Software Engineering project

Portfolio Manager

Feb 2022 - Apr 2022

Designed by :
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As supervised by :
Dr. Kaushal Bhardwaj

Purpose

The Portfolio Manager web application allows the users to easily edit or update the Content on their personal portfolio website using their mobile phones. Each time users want to update or edit the content that is being displayed on their websites, rather than making changes to the code, they can simply tap into this Portfolio Manager application and achieve the same.

Scope

- ➢ Secure validation and profile management facilities for users.
- ➢ Browsing through the portfolio website to see the changes or update that are made in each category of edit Content like (About, Skills, Projects, Work experience, Education, Contact.)
- ➢ Adequate indexing strategies to improve efficiency and also to optimize Query Performance that are used to alter the data in the database.
- ➢ Maintaining and monitoring the database of user's content that is being displayed on portfolio website.
- ➢ Assuring that when application is made to start up it shouldn't take more than 3 seconds to load initial screen and also that app will not hindrance to the user input.
- ➢ When the user data increases app should be capable of handling them without delay by optimizing the way storage is done and accessed.
- ➢ App should be responsive to the user input which is of higher priority and make changes to the database accordingly.
- ➢ User should be able to understand the flow of App easily i.e., users should be able to use App without any guidelines or help from manuals.
- ➢ App should be able to render its layout to different screen sizes, along with automatic adjustment of Font size and image rendering.
- ➢ In addition to the above-mentioned points, the following are planned to be delivered if seemed necessary:

  • When app gets interrupted by call, then app should be able to save state and return to same state/page which was there before it got interrupted.

Project Introduction

Existing System:

Often, portfolio websites are hard-coded, so whenever you need to make a change to the live website, you have to clone the code and make the changes manually and then push them again.

A existing system has following disadvantages:

- As the content on the website is hard-coded, we are unable to change it unless we change its original code.
- The process of changing the code whenever something on a website needs to be updated is tedious.
- A user with no programming expertise cannot modify the code to update the live website.

Proposed System:

On the real-time website, information is fetched from a database, and it is not hard coded. This allows users to update information anytime by simply updating the database, as opposed to updating original code.

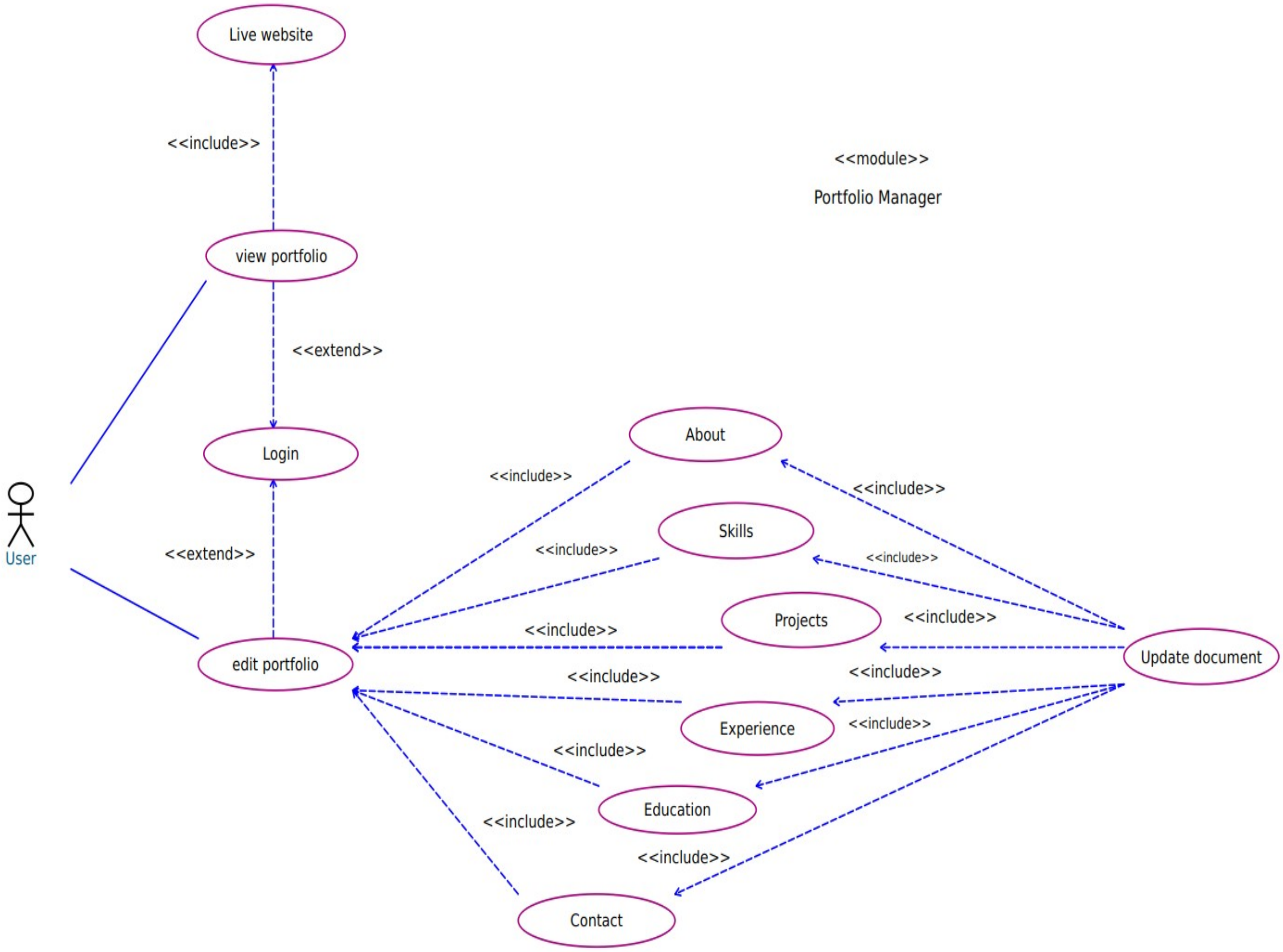
- Information that appears on the live website is pulled from a hosted database, not hard coded.
- If a user needs to update the information, he or she can just access the database rather than changing the original code.
- An individual without programming knowledge can edit the data on a live website by editing the database.

