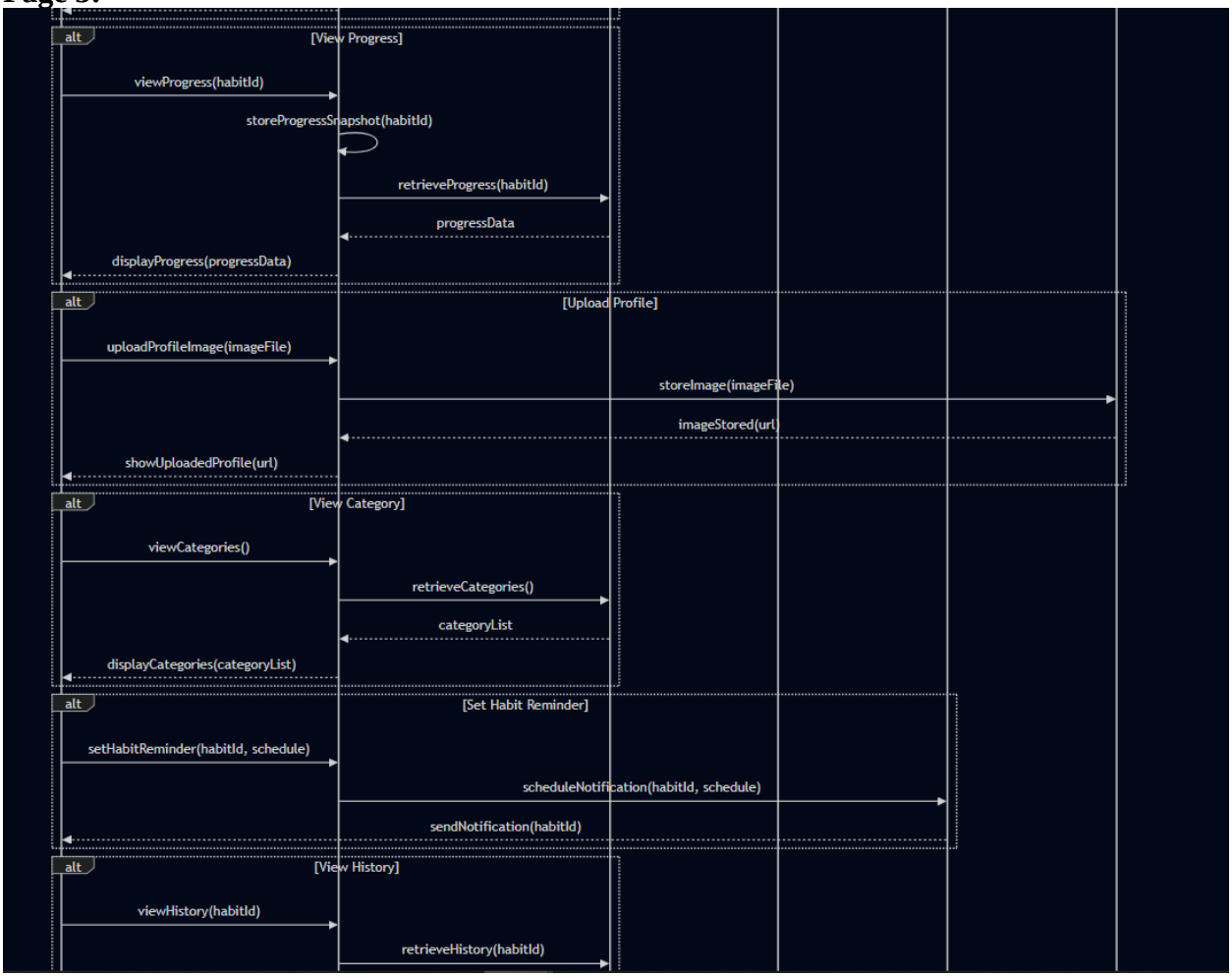
2) Sequence diagram

Page 1:

