IBU | International Burch University

myTasks App

Software Engineering Project

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1. INTRODUCTION

1.1 About the Project

myTasks is a user-friendly productivity app designed to help users stay organized and on top of their tasks. With myTasks, users can create an account, log in securely, set reminders, receive notifications, and manage their tasks efficiently. The app features a personalized dashboard that provides an overview of important reminders and relevant information, ensuring a seamless experience for users who need to keep track of their daily activities.

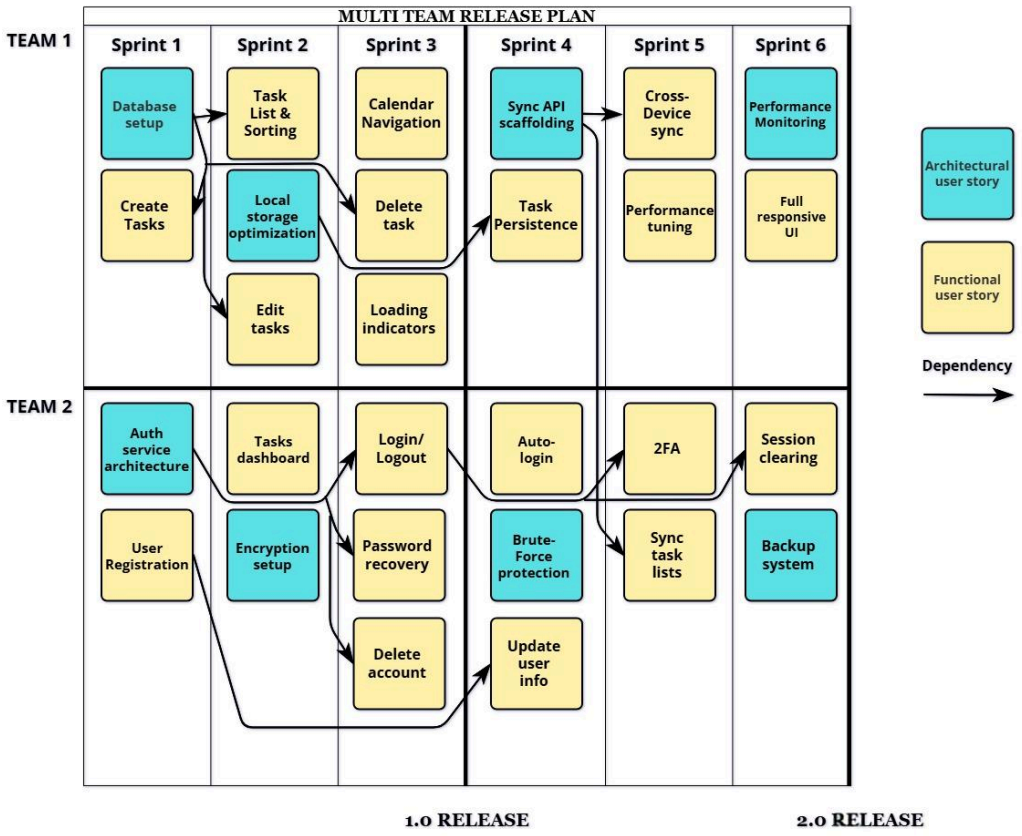
GitHub Link: [myTasks Repository]

1.2 High-level Plan

1.2.1 Product Roadmap

DATE The date or time frame when a goal should be met.	H1 2025	H2 2025
NAME The name of the new release.	myTasks 1.0	myTasks 2.0
GOAL The outcome or benefit you want to achieve.	- Develop a **Minimum Viable Product (MVP)** of a simple note-taking app. - Allow users to **add, edit, remove, and track** notes efficiently.	- Enable **user authentication** for cross-device note synchronization. - Improve **user experience and security**.
FEATURES The high-level features required to meet the goal.	1. Create, edit, and delete notes. 2. View a list of saved notes. 3. Organize notes by months and days.	1. User account creation and authentication 2. Sync notes across multiple devices. 3. Password recovery/reset functionality.
METRICS The measures to determine if the goal has been met.	1000+ registered downloads. 5000+ notes created. User retention rate > 50% after 1 month. Average user rating > 4.5 on the app store.	5000+ active registered users. 20%+ of users logging in from multiple devices. Average user rating > 4.7. Increase in user retention rate to > 60%.

