

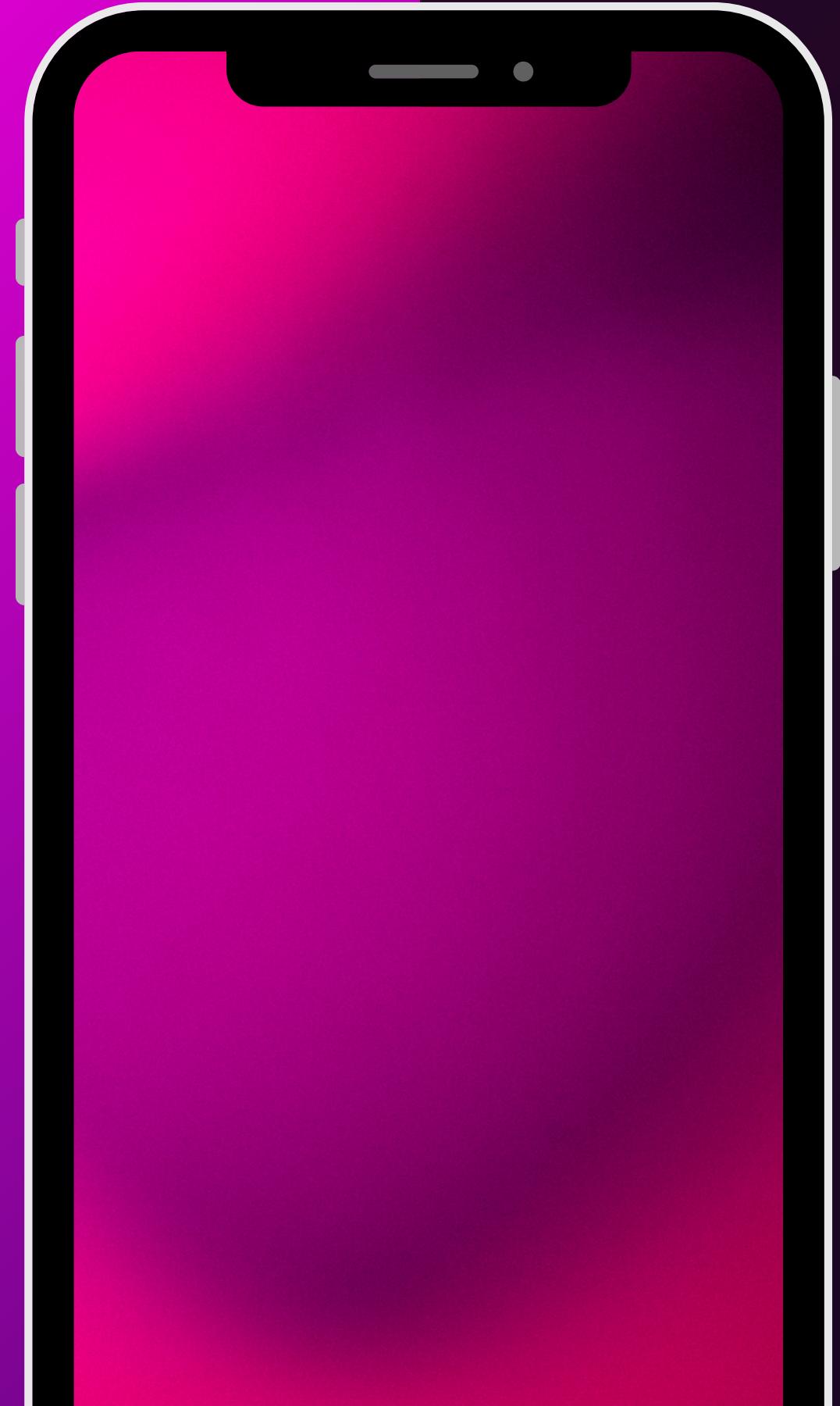


Mobile Application  
Development Project

**Student  
Academic  
Management App**

NISSHA - ANDREA - BANU - AINAA





# Problem Statement

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**Students face challenges in :**

- Managing multiple courses and assignments
- Tracking assignment deadlines
- Calculating and monitoring CGPA
- Organizing academic information efficiently



