SSZG585
Cross Platform Application Development Assignment

2023mt12202

Anshul Kumari Bansal

Functional Requirements

Users can **sign up, sign in, and sign out** of the application

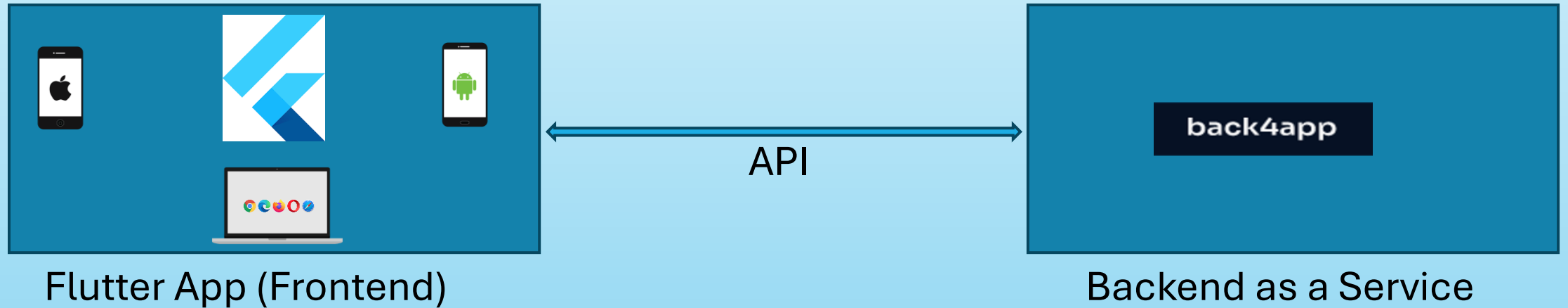Users can create tasks with a **Title**, **Description**, and **Due Date**

Users should be able to **view all tasks**

Users can mark tasks as **complete or incomplete**
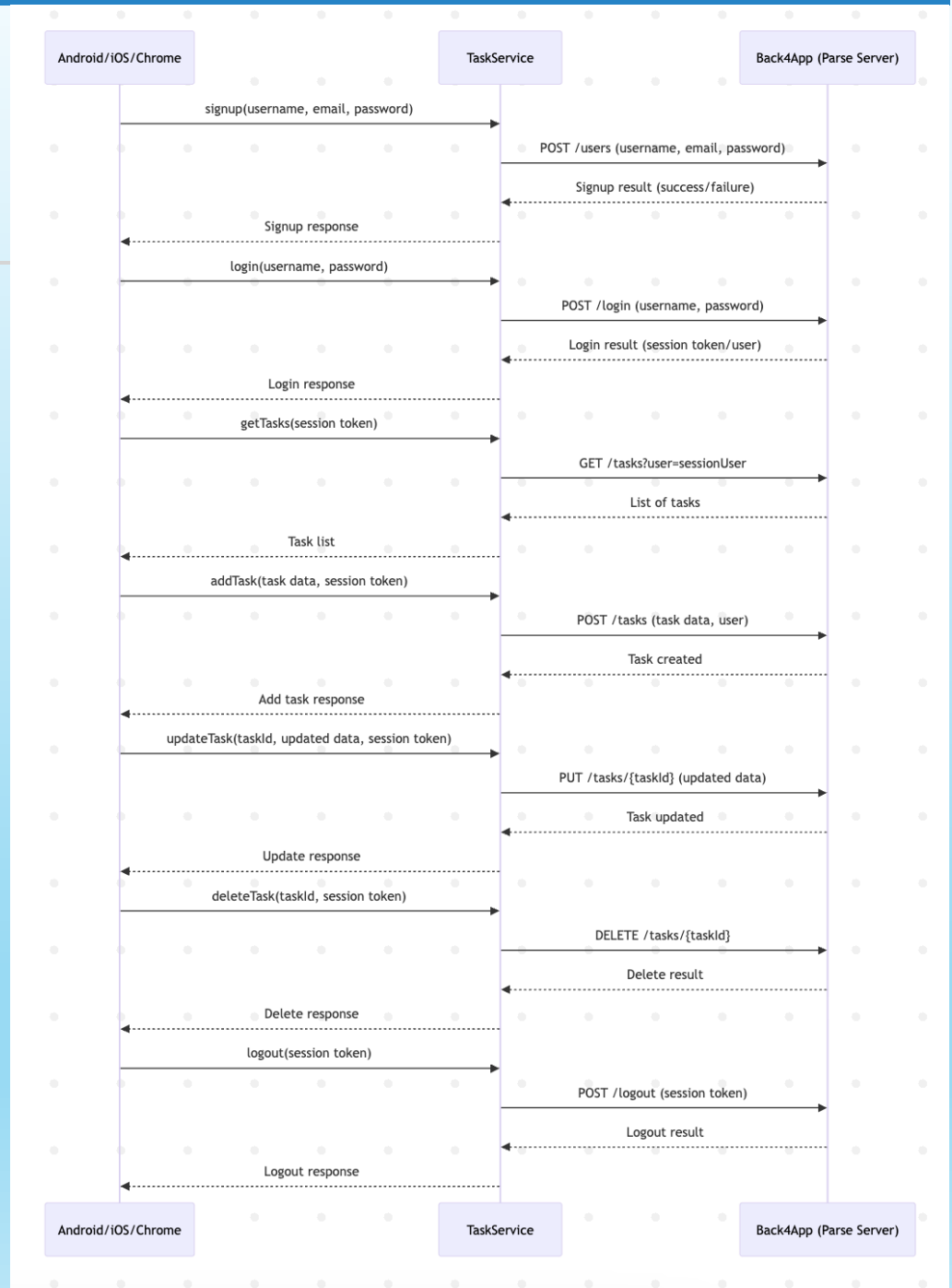
Users can **search** task by **Title** or **Description**