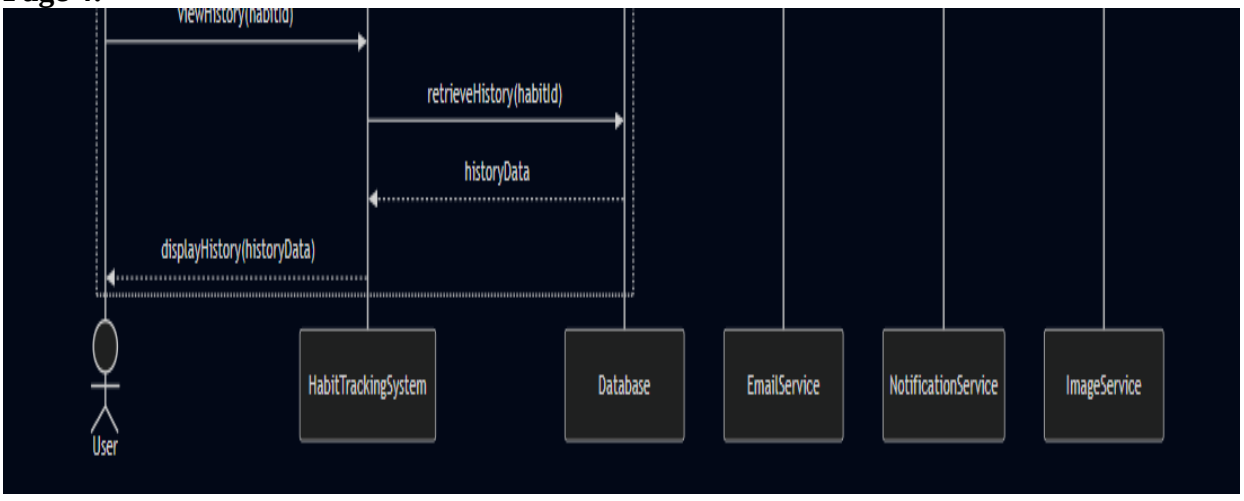


Page 2:

Page 3:

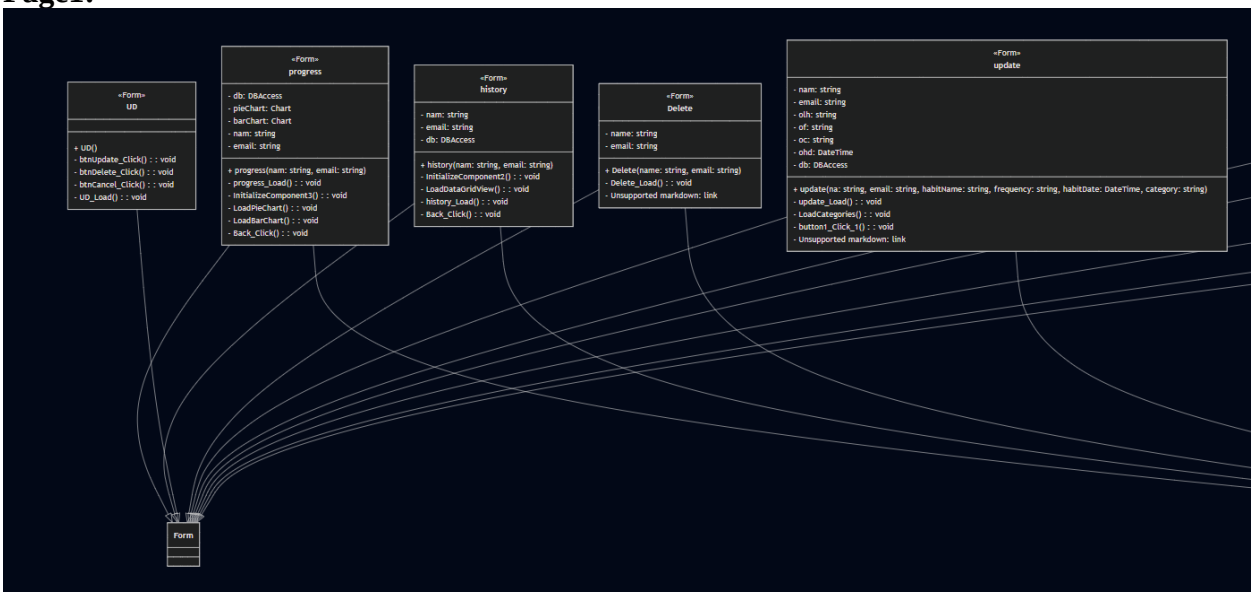

alt
[View Progress]
viewProgress(habitId)
storeProgressSnapshot(habitId)
retrieveProgress(habitId)
progressData
displayProgress(progressData)
alt
[Upload Profile]
uploadProfileImage(imageFile)
storeImage(imageFile)
imageStored(url)
showUploadedProfile(url)
alt
[View Category]
viewCategories()
retrieveCategories()
categoryList
displayCategories(categoryList)
alt
[Set Habit Reminder]
setHabitReminder(habitId, schedule)
scheduleNotification(habitId, schedule)
sendNotification(habitId)
alt
[View History]
viewHistory(habitId)
retrieveHistory(habitId)

Page 4:


retrieveHistory(habitId)
historyData
displayHistory(historyData)
User
HabitTrackingSystem
Database
EmailService
NotificationService
ImageService

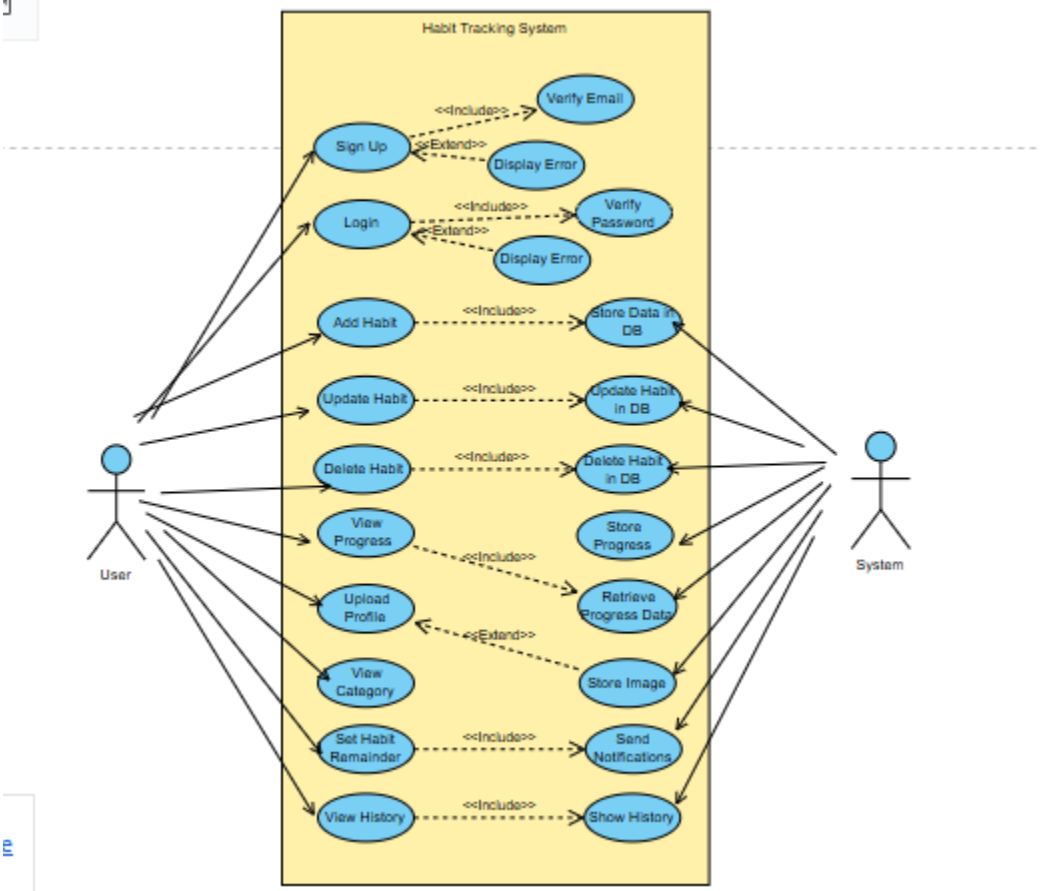
3) Class Diagram:

