

GROUP PROJECT

Mobile Task Manager
(EVA, SAAHIR, JIBRAN, YASH)

CSCI 4100U

ONTARIO TECH UNIVERSITY

DUE: 1st December 2025

Mobile Task Manager

A simple, clean, and feature-rich Flutter application designed to help users manage daily tasks with scheduling, notifications, recurring tasks, cloud sync, and visual progress tracking.

Group Members

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Yash Patel — 100785833

Muhammad Jibran Khan — 100877086

Project Overview

The **Mobile Task Manager** is a Flutter application built for the CSCI 4100U Mobile Devices course.

The app allows users to:

- Create, edit, delete, and view tasks
- Assign due dates and priorities
- Receive scheduled local notifications
- Use recurring tasks (daily, weekly, weekdays, monthly)
- Sync data to the cloud
- Log in and sign up using Firebase Authentication
- View task analytics using a dashboard
- Undo deleted tasks with snackbars

The project fulfills **all core functional requirements** and includes multiple optional features.

Individual Responsibilities

Eva Hanif Nathani (100814690)

- UI refinement & theme adjustments
- Dashboard layout verification
- Testing and user flow checks
- Documentation support

Saahir Dhani (100818300)

- Notifications system
- Recurring tasks implementation

- Search & sorting
- Undo delete functionality
- Bug fixes & merge conflict resolution

Yash Patel (100785833)

- Project setup & environment configuration
- Running app on emulator/device
- README documentation
- UML diagrams
- Testing and feedback

Muhammad Jibran Khan (100877086)

- Firebase authentication (login & signup)
- Cloud sync implementation
- Firestore integration
- Merge conflict fixes
- Code review and backend testing

All group members worked together on planning, debugging, testing, and validating the app.

Features Implemented (Complete)

Core Required Features

- Add, edit, delete tasks
- Mark tasks complete/incomplete
- View task details
- Persistent local storage (SQLite)
- Multiple screens + navigation
- Task sorting & filtering
- Task search bar
- Task priority selection
- Due date selection
- Undo delete using Snackbars
- Scheduled notifications
- Authentication (Login + Sign Up)
- Cloud sync module

Additional Features (Above Requirements)

Recurring Tasks

- Daily
- Weekly
- Weekdays
- Monthly

Search & Sorting

- Search by task title
- Sort by due date, priority, status

UI Enhancements

- Task list with priority colors
- Bottom sheet for editing
- Stylish dashboard with charts
- Status summary

Notifications

- Local scheduled reminders
- "Test Notification" button
- "Scheduled after 10 seconds" demo
- Background reminder scheduling

Settings

- Theme selection (Light / System)
- Cloud sync status
- Reminder toggle
- User account info

App Architecture



/lib Structure

- lib/
 - data/
 - task.dart
 - task_repo.dart
 - features/
 - auth/
 - auth_screen.dart
 - list/

- `task_list_screen.dart`
- `edit/`
- `task_edit_sheet.dart`
- `details/`
- `task_details_screen.dart`
- `dashboard/`
- `dashboard_screen.dart`
- `settings/`
- `services/`
- `auth_service.dart`
- `cloud_sync_service.dart`
- `notification_service.dart`
- `widgets/`
- `app_router.dart`
- `main.dart`
- `firebase_options.dart`

Storage

Local

- SQLite database (`tasks.db`)
- Tables include fields:
 - title
 - description
 - due date
 - priority
 - status
 - recurrence

Cloud

- Firestore (Firebase) sync
- Login/Signup using Firebase Authentication

Dashboard Features

- Total tasks
- Completed tasks
- In-progress tasks
- Overdue tasks
- Task status pie chart

- Priority distribution bar chart
 - Completion rate summary
-

UI Highlights

- Clean pastel color palette
- Material Design 3 styling
- Custom icons
- Smooth navigation transitions
- Bottom sheet for editing
- Confirmation dialogs