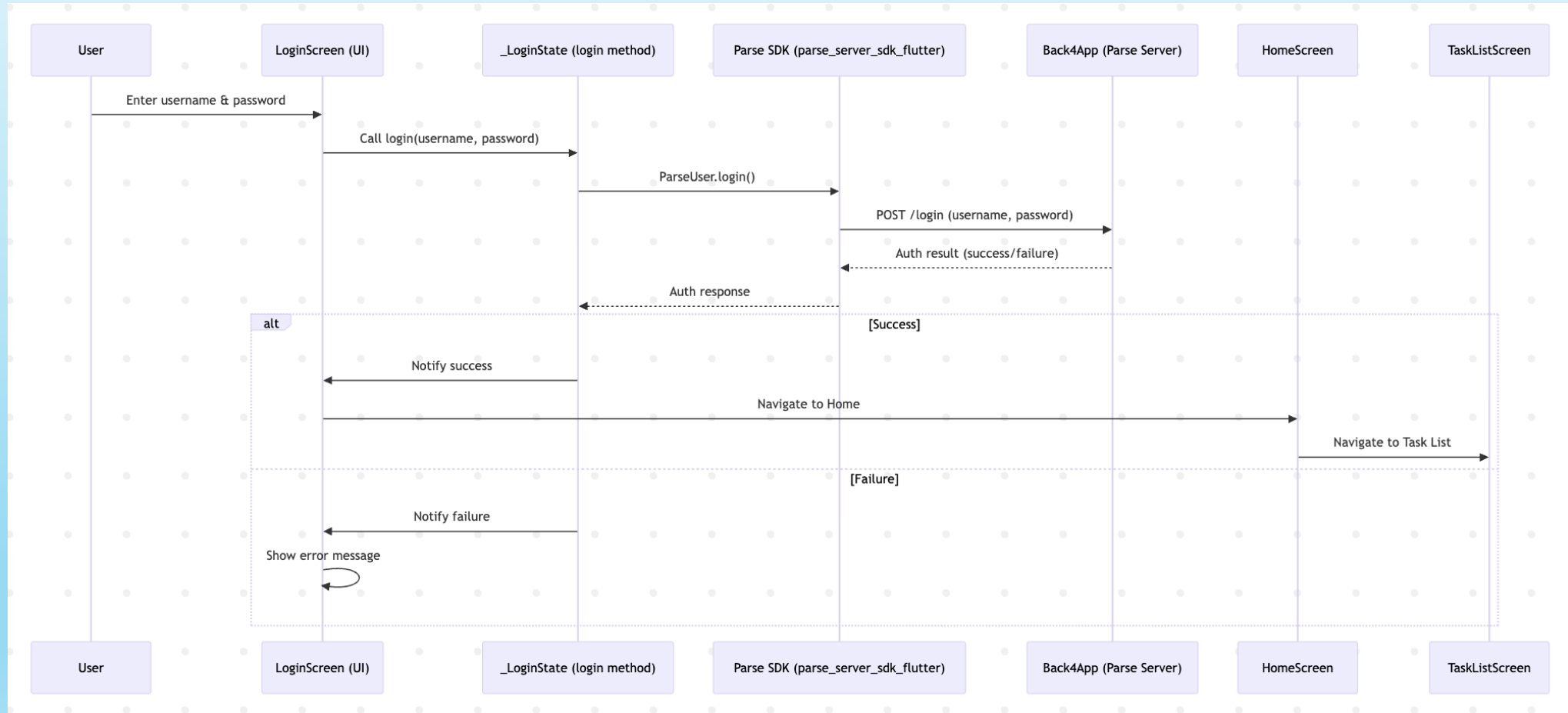Users can **sort task by due date**

High Level Design

Flutter App (Frontend) API Backend as a Service

Client Server Architecture

Sequence Diagram

Sequence Diagram – Authentication Flow

Tools Used for Development
- **Flutter** → Frontend UI, form validation, navigation.
- **Parse SDK** → Handles database interactions and authentication in Flutter.
- **Back4App** → Cloud backend hosting Parse Server.
- **Dart** → Flutter programming language.
- **Postman** (Optional) → To test API requests before integration.