1.2.2 Release Plan



1.3 Project Requirements

1.3.1 Functional Requirements

User Story 1 – User Registration

As a user, I want to register so I can have a personal account.

Acceptance Criteria:

- Users must provide a valid email, username, and password.
- Users must confirm their password to complete registration.

- An error message is displayed if the email is invalid or the password doesn't meet security requirements.
- Users can register using Google or Facebook authentication.

User Story 2 – User Login

As a user, I want to log in so I can access my tasks.

Acceptance Criteria:

- Users must enter a valid email and password.
- An error message is displayed if login credentials are incorrect.
- Users can log in via Google or Facebook authentication.
- A "Remember Me" option allows users to stay logged in.

User Story 3 – User Logout

As a user, I want to log out to secure my account.

Acceptance Criteria:

- Users can log out from the settings or profile menu.
- The session is cleared upon logout.
- Users are redirected to the login screen after logging out.

User Story 4 – Delete Account

As a user, I want to delete my account when I no longer need the app.

Acceptance Criteria:

- Users must confirm account deletion before proceeding.
- All user data, including tasks and reminders, is permanently deleted.
- A confirmation email is sent upon successful deletion.

User Story 5 – Update User Information

As a user, I want to change my user information to keep my profile updated.

Acceptance Criteria:

- Users can update their name, email, and phone number.
- Users must verify their identity before changing sensitive information.
- Changes are saved only if all required fields are valid.

User Story 6 – Create Task

As a user, I want to create a new task with a title.

Acceptance Criteria:

- Users must enter a task title before saving.
- Users can optionally add a description, due date, and priority.
- An error message is displayed if required fields are missing.

User Story 7 – Add Task Description

As a user, I want to add a description to my task for more context.

Acceptance Criteria:

- The description field allows up to 500 characters.
- Users can edit or remove the description at any time.

User Story 8 – Assign Due Date to Task

As a user, I want to assign a date to a task to know when it's due.

Acceptance Criteria:

- Users can select a due date from a calendar picker.
- Tasks without a due date are marked as “No Due Date.”

- Tasks are automatically sorted by due date.

User Story 9 – Assign Time to Task

As a user, I want to assign a specific time to a task.

Acceptance Criteria:

- Users can set a due time in **hours and minutes**.
- Time selection is optional, and tasks can remain all-day tasks.

User Story 10 – Task Prioritization

As a user, I want to assign a priority level (low, medium, high) to my tasks so that I can focus on the most important ones.

Acceptance Criteria:

- Users can set a priority level when creating or editing a task.
- Tasks are visually distinguished based on priority (e.g., color-coded).
- Users can sort tasks based on priority.

User Story 11 – Delete Task

As a user, I want to delete a task that I no longer need.

Acceptance Criteria:

- Users can delete a task from the task list.
- A confirmation message appears before deletion.
- Deleted tasks cannot be recovered.

User Story 12 – View Upcoming Tasks

As a user, I want to see a list of my upcoming tasks.

Acceptance Criteria:

- Users can view a chronological list of upcoming tasks.
- Tasks are displayed with **title, due date, and priority**.

User Story 13 – Sort Tasks

As a user, I want my tasks to be sorted from the earliest to latest.

Acceptance Criteria:

- Tasks are automatically sorted by **due date**.
- Users can manually sort by **priority, category, or status**.

User Story 14 – Calendar Navigation

As a user, I want to swipe between months to view tasks.

Acceptance Criteria:

- Users can **swipe left or right** to navigate months.
- The current date is always highlighted.

User Story 15 – Required Task Information Notification

As a user, I want to be notified if a task is missing required information.

Acceptance Criteria:

- An alert appears if a required field (e.g., title) is missing.
- The notification disappears once all required fields are filled.

User Story 16 – Login Error Messages

As a user, I want error messages if login credentials are incorrect.

Acceptance Criteria:

- Users see a **"Incorrect email or password"** message if login fails.
- Users are given an option to reset their password.

User Story 17 – Confirm Password on Registration

As a user, I want to confirm my password when registering.

Acceptance Criteria:

- Users must enter the password twice for confirmation.
- An error message appears if passwords do not match.

User Story 18 – Stay Logged In

As a user, I want to remain logged in until I choose to log out.