Advantages of the System

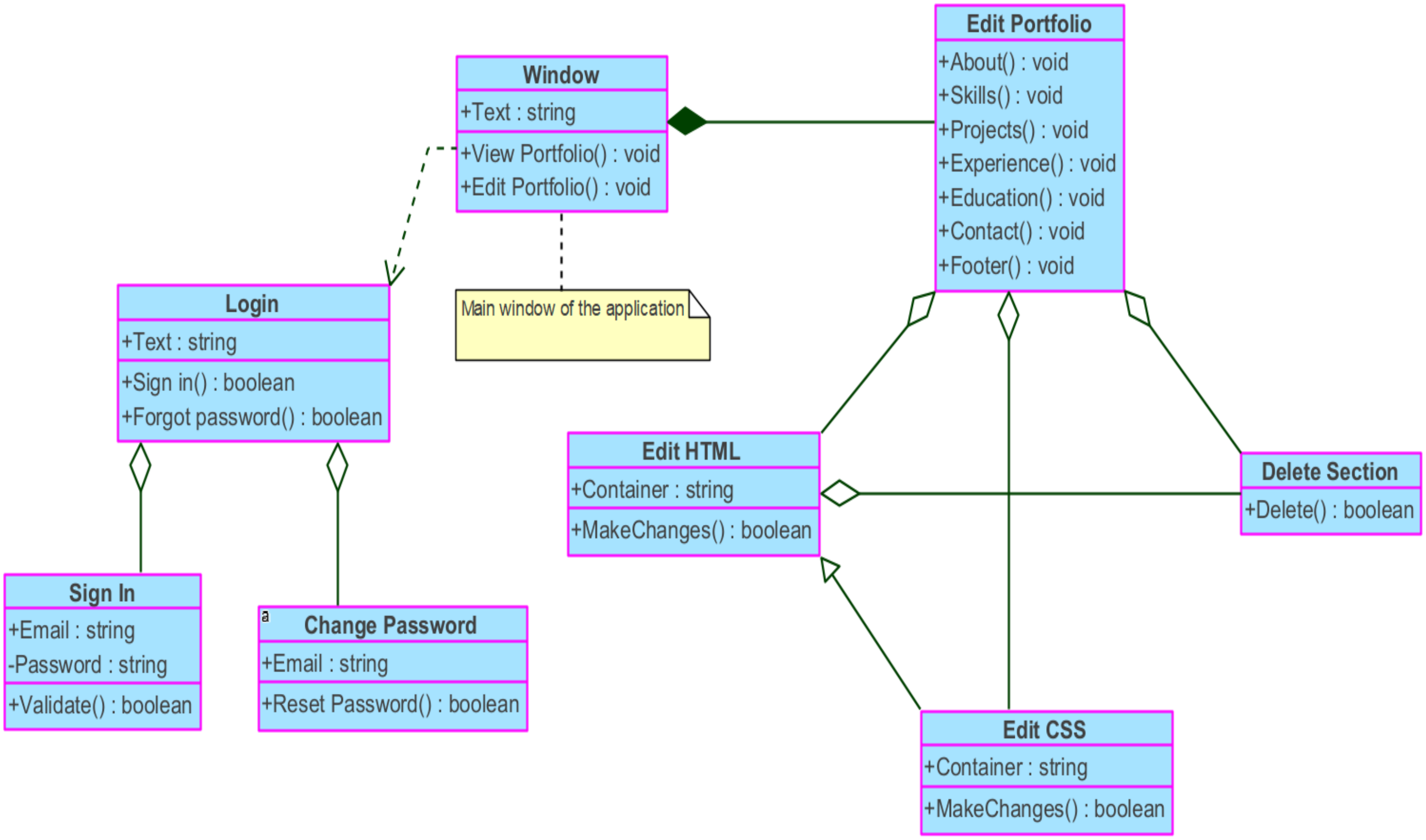
- ➢ Time Saving: By editing the database, a user can quickly modify live website content.
- ➢ Easy to Use: Even people without programming skills can edit a live website's data by editing the database.
- ➢ All in one service: Once the database has been edited, users will be able to see the reflected changes within the app by clicking on the View Portfolio button.