LLD (Structure)
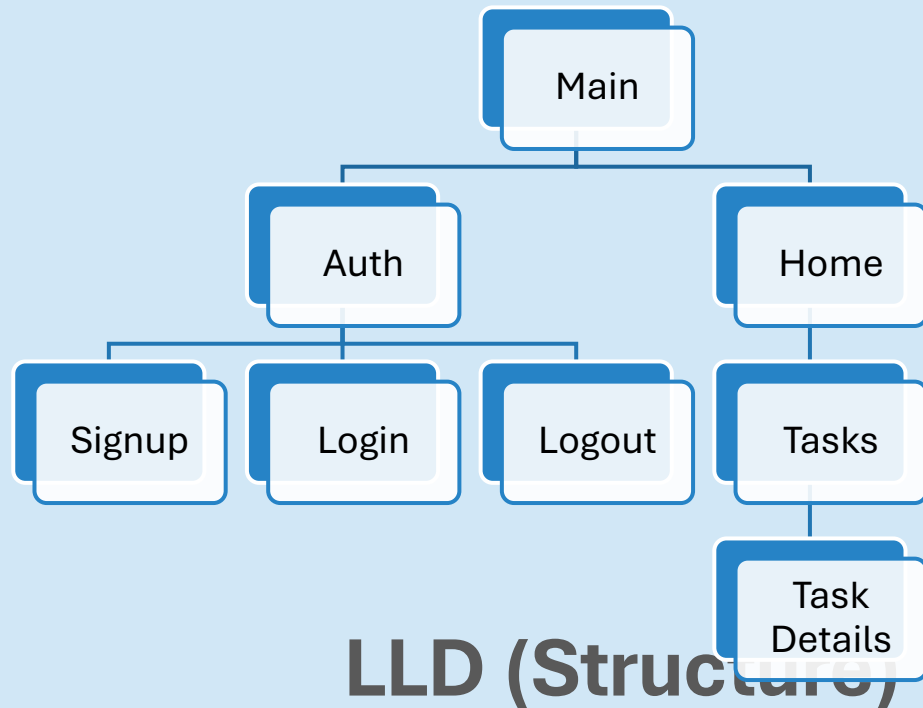
Tools Used

Flutter Dependencies
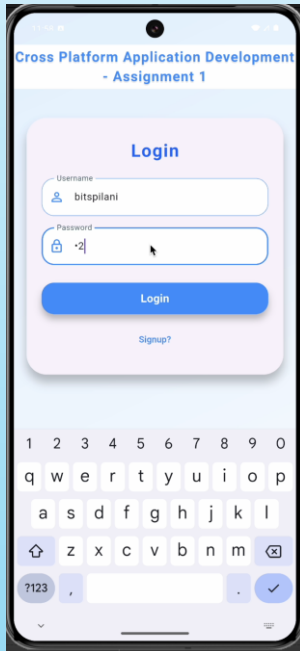
- dependencies:
  flutter:
    sdk: flutter
  intl: ^0.19.0
  parse_server_sdk_flutter: ^7.0.1
  awesome_dialog: ^3.2.0
  win32: ^5.5.0
  path_provider: ^2.0.0
  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^1.0.6