# Technologies Used

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01

## Development Environment

- Programming Language: Java & Kotlin
- IDE: Android Studio

02

## Backend Technologies

- Firebase Authentication
- Firebase Realtime Database

03

## Frontend Technologies

- Android Native XML
- Material Design Components
- RecyclerView Implementation



# Solution : Key Features

01

## Course Management

- Add, edit, delete courses
- Basic schedule tracking (day/time)
- Course listing

02

## User Profile System

- Basic user information
- Edit profile details
- Log out functionality

03

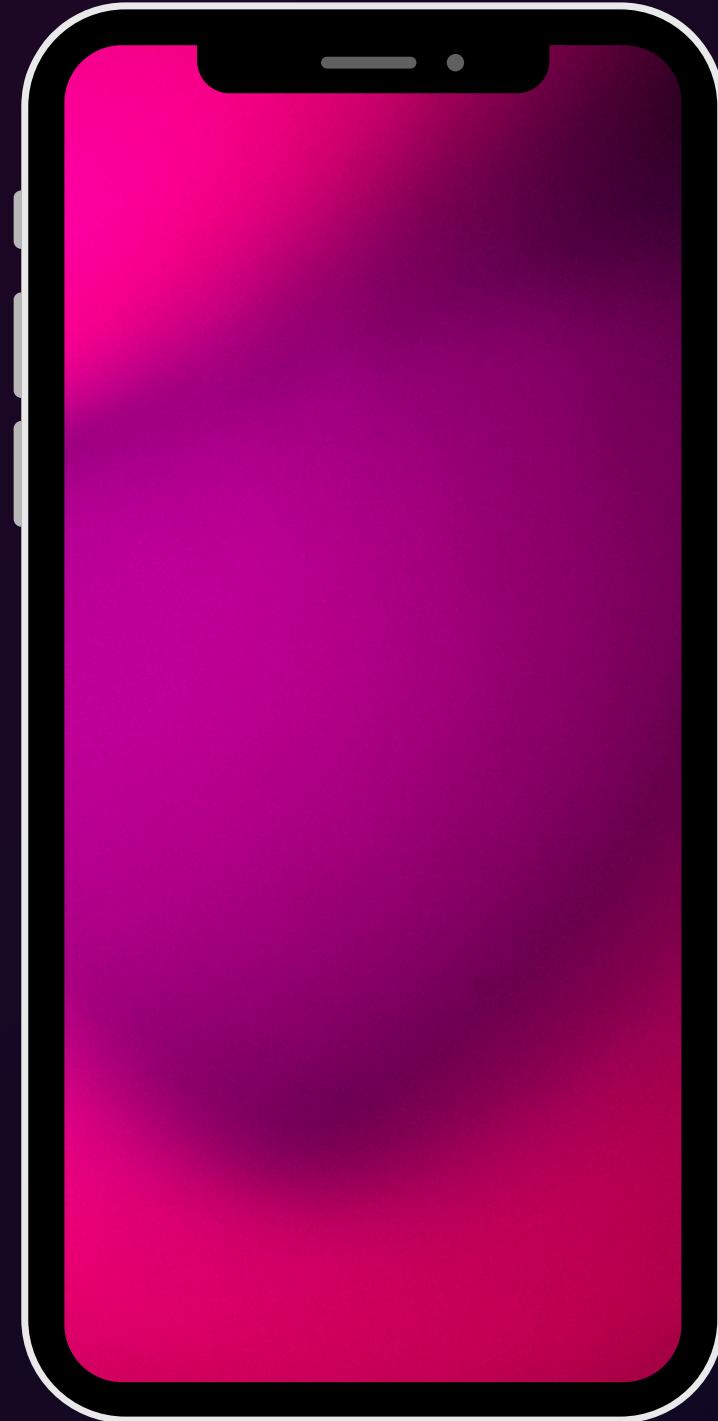
## Assignment Tracker

- Add, edit, delete assignments
- Search functionality
- Filter by due date, title, course code
- Assignment status tracking (Done)