Acceptance Criteria:

- Users can enable a "Stay Logged In" option.
- Sessions persist until the user logs out or the session expires.

User Story 19 – Loading Indicators

As a user, I want to see loading indicators when tasks are being fetched.

Acceptance Criteria:

- A loading spinner appears while tasks are loading.
- The indicator disappears once data is fully loaded.

User Story 20 – Task Persistence

As a user, I want the app to remember my tasks even if I close it.

Acceptance Criteria:

- Tasks are stored in a database and persist across sessions.

1.3.2 Non-Functional Requirements

User Story 21 – Performance

The app should respond to user actions within 1 second.

Acceptance Criteria:

- The app loads tasks within **1 second** on a standard internet connection.

User Story 22 – Security

The app should be secure, especially during login and registration.

Acceptance Criteria:

- Passwords are stored securely using encryption.
- Brute-force protection locks accounts after **5 failed attempts**.

User Story 23 – Uptime

The app should be available at least 99% of the time.

Acceptance Criteria:

- The system monitors uptime and ensures minimal downtime.

User Story 24 – Responsive Design

The UI should be responsive and work on different device sizes.

Acceptance Criteria:

- The app should function on **mobile, tablet, and desktop** devices.
- Buttons and text fields should adjust for different screen sizes.

User Story 25 – Data Persistence

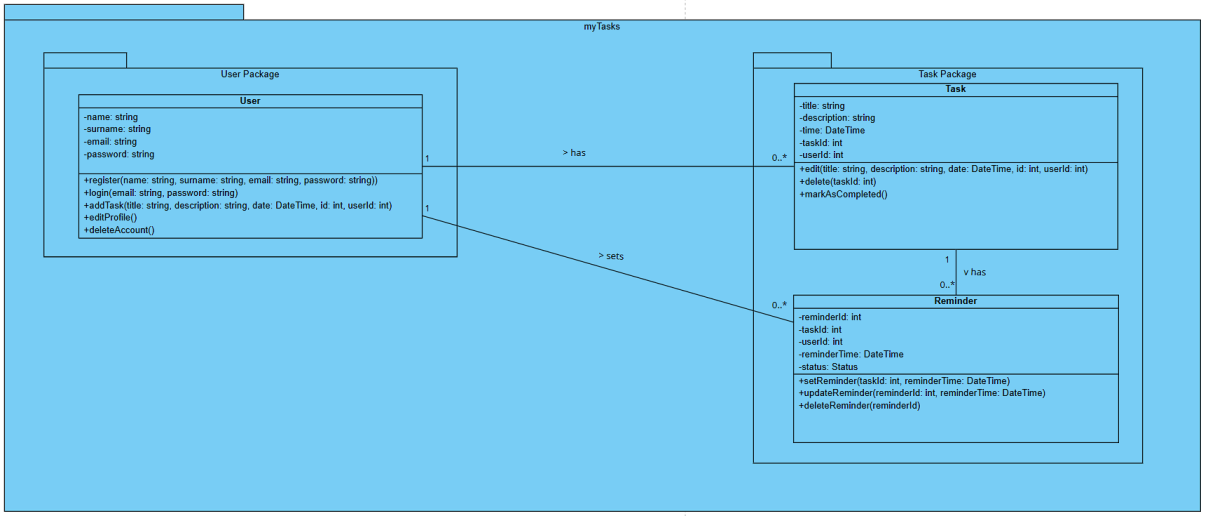
The data should be stored persistently even if the app restarts.

Acceptance Criteria:

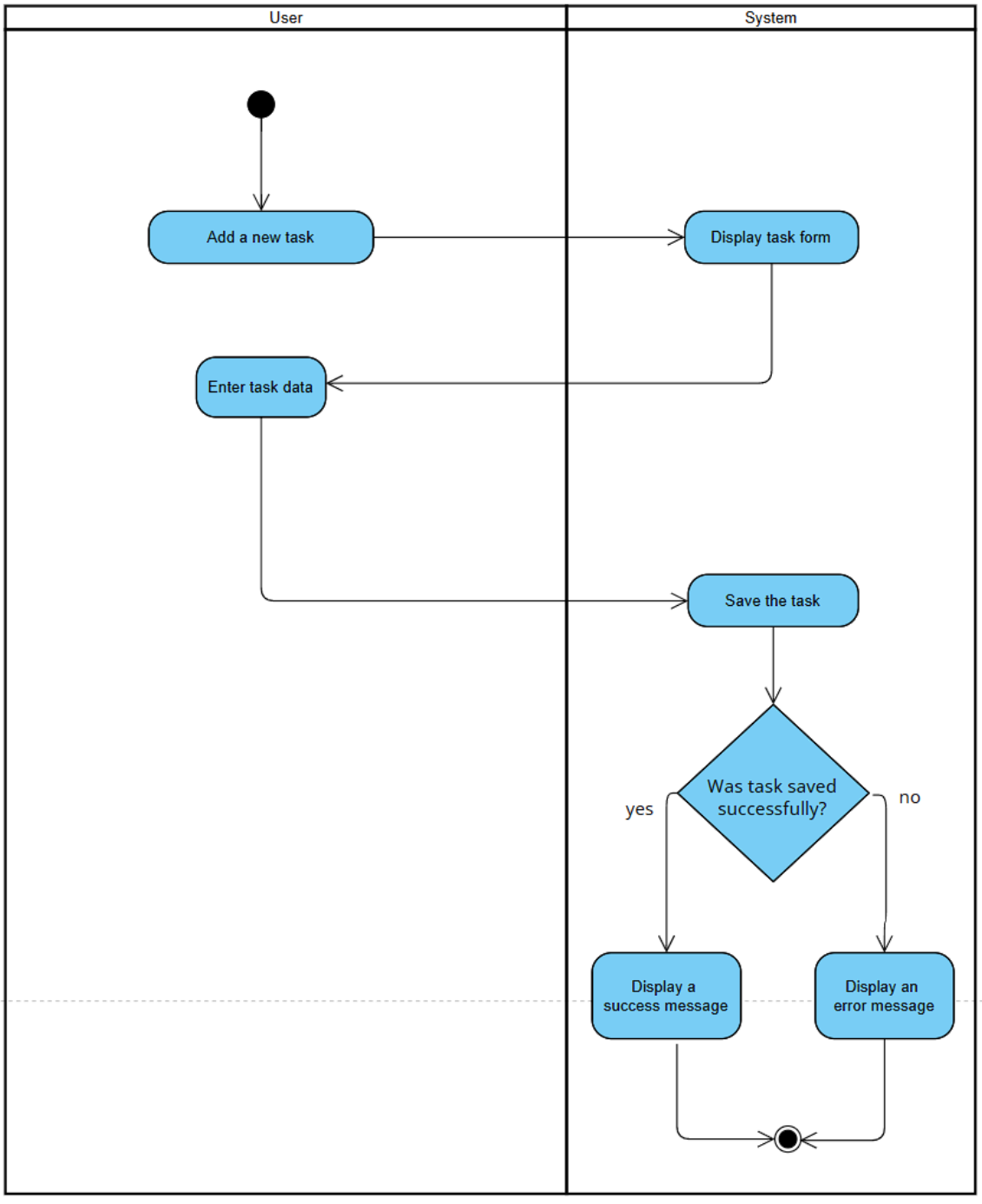
- Tasks and user data should **persist after closing and reopening the app**.
- The system performs regular data backups to prevent data loss.