Installation & Running

1. Clone the repo

```
git clone <repo link>
cd mobile-2025-final-project-patel-dhani-nathani-khan
```

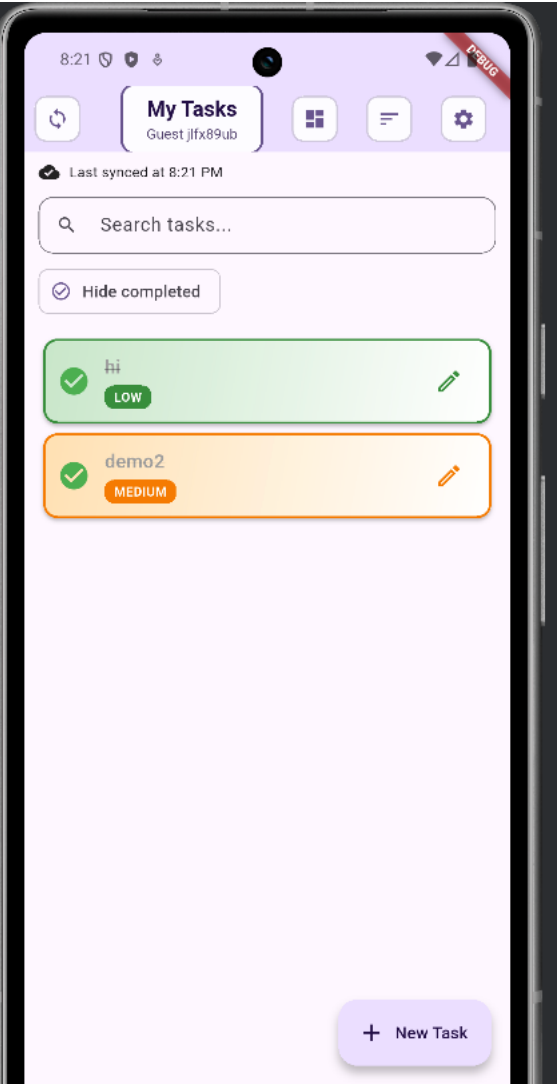
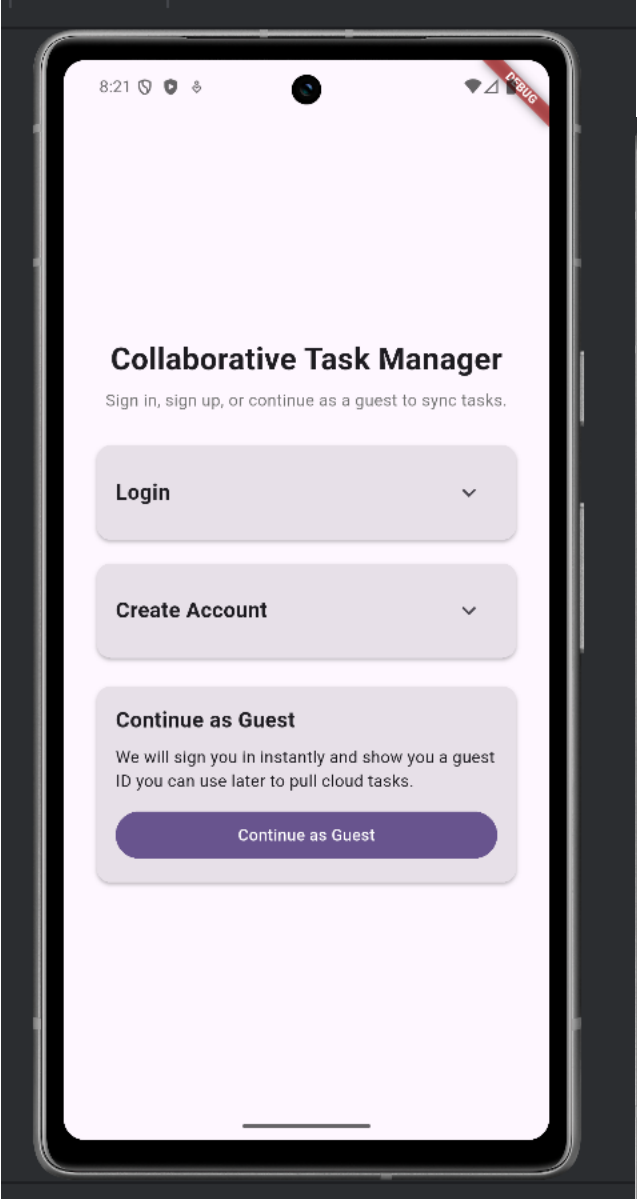
2. Install dependencies