04

## CGPA Calculator

- Basic CGPA calculation
- Grade input for courses
- Simple grade tracking





# Technical Implementation

01

## Backend Infrastructure

- Firebase Authentication for user management
- Firebase Realtime Database for data storage
  - Course data management
  - Assignment data management
  - User profile storage
- Basic database operations (CRUD)

02

## Frontend Development

- Android Studio
- User-friendly interface
- Responsive design



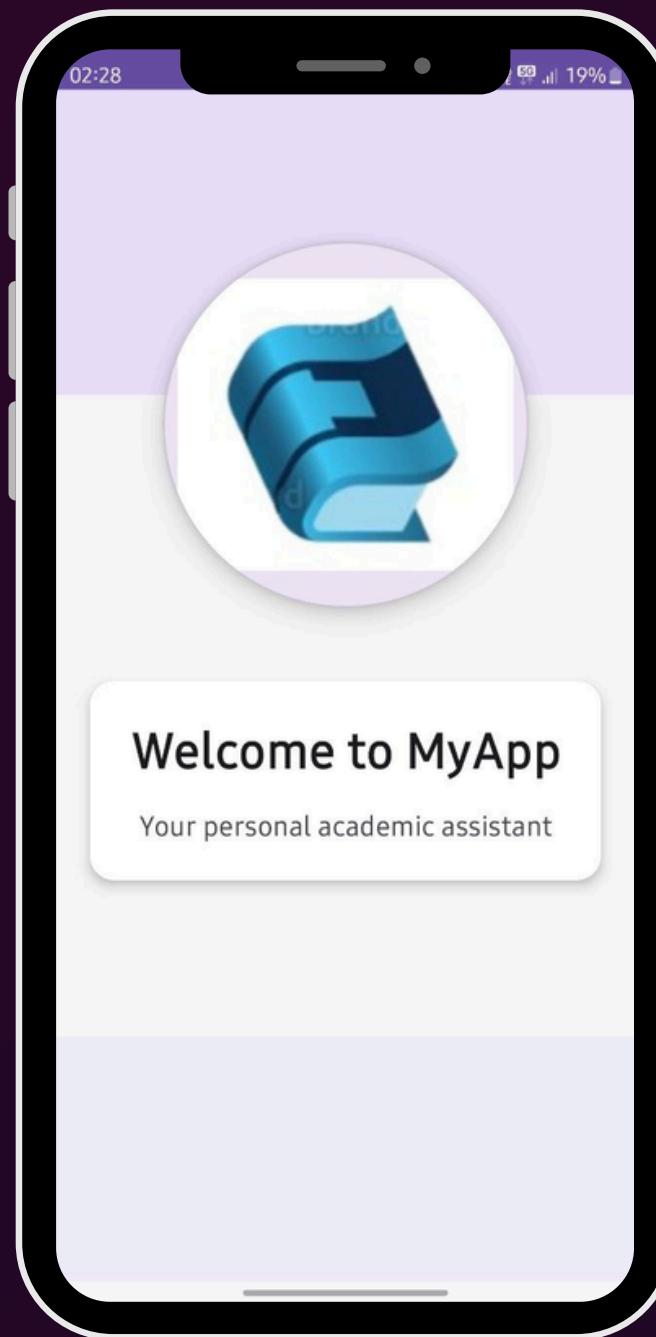
# Quality Assurance

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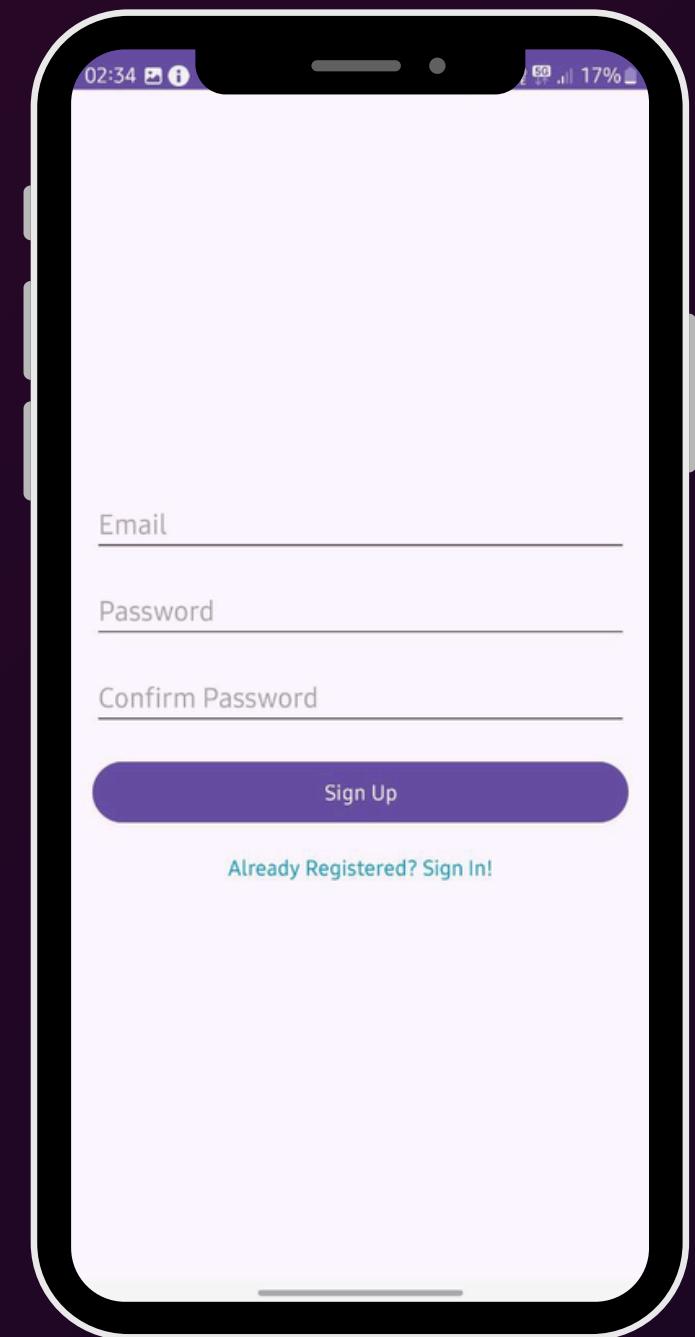
## Comprehensive Testing

- 35+ test cases
- Key areas tested :
  - User authentication
  - Course management
  - Assignment tracking
  - CGPA calculation
  - Profile management