Page1:

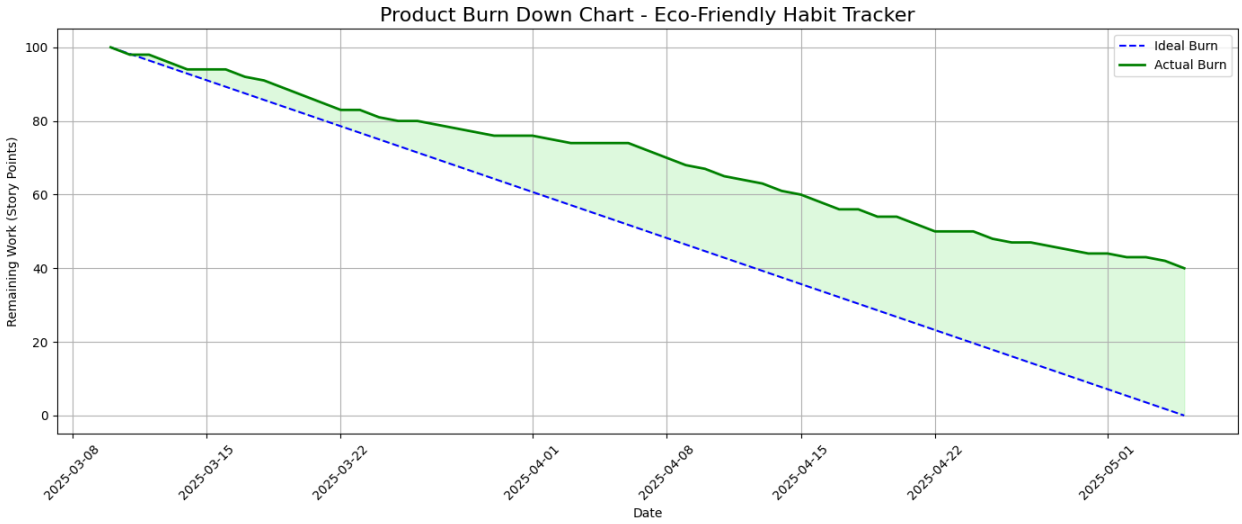


Page 2:

Use Case Diagram:



Product Burn Down Chart



Testing

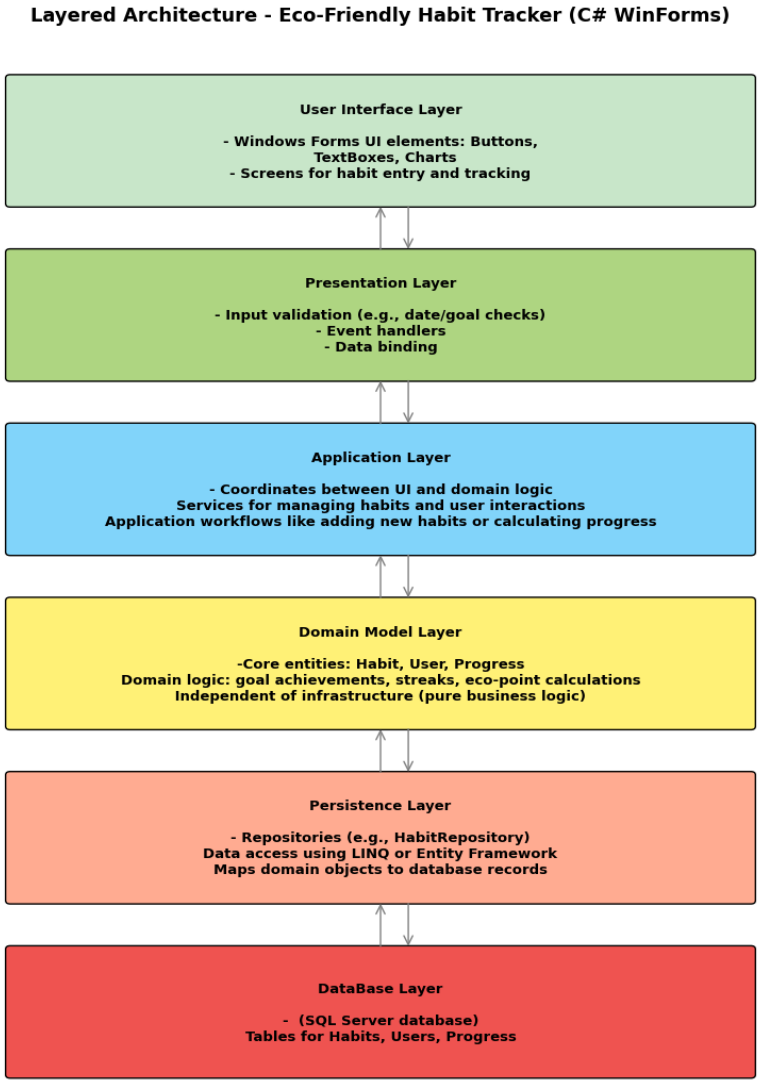
Boundary Value Analysis Testing (Sign -Up)