Overview of the System

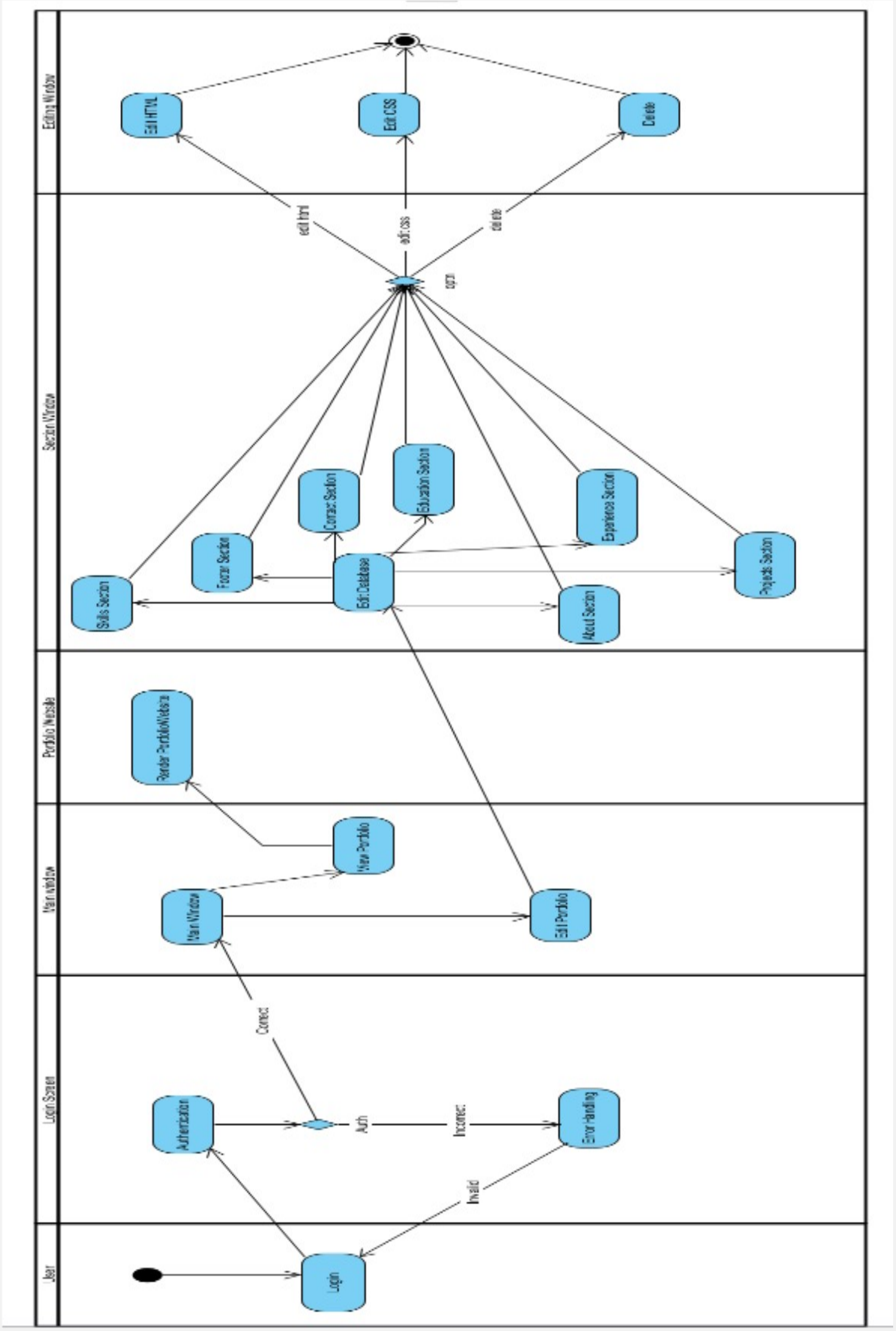
★ *Use Case Diagram* ★



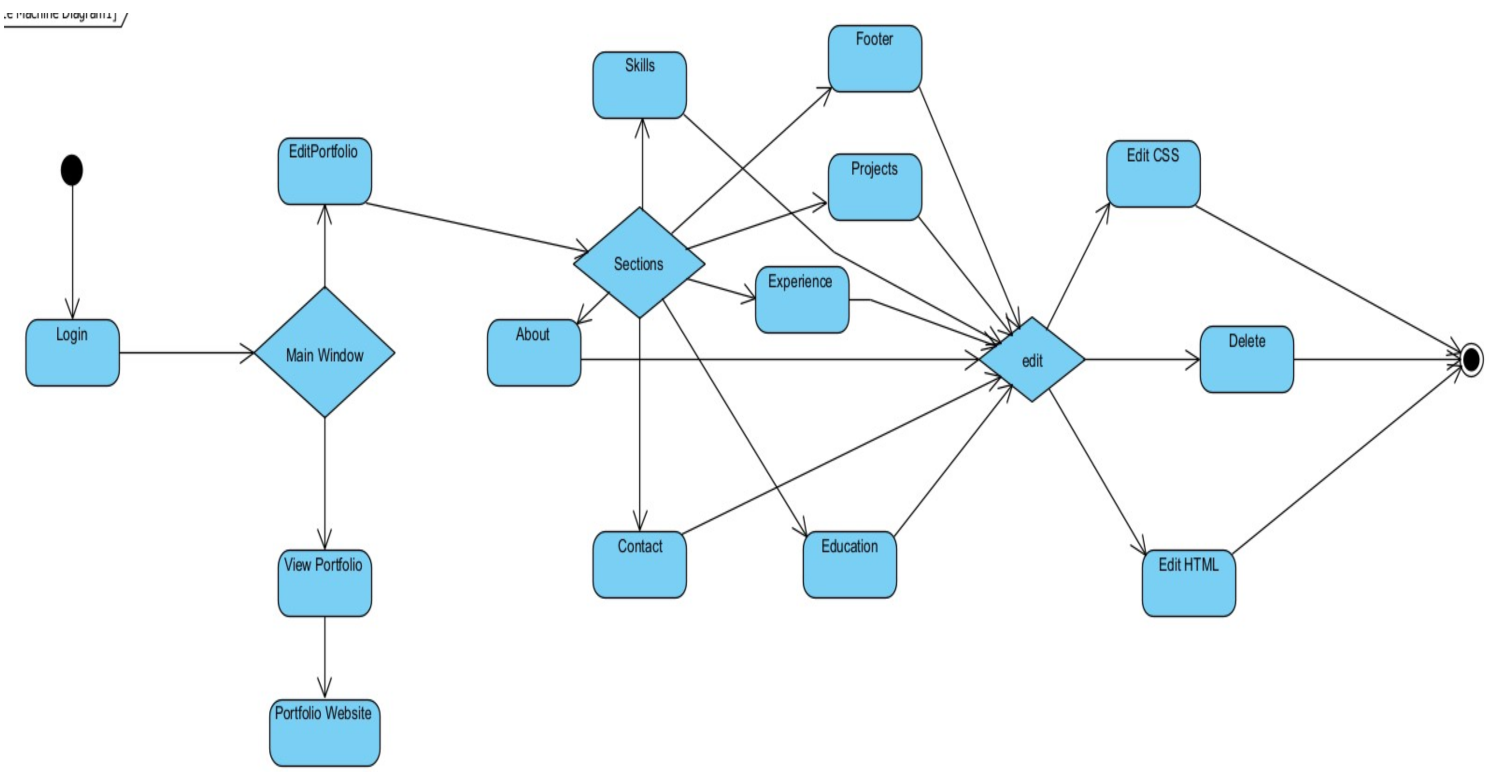
★ *Class Diagram* ★



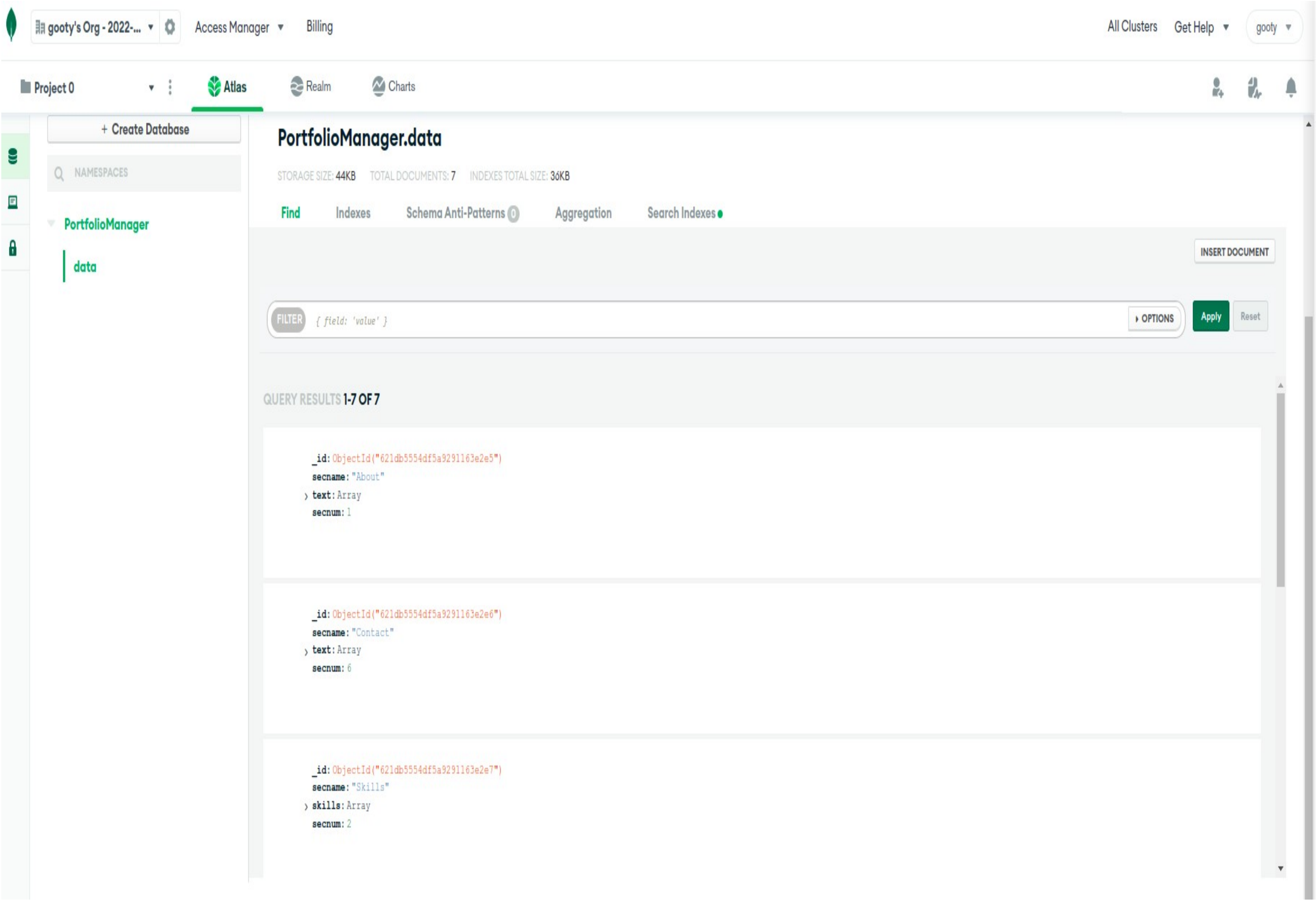
★ Activity Diagram ★



★ State Diagram ★