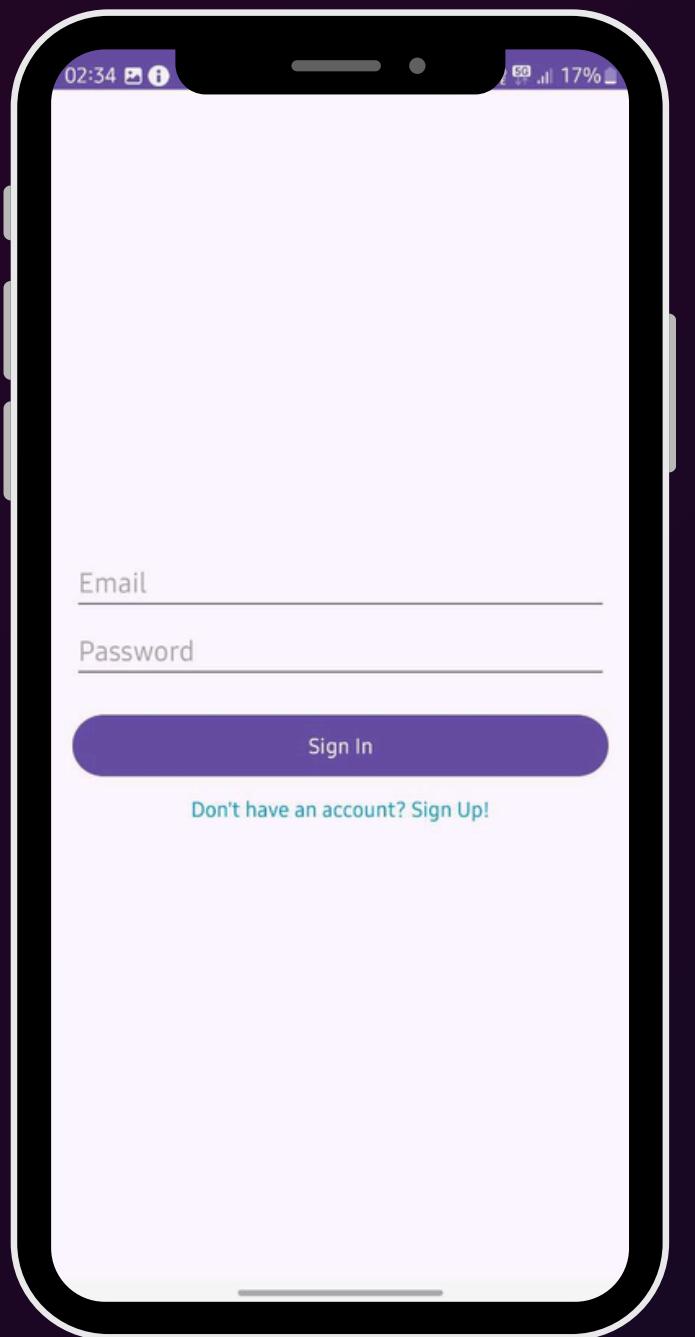
# App Screenshots



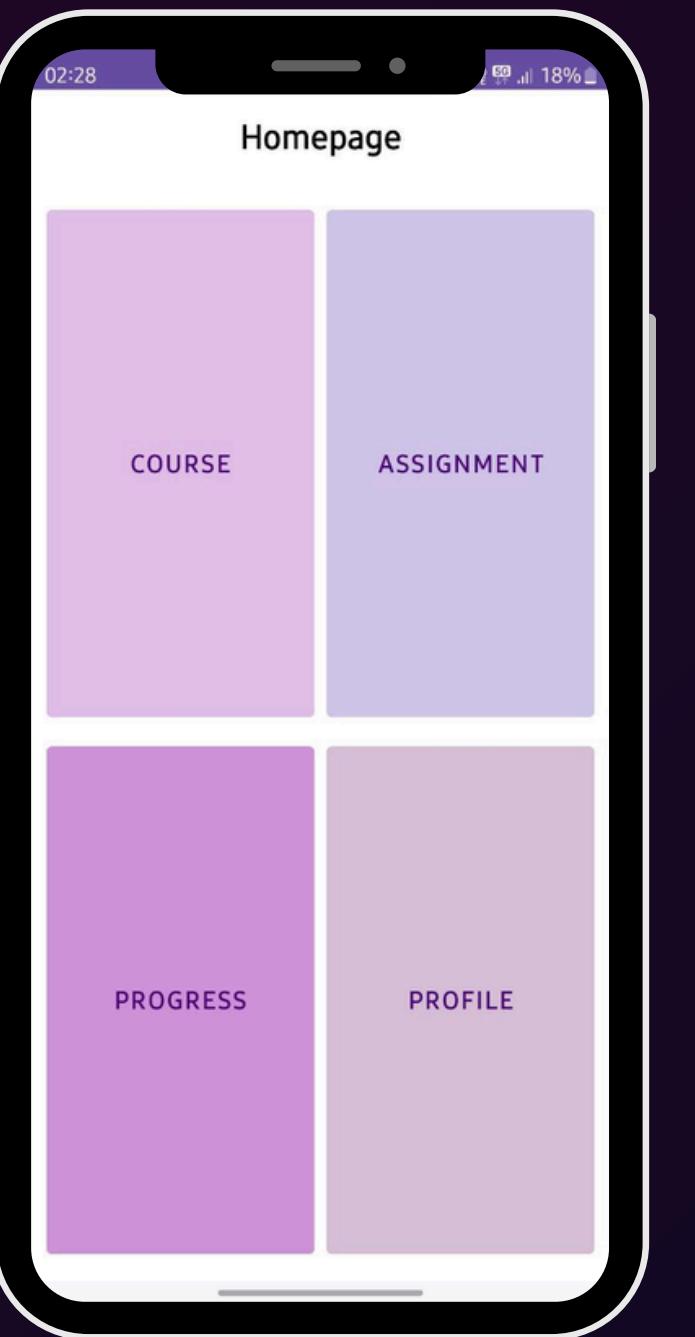
Welcome Page shows the app name and logo.