  # dependency_overrides:
  # win32: 5.4.0
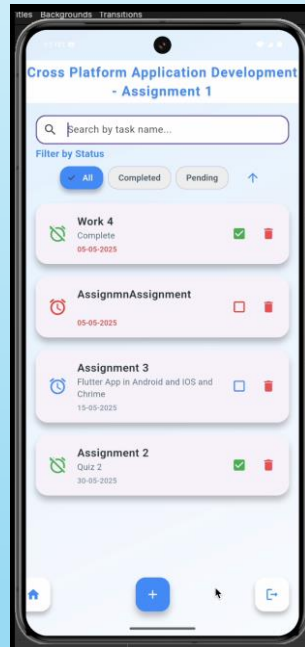dev_dependencies:
  flutter_test:
    - sdk: flutter
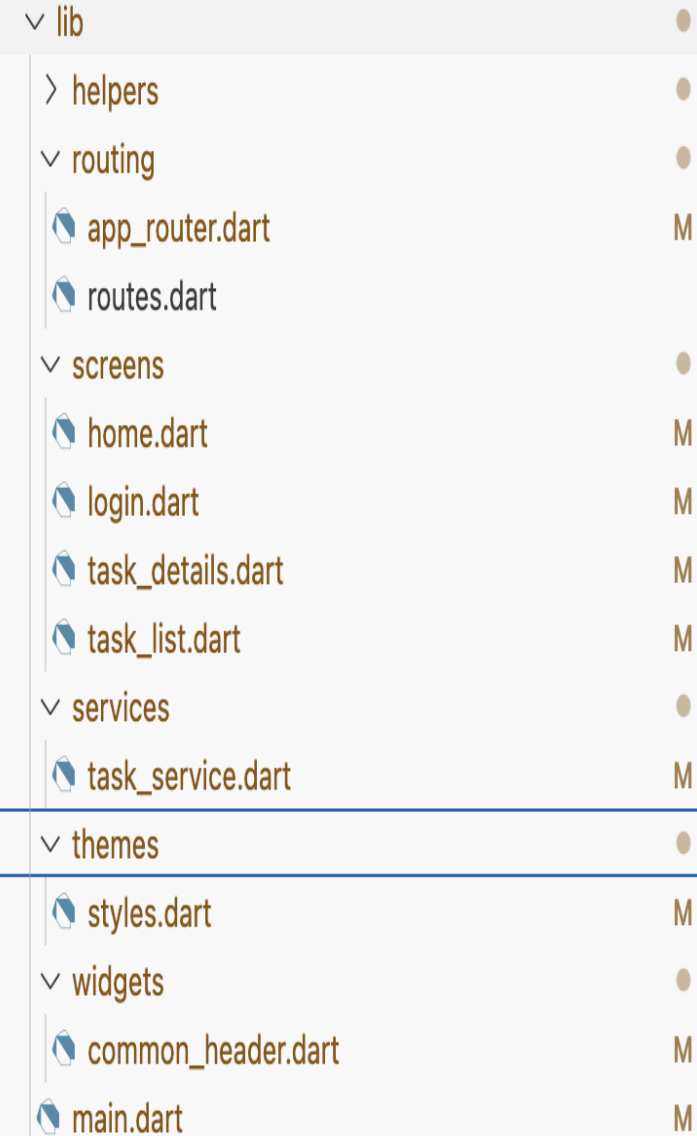
Screenshots
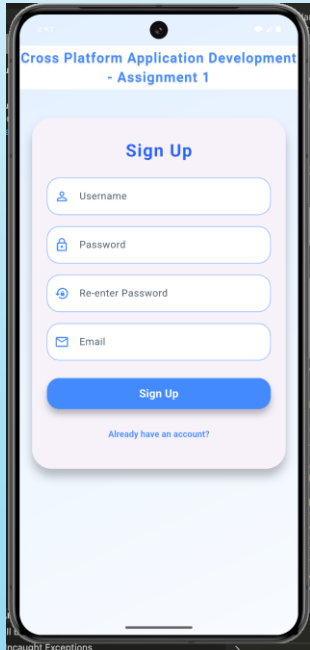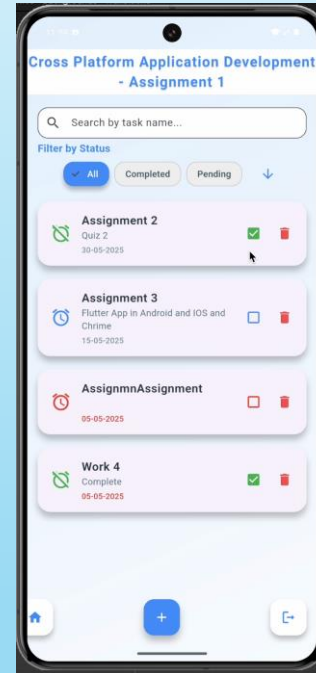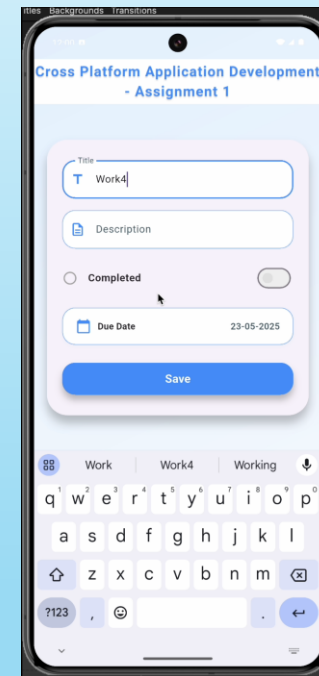