★ *Databases Structure* ★



PortfolioManager.data

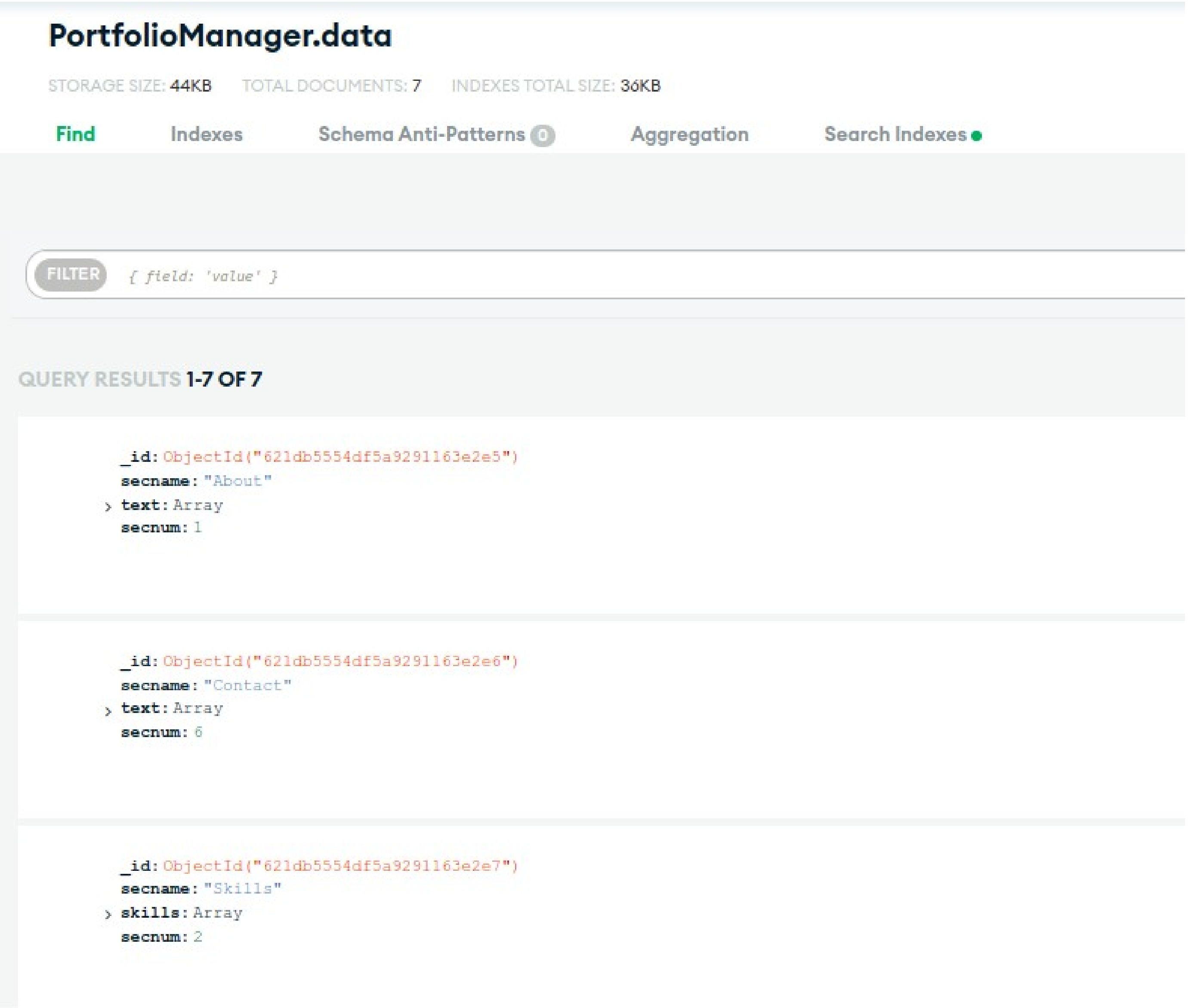
STORAGE SIZE: 44KB TOTAL DOCUMENTS: 7 INDEXES TOTAL SIZE: 36KB

QUERY RESULTS 1-7 OF 7

```
 _id: ObjectId("621db5554df5a9291163e2e5")
 secname: "About"
> text: Array
 secnum: 1

 _id: ObjectId("621db5554df5a9291163e2e6")
 secname: "Contact"
> text: Array
 secnum: 6

 _id: ObjectId("621db5554df5a9291163e2e7")
 secname: "Skills"
> skills: Array
 secnum: 2
```