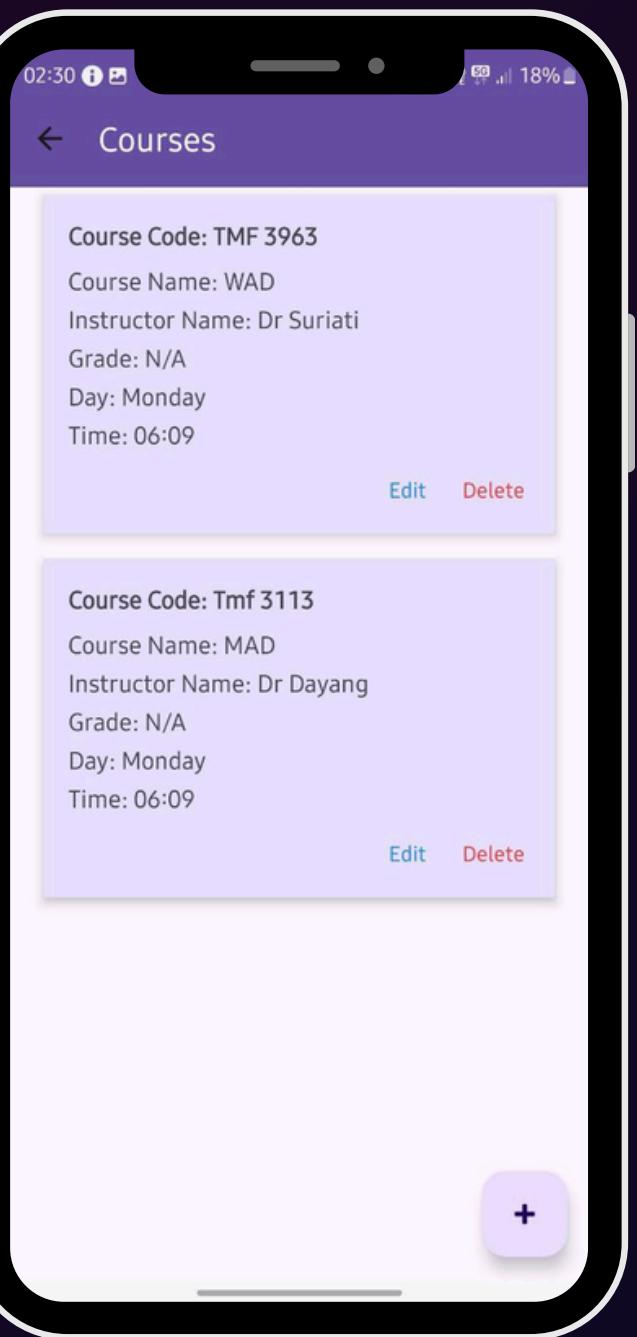
Sign Up Page



Sign In Page



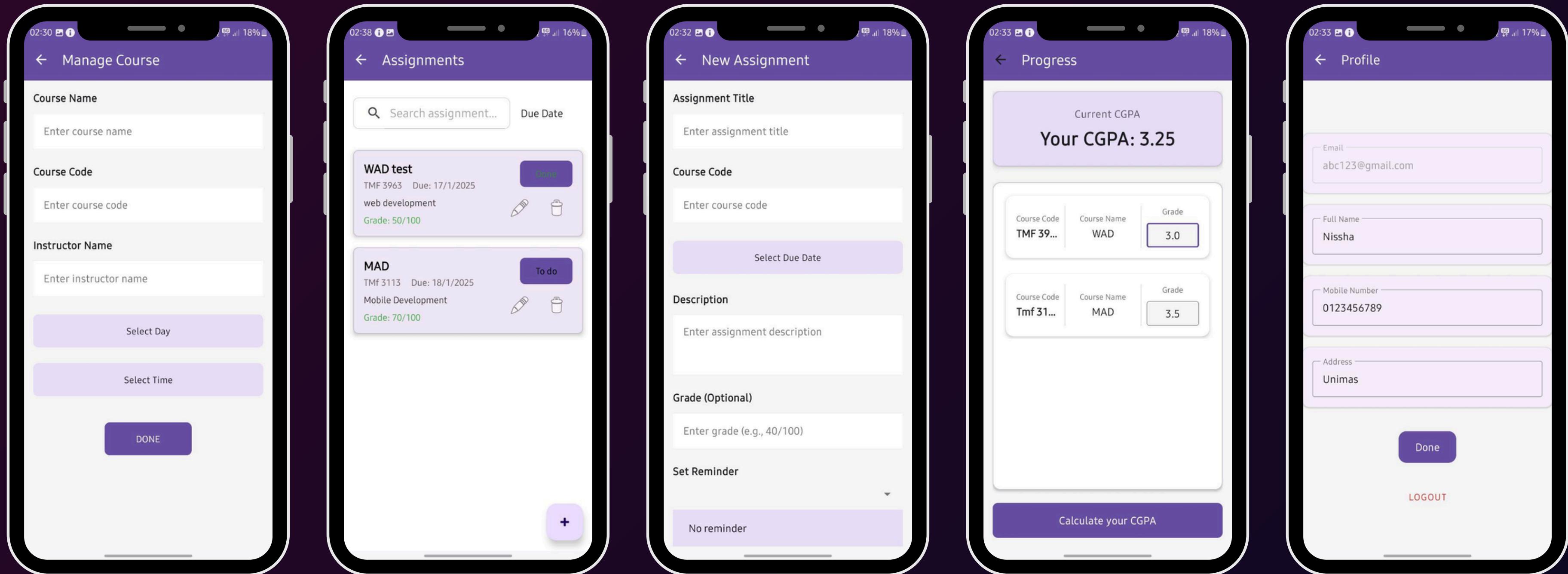
Homepage with four buttons to navigate to specific pages.



Courses page. Users can edit, delete and add courses.



# App Screenshots



When add button is clicked, it will redirect users to Manage Course with a form to fill in course details.

Assignment page. Users can edit, delete and add assignments. Users can search desired assignments and also filter according to due date, title and course code.

When the add button is clicked, users are redirected to New Assignment page, where they must fill up the form to create a new assignment.

When users click on the Progress button in the Homepage, they are brought to this page. Here, users can calculate their CGPA by inputting their grade for each course.

Profile Page where users can edit user details and log out

# Key Achievements

01

## Functionality

- Complete course and assignment management system
- Firebase database integration
- User authentication system
- Profile management capabilities

02

## Quality

- Comprehensive test coverage (35+ test cases)
- User-friendly mobile interface
- Secure data handling through Firebase
- Validated user inputs and error handling

# Future Enhancements

01

## Enhanced Assignment Features

- File attachment support (suggested feature)
- Assignment submission tracking
- Progress status updates

02

## Extended CGPA Features

- Semester-wise GPA tracking
- Grade prediction
- Academic progress visualization

03

## Improved Course Management

- Course attendance tracking
- Class reminder system
- Course material links

04

## User Experience Improvements

- Offline mode support
- Dark mode option
- Customizable dashboard





# My Role

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**As a key contributor to this project, I served as :**

- Software Developer
- UI/UX Designer
- Technical Documentation
- Firebase Integration

**My core responsibilities included :**

- Implementing the Welcome and Assignment modules using Java and Kotlin
- Designing the complete user interface with Material Design principles
- Integrating Firebase Realtime Database for Assignment management features ;
  - Real-time assignment CRUD operations (Create, Read, Update, Delete)
  - Advanced search functionality and filtering
  - Assignment completion status tracking



# Thank You

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I extend my heartfelt gratitude to my teammates for their dedicated efforts and to our professor, Assoc. Prof. Ts. Dr. Hjh Dayang NurFatimah, for her invaluable guidance, which greatly contributed to the successful completion of our project.

**Prepared By:**

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**Let's connect and discuss more about mobile development and UI/UX design!**

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