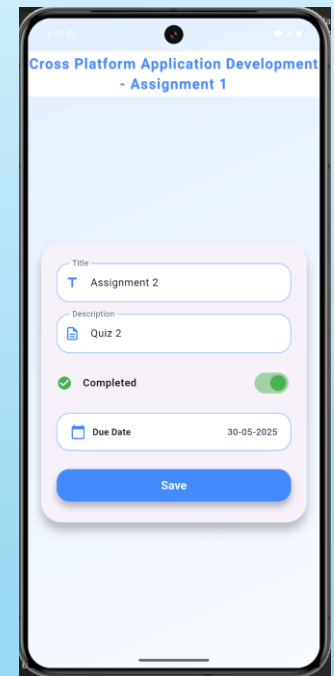**Signup**

Login

Logout

Task List with Delete

Add Task

Edit Task

Database Tables Screenshots

User Table

Database Browser   🔓   **_User**   2 objects   ⊕ Row   ⊕ Column   🗑

updatedAt Date	authData Object*	username String*	createdAt Date ▼	password String*	email String	Add a new column
7CRR…	11 May 2025 at 11:2…	(undefined)	bitspilani	5 May 2025 at 04:59…	(hidden)	bits@gmail.com
VZWS…	11 May 2025 at 11:2…	(undefined)	pilanibits	3 May 2025 at 11:50…	(hidden)	pub1@gmail.com

Database Browser   🔓   **Tasks**   9 objects   ⊕ Row   ⊕ Column   🗑

Task Table

	objectId String	dueDate Date	ACL ACL	completed Boolean	user String	updatedAt Date	title String
☐	dC2UAKvyxj	6 May 2025 at 18:30…	Public Read + Write	False	bitspilani	5 May 2025 at 06:53…	Work 7
☐	9C3QUK5JOo	5 May 2025 at 05:24…	Public Read + Write	True	bitspilani	5 May 2025 at 05:24…	Work 4
☐	1iPubM58mm	14 May 2025 at 18:3…	Public Read + Write	False	bitspilani	5 May 2025 at 05:01…	Assignment 3
☐	ZMuM80WlIA	29 May 2025 at 18:3…	Public Read + Write	True	bitspilani	5 May 2025 at 06:30…	Assignment 2
☐	m7RCbjWvzO	3 May 2025 at 18:30…	Public Read + Write	False	pub	3 May 2025 at 11:49…	Assignment 6
☐	s87b8gqX2w	2 May 2025 at 18:30…	Public Read + Write	False	pub	3 May 2025 at 11:48…	Assignment 5
☐	vsz3DymP3m	3 May 2025 at 10:10…	Public Read + Write	True	pub	3 May 2025 at 11:46…	Assignment 4
☐	byV7OTZN3x	3 May 2025 at 05:27…	Public Read + Write	True	pub	3 May 2025 at 05:28…	Assignment 3
☐	xSHS6lXwy7	28 June 2025 at 18:…	Public Read + Write	False	pub	3 May 2025 at 11:59…	Assignment 21