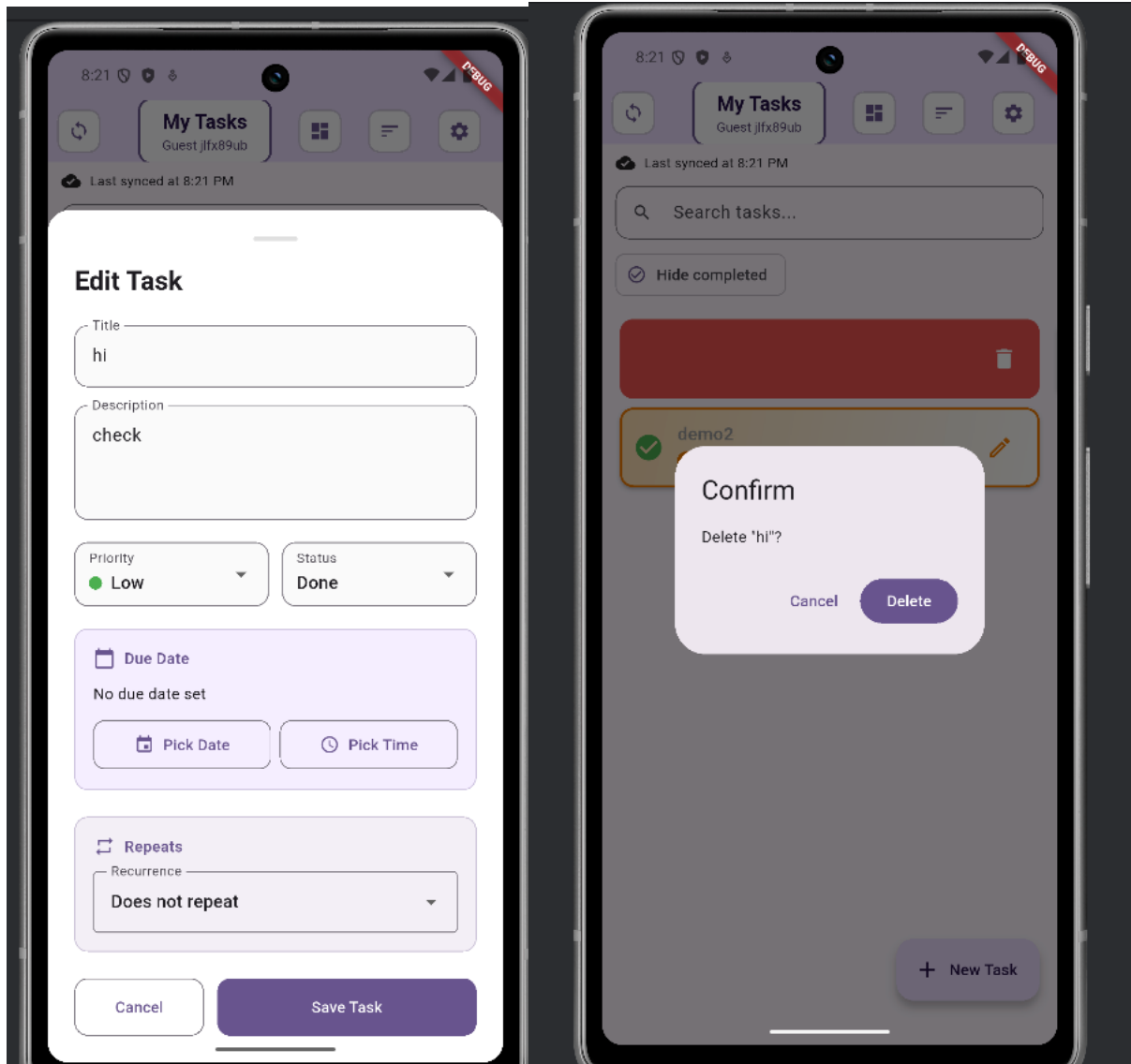
```
flutter pub get
```

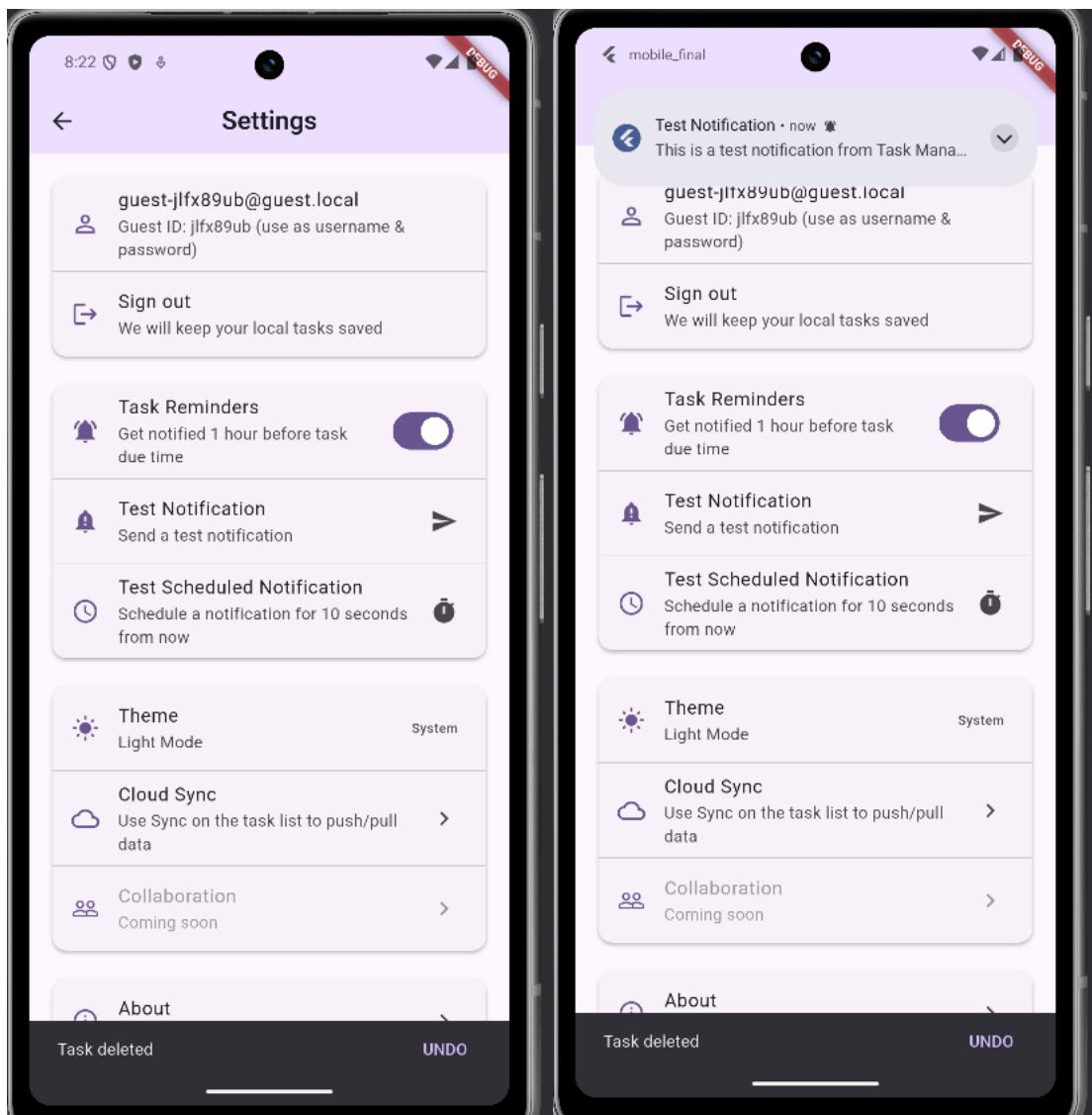
3. Run the app

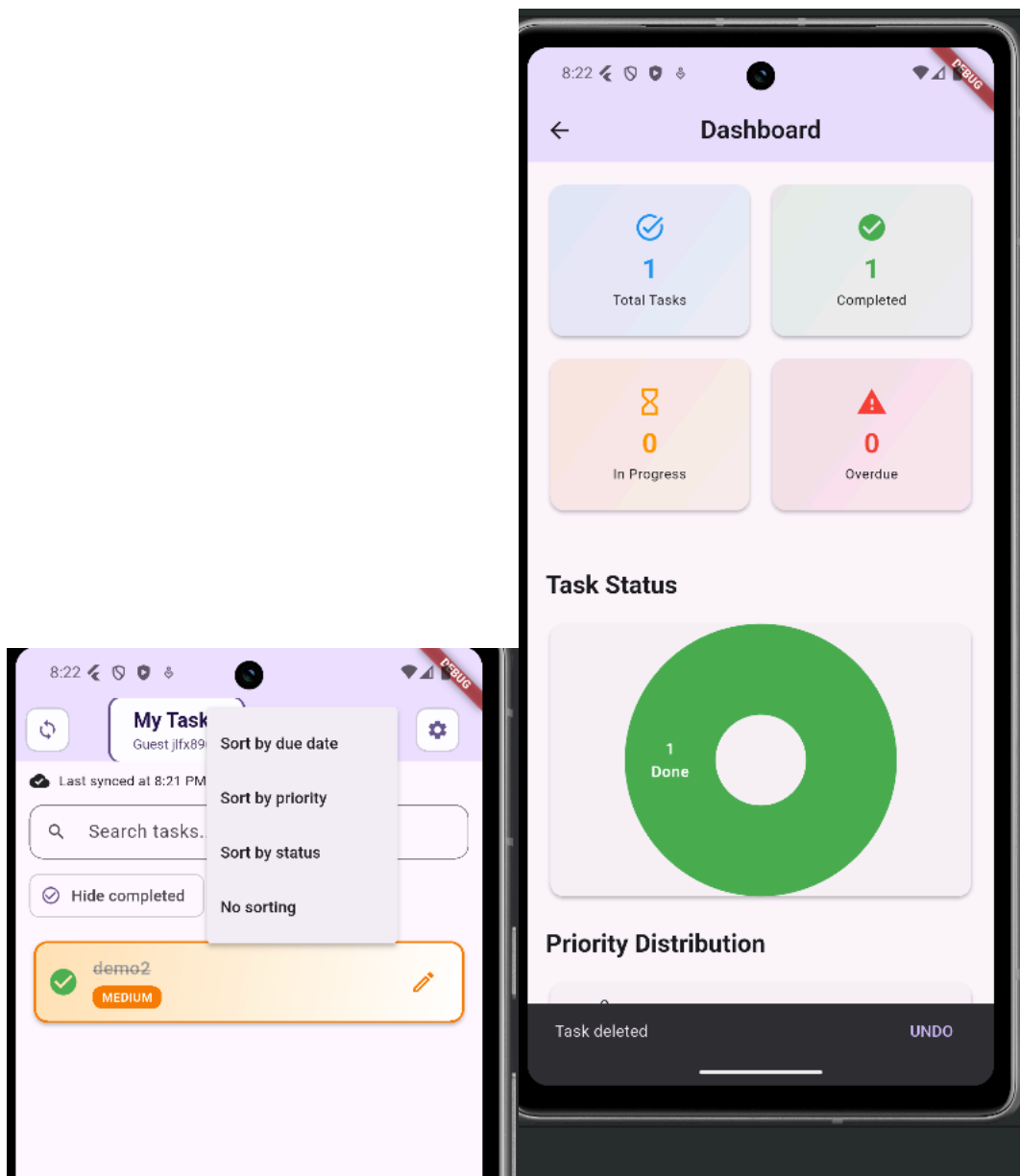