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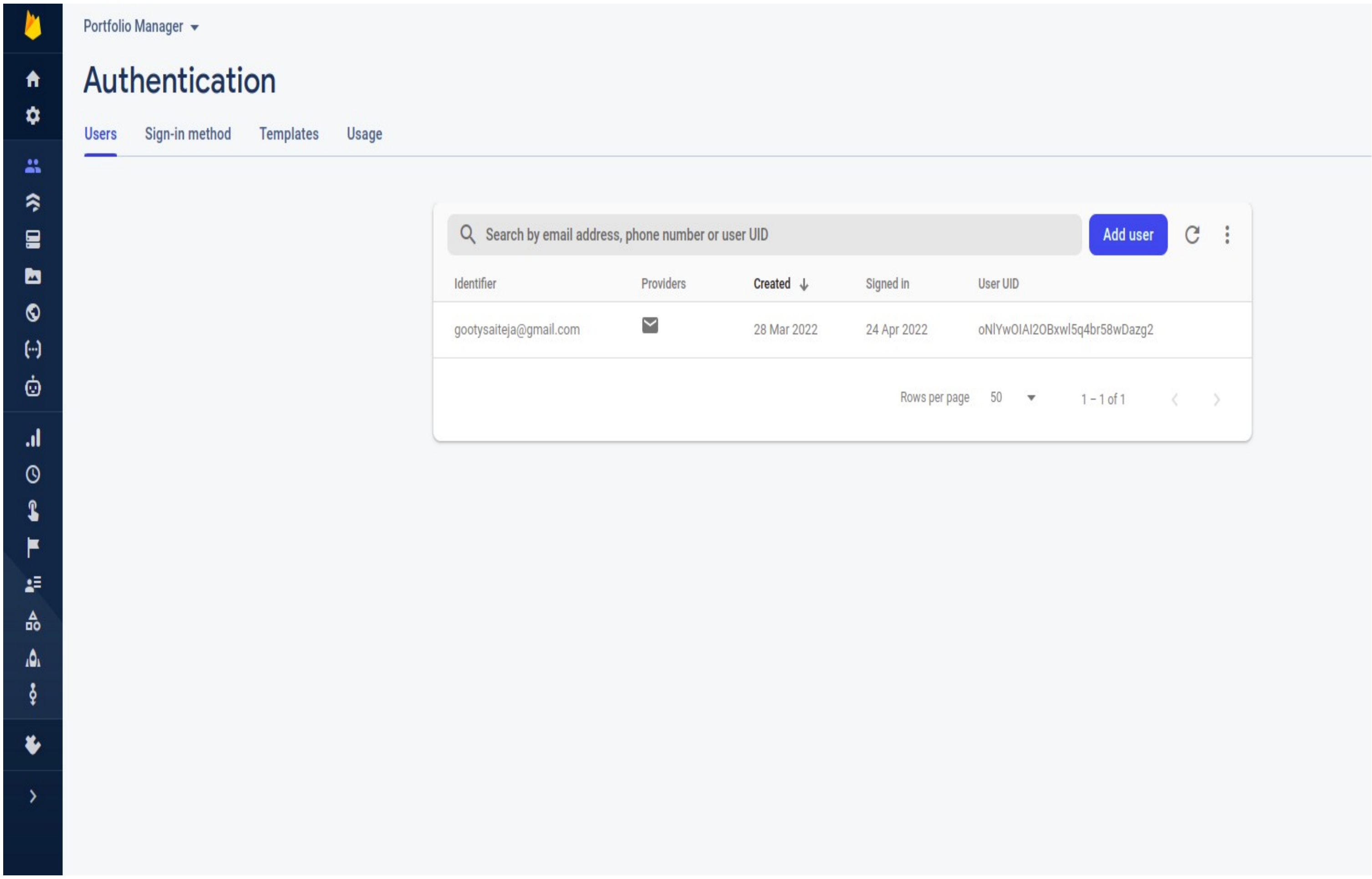
  _id: ObjectId("621db5554df5a9291163e2e5")
  secname: "About"
> text: Array
  secnum: 1
```

```
  _id: ObjectId("621db5554df5a9291163e2e6")
  secname: "Contact"
> text: Array
  secnum: 6
```