Test Case Id	Input Values	Boundary Type	Expected Output
TC1	Username="", Email="abc", Password="abc12"	Username: Black, Email: invalid missing @ and domain, Password: min-1	Fail
TC2	Username="", Email="abc", Password="abc123"	Username: min-1, Email: invalid - missing @ and domain, Password: min	Fail
TC3	Username="", Email="abc", Password="abc1234"	Username: min-1, Email: invalid - missing @ and domain, Password: min+1	Fail
TC4	Username="a", Email="abc", Password="abc12"	Username: min, Email: invalid - missing @ and domain, Password: min-1	Fail
TC5	Username="a", Email="abc@yahoo.com ", Password="abc1234"	Username: min, Email: invalid - not @gmail.com, Password: min+1	Fail
TC6	Username="a", Email="abc@gmail.com", Password="abc123"	Username: min, Email: valid, Password: min	Pass
TC7	Username="ab", Email="abc@gmail.com", Password="abc1234"	Username: min+1, Email: valid, Password: min+1	Pass
TC8	Username="user123", Email="abc@gmail.com", Password="habit@123"	Username: nominal, Email: valid, Password: nominal	Pass
TC9	Username="a", Email="abc@gmail.com", Password="habit@123"	Username: min, Email: valid, Password: nominal	Pass
TC10	Username="abc", Email="abc@gmail.com", Password="abcdef"	Username: nominal, Email: valid, Password: min	Pass

Boundary Value Analysis Testing(Login)

Test Case Id	Input Values	Boundary Type	Expected Output
TC1	Email="abc", Password="abc12"	Email: invalid missing @ and domain, Password: min-1	Fail
TC2	Email="abc", Password="abc123"	Email: invalid - missing @ and domain, Password: min	Fail
TC3	Email="abc", Password="abc1234"	Email: invalid - missing @ and domain, Password: min+1	Fail
TC4	Email="abc", Password="abc12"	Email: invalid - missing @ and domain, Password: min-1	Fail
TC5	Email="abc@yahoo.com ", Password="abc1234"	Email: invalid - not @gmail.com, Password: min+1	Fail
TC6	Email="abc@gmail.com", Password="abc123"	Email: valid, Password: min	Pass
TC7	Email="abc@gmail.com", Password="abc1234"	Email: valid, Password: min+1	Pass
TC8	Email="abc@gmail.com", Password="habit@123"	Email: valid, Password: nominal	Pass
TC9	Email="abc@gmail.com", Password="habit@123"	Email: valid, Password: nominal	Pass
TC10	Email="abc@gmail.com", Password="abcdef"	Email: valid, Password: min	Pass

Architecture diagram



Lessons Learned by the Group

1.Communication: Clear communication is essential for team collaboration.
2.Time Management: Setting deadlines helps keep the project on track.
3.Adaptability: Being flexible with changes leads to better outcomes.
4.Feedback: Regular feedback improves quality and team performance.
5.Documentation: Keeping detailed records aids future projects and knowledge sharing