```
flutter run
```

Screenshots Examples

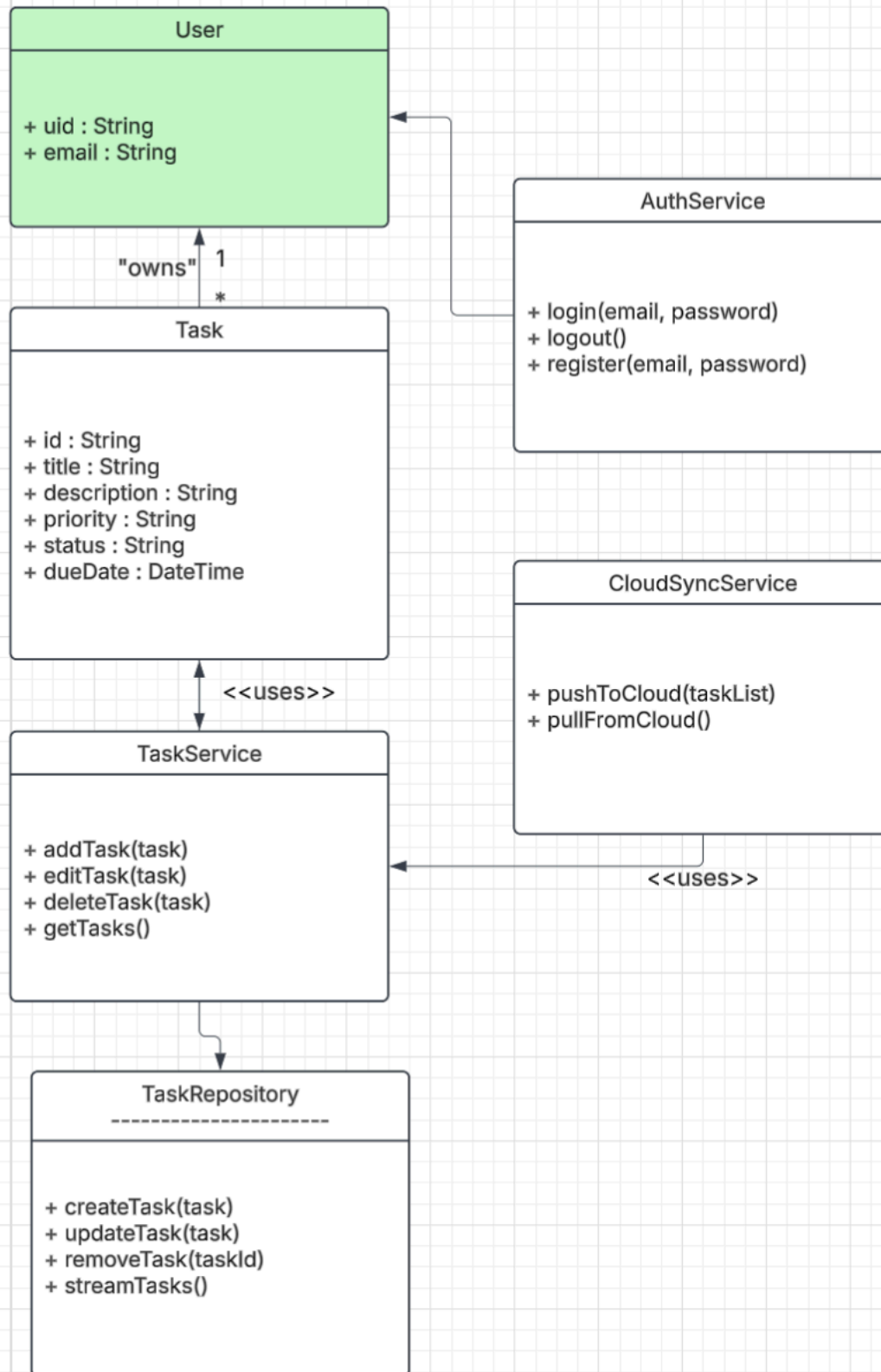




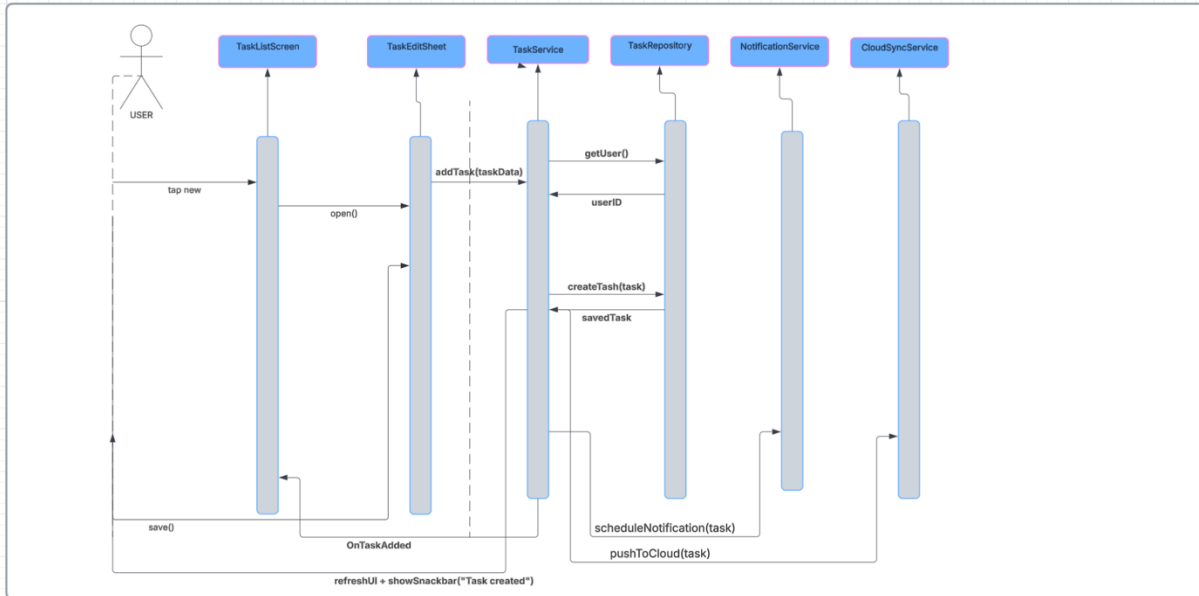