Task Card Details
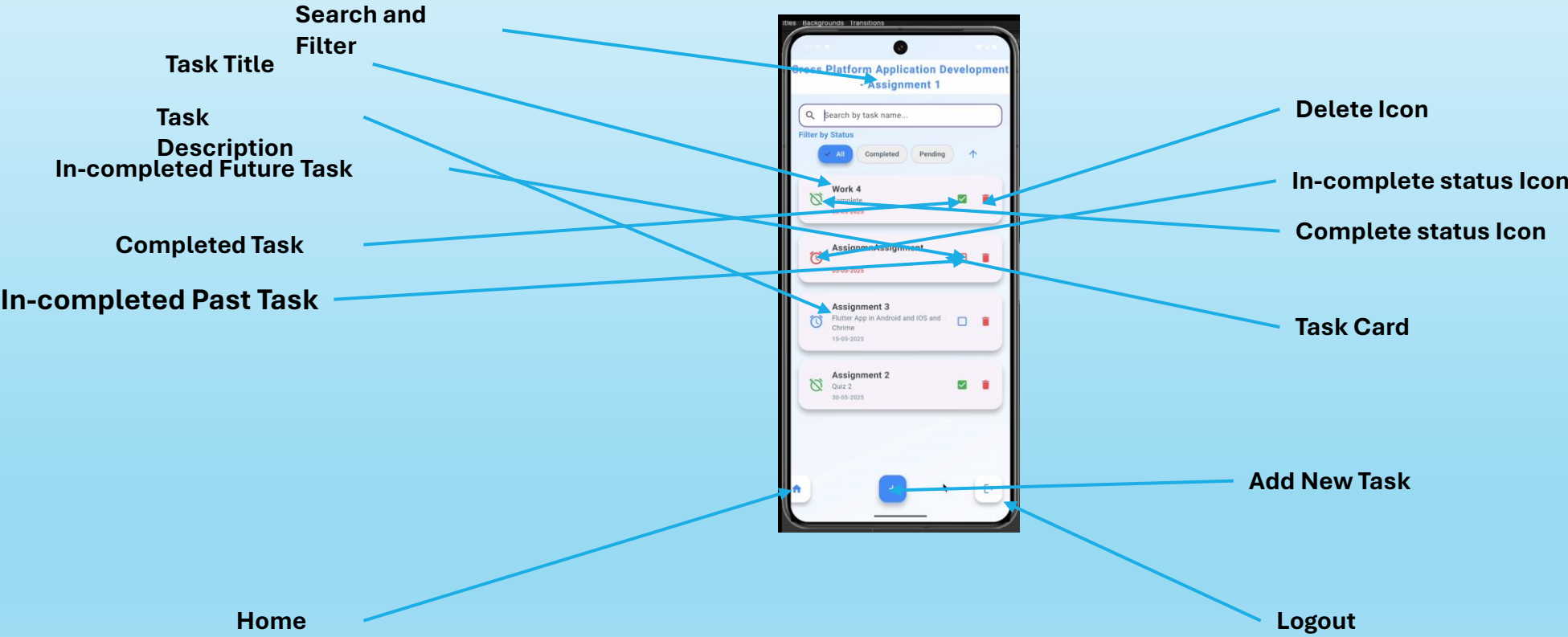
Guidelines

Input validations are implemented to ensure correct user input.

Error messages are displayed at the bottom in **red**, while **success messages** appear in **green**.

Login, **Signup**, and **Logout** functionalities are fully implemented.

The **Awesome Notifications** library is used to provide animated feedback to users.
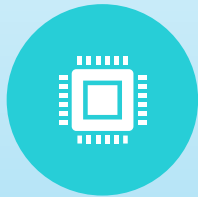
Source Code Link

Demo Youtube Link

Challenges & Learnings

I developed my first cross-platform app using Flutter and Back4App.

During this project I gained knowledge in setting up and utilizing Android emulators and iOS simulators.

I focused on incorporating functional requirements that would enhance the app's utility in my daily life.

Although I faced some limitations due to time constraints, I plan to address these in future updates, including implementing background services for enhanced functionality.

Managing session tokens for authentication continuity was difficult. This was handled by storing the session token locally and using it for API requests