```
  _id: ObjectId("621db5554df5a9291163e2e7")
  secname: "Skills"
> skills: Array
  secnum: 2
```



Authentication

Identifier	Providers	Created ↓	Signed in	User UID
gootysaiteja@gmail.com	✉	28 Mar 2022	24 Apr 2022	oNlYwOIAI2OBxwl5q4br58wDazg2

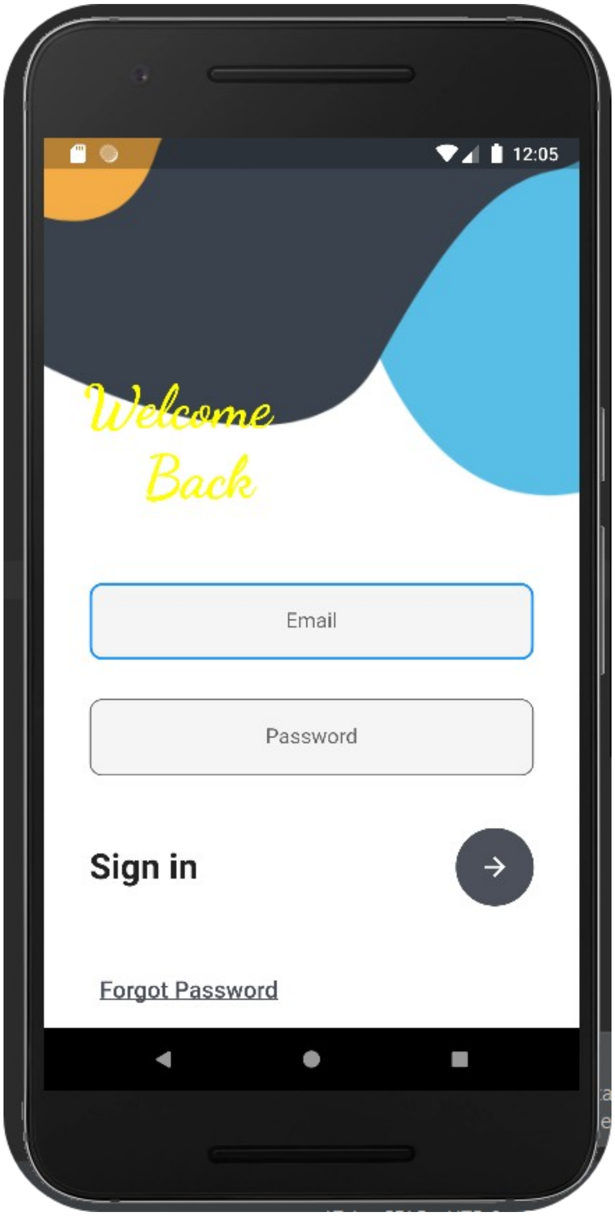
Rows per page 50 ▾ 1 – 1 of 1

Requirements

Functional Requirements :

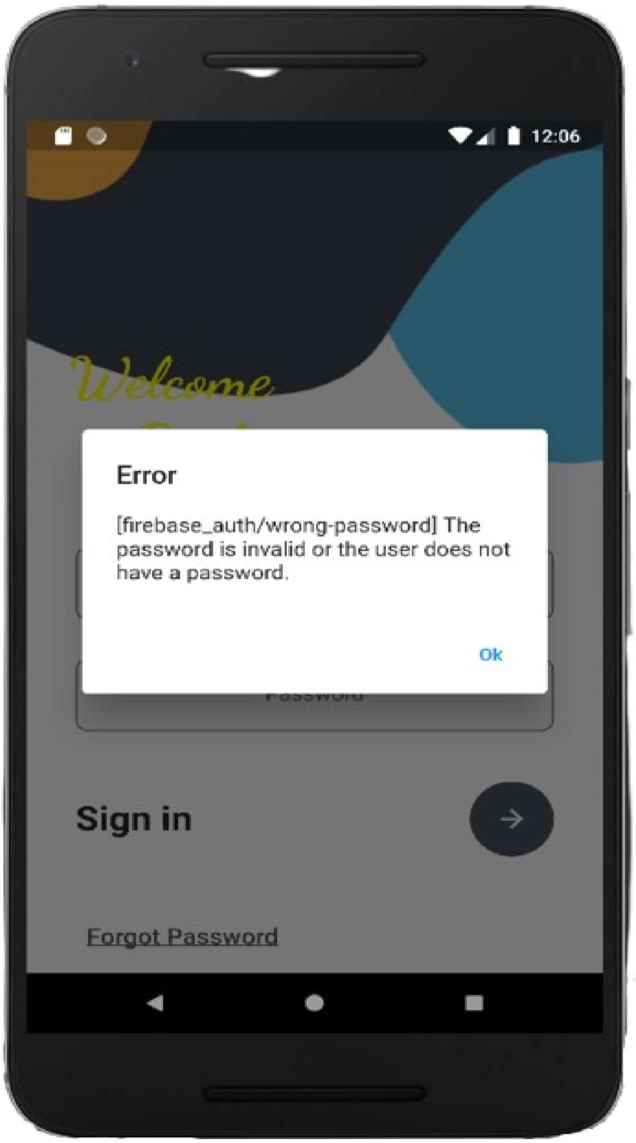
- *Login Page for user :*

  The initial screen is the login screen through which users would be able to access the application.



- Authentication :