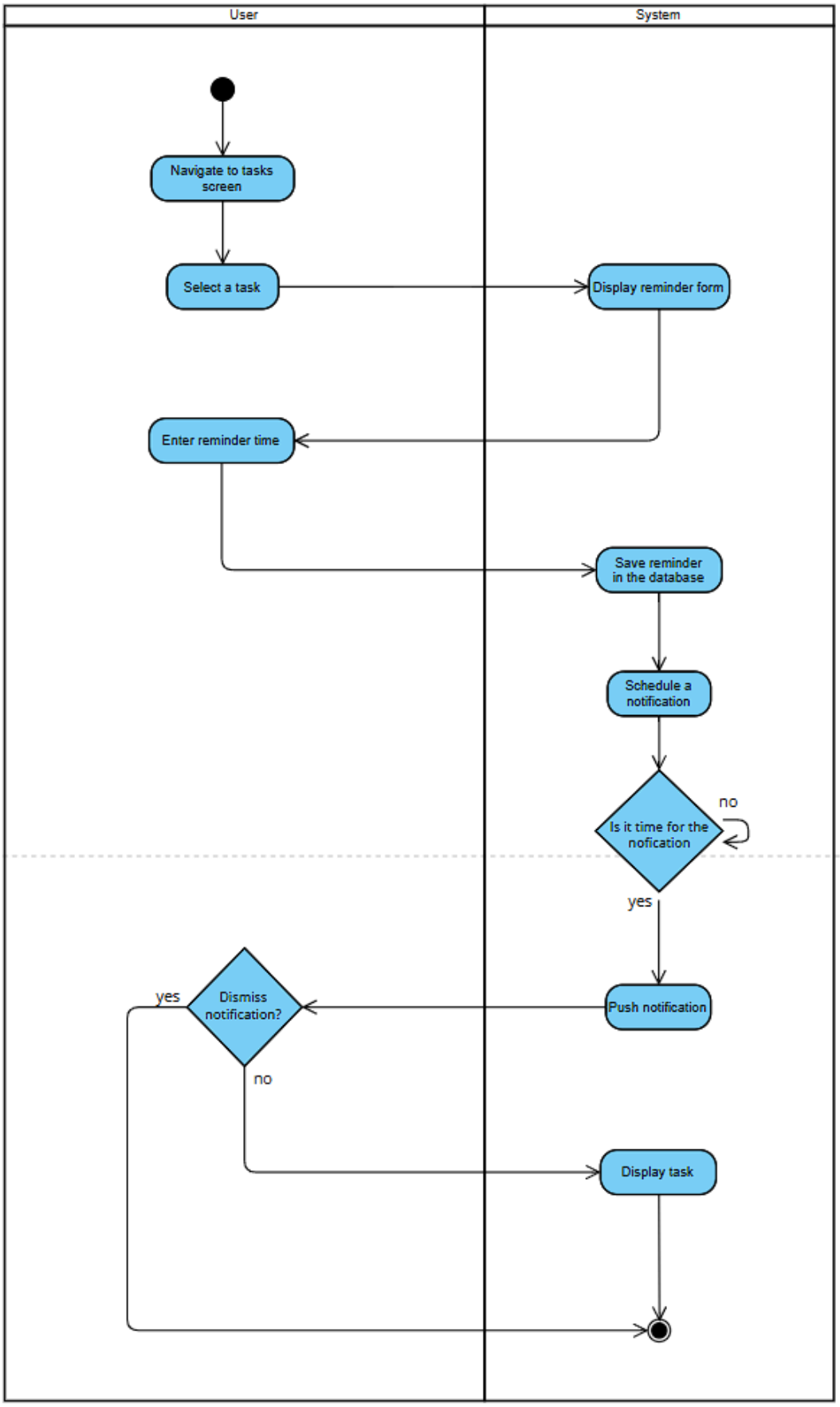
1.4 UML Diagrams

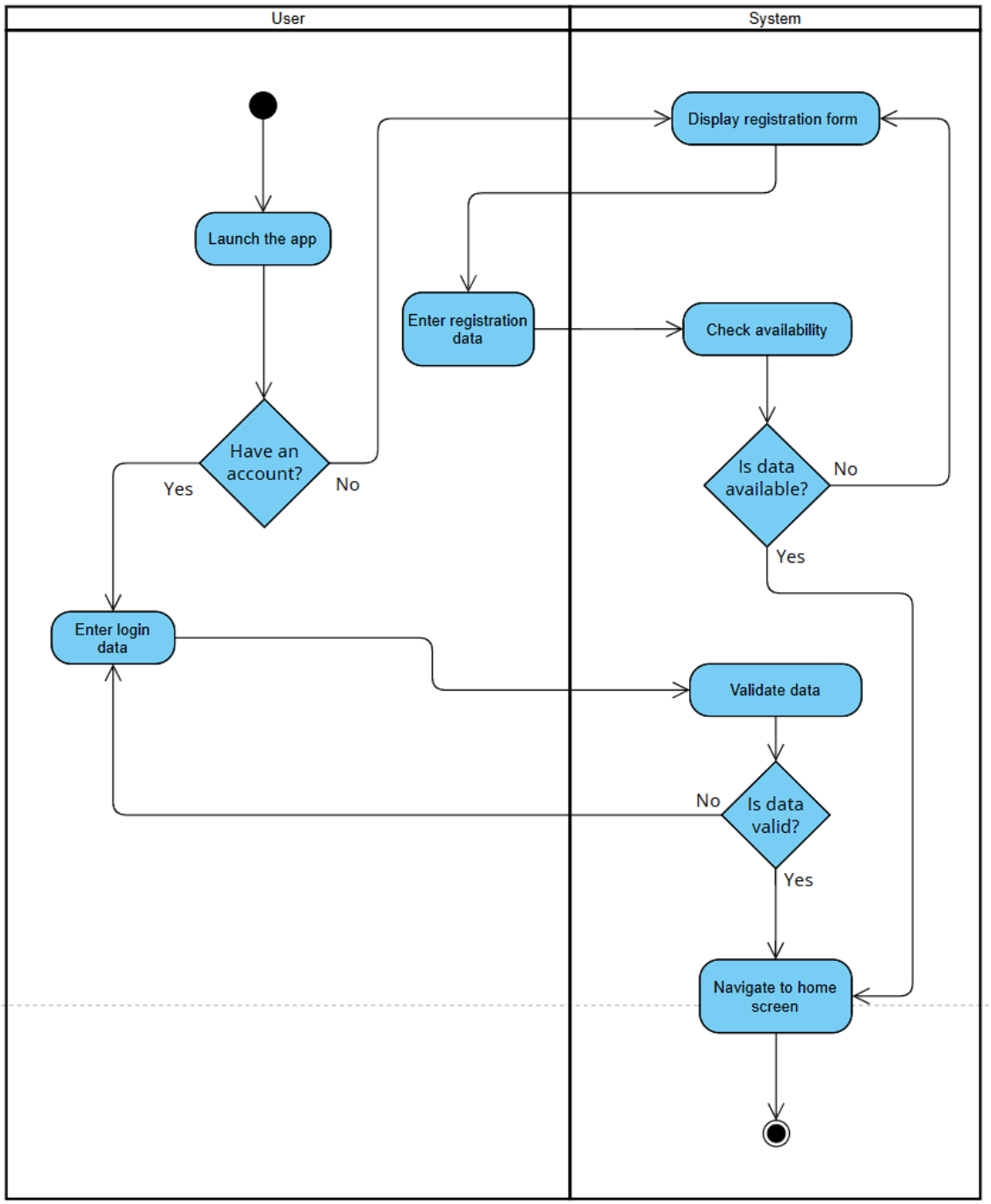
1.4.1 Class Diagram



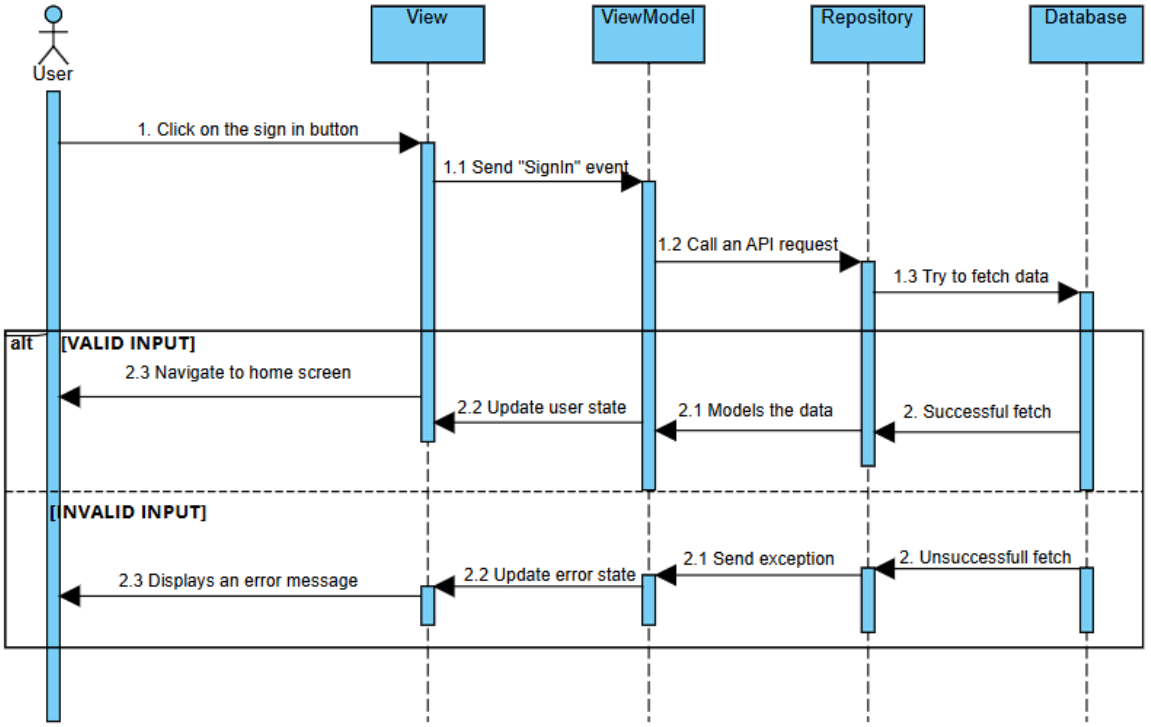
1.4.2 Activity Diagram

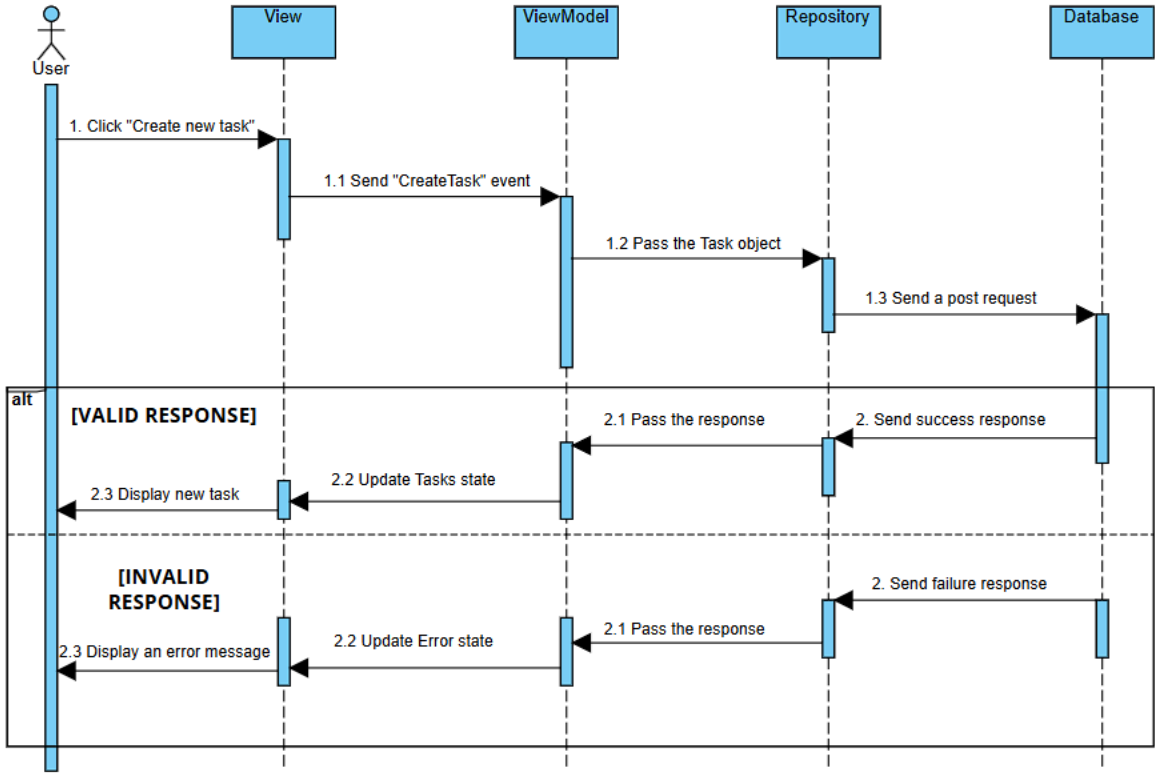


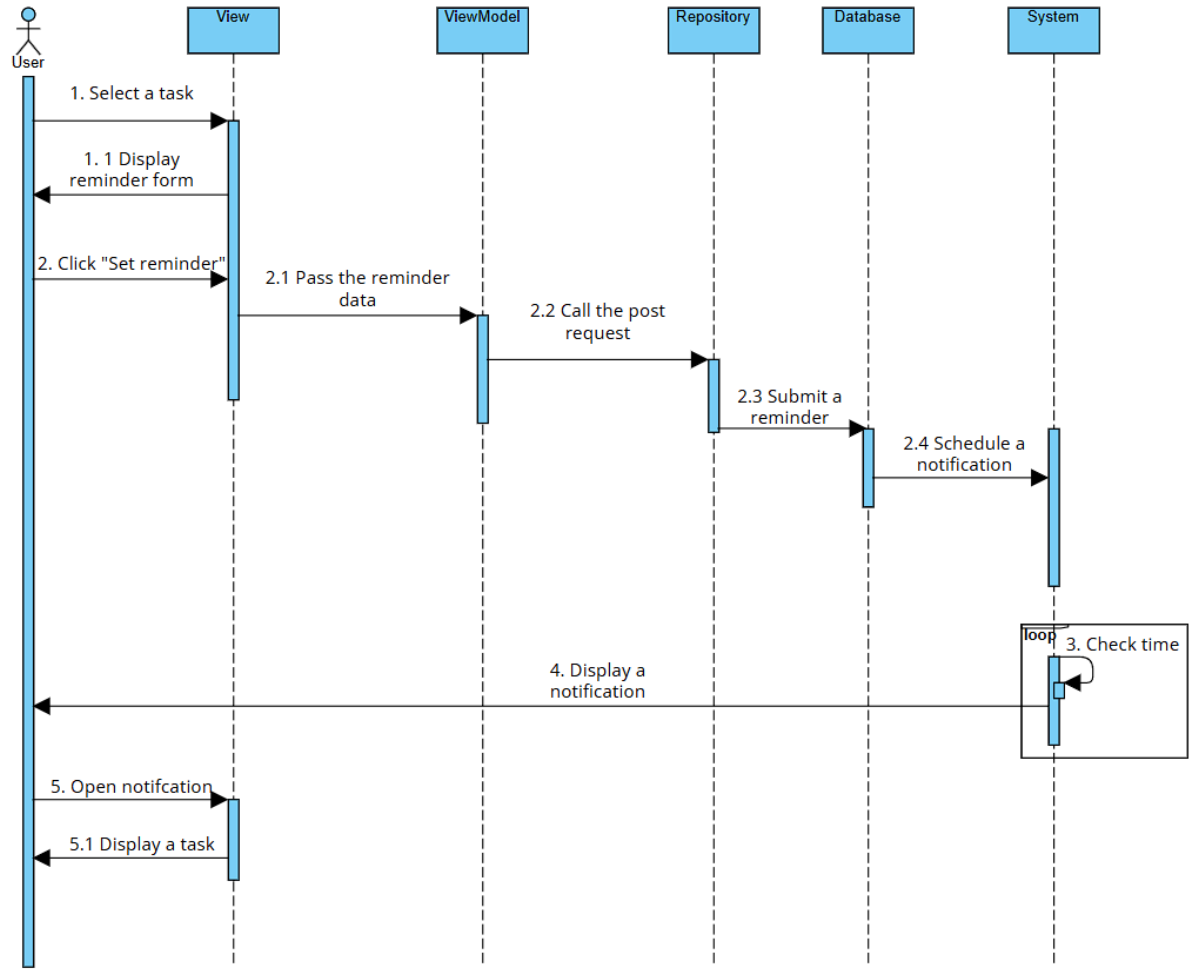

User
System
Navigate to tasks screen
Select a task
Display reminder form
Enter reminder time
Save reminder in the database
Schedule a notification
Is it time for the nofication
no
yes
Push notification
Dismiss notification?
yes
no
Display task


User
System
Launch the app
Have an account?
Yes
No
Enter login data
Display registration form
Enter registration data
Check availability
Is data available?
No
Yes
Validate data
Is data valid?
No
Yes
Navigate to home screen

1.4.3 Sequence Diagram






User
View
ViewModel
Repository
Database
System
1. Select a task
1. 1 Display reminder form
2. Click "Set reminder"
2.1 Pass the reminder data
2.2 Call the post request
2.3 Submit a reminder
2.4 Schedule a notification
loop
3. Check time
4. Display a notification
5. Open notifcation
5.1 Display a task