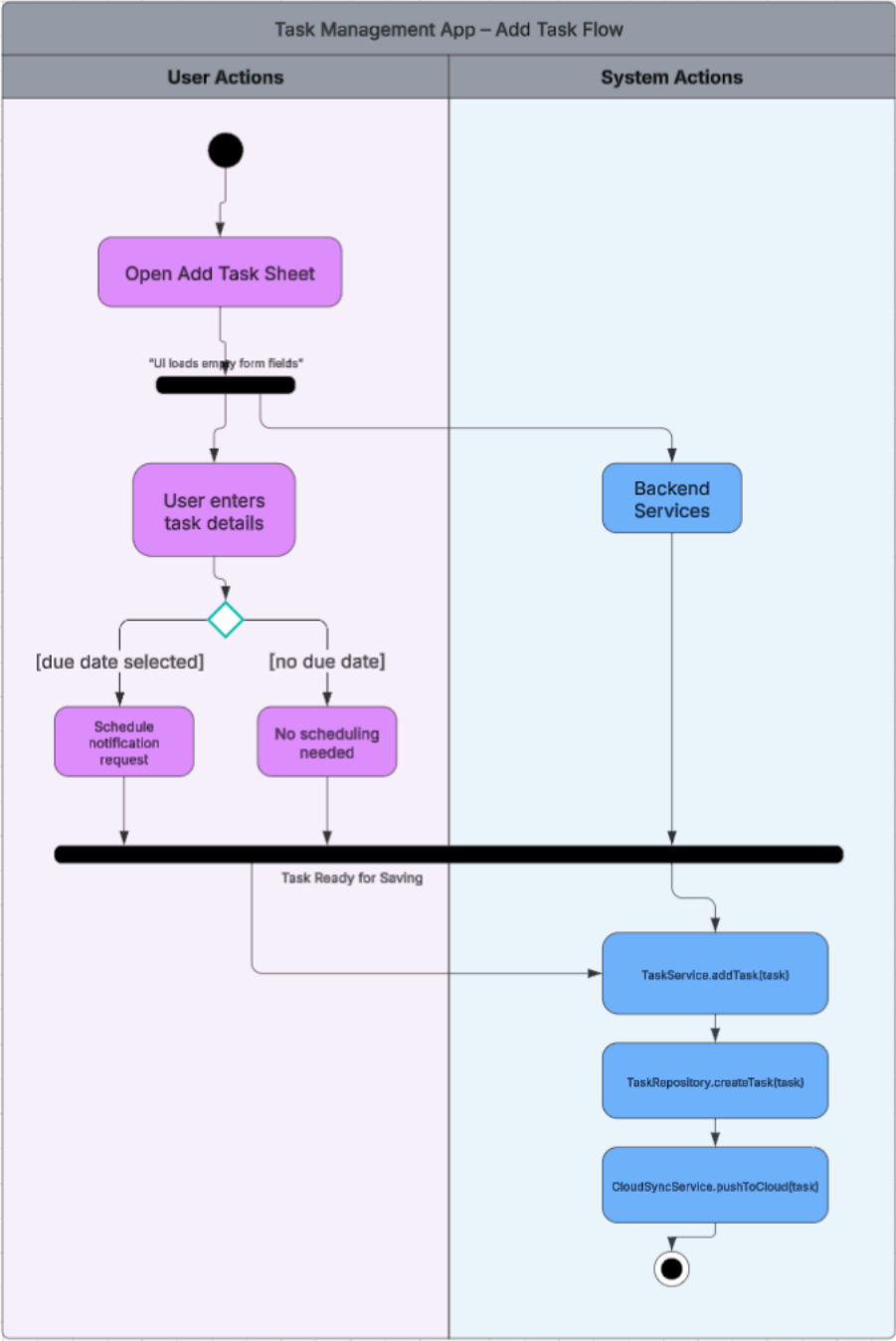


UML Diagrams



Sequence diagram





Final Notes

This project includes all required features for the CSCI 4100U final project and implements multiple optional enhancements such as recurring tasks, notifications, dashboard analytics, cloud sync, and a polished UI.

The app has been fully tested on Android emulator and physical devices.

Thank You

Submitted by:

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