An error message will appear when the user enters the wrong email address or password.

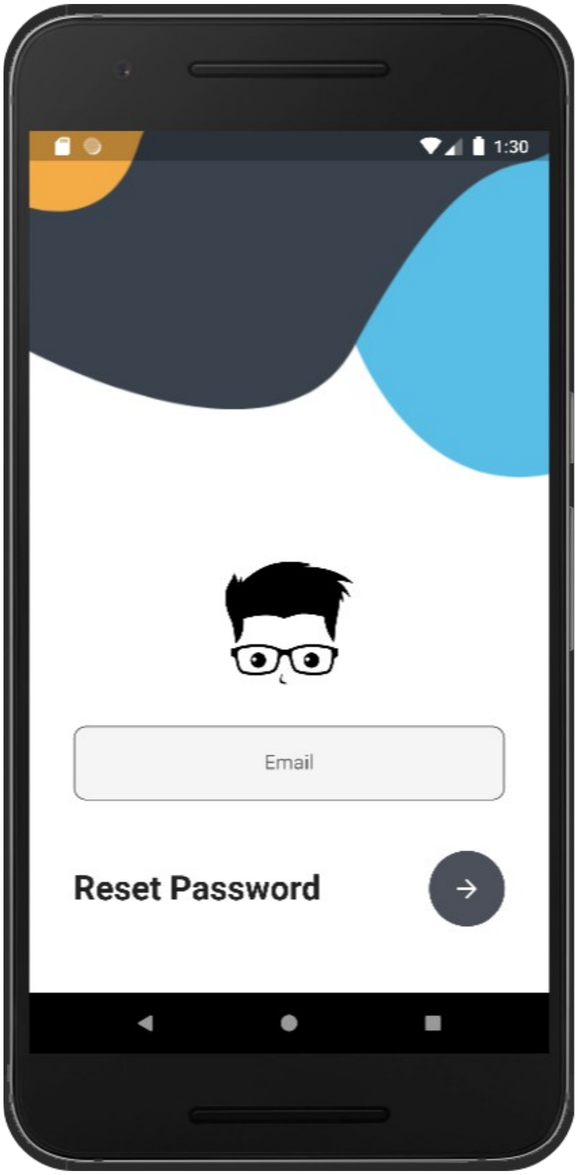


Error

[firebase_auth/wrong-password] The password is invalid or the user does not have a password.

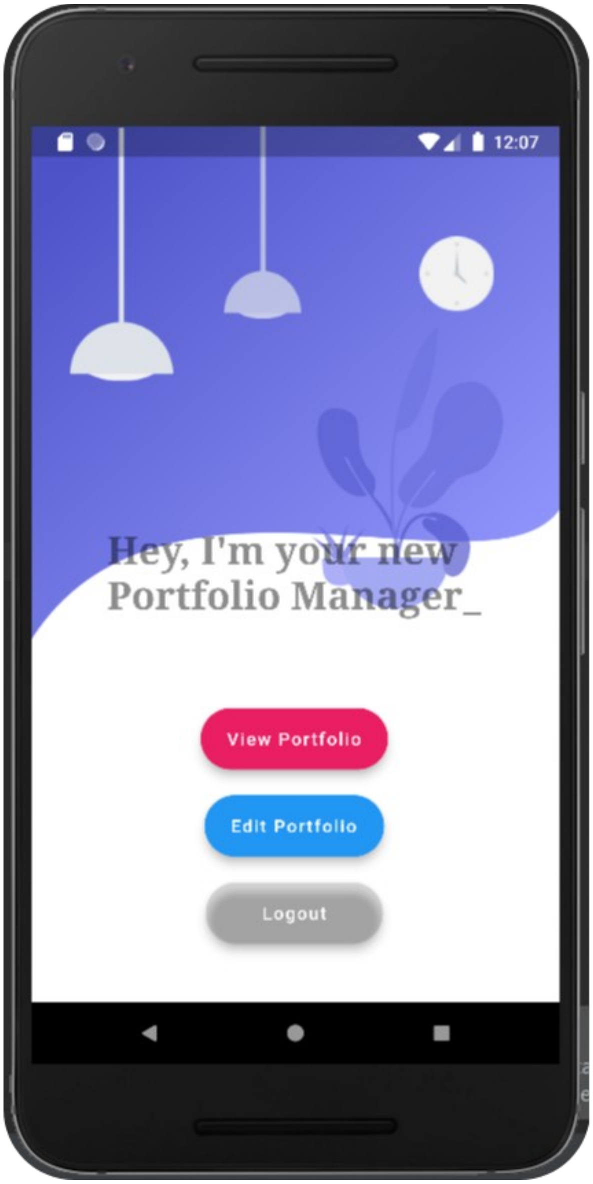
❑ *Additional Feature on Login Page:-*

If a user forgets his/her password then my clicking on Forgot Password user will get a reset password link on his/her registered email id.



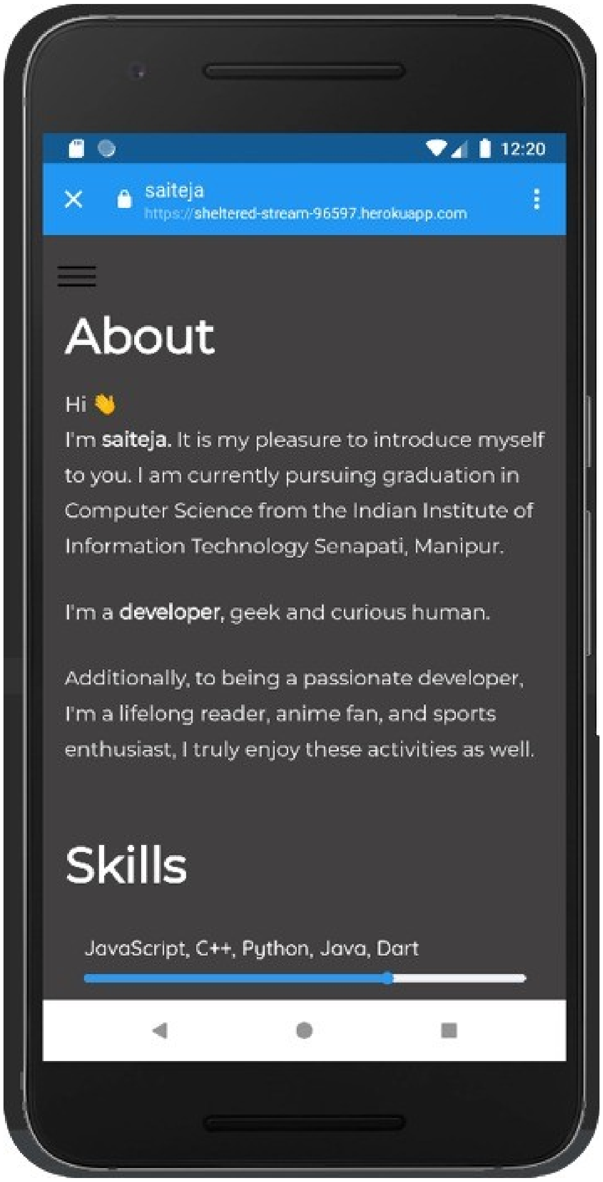
❑ Launch Screen :-

- ***View Portfolio*** : With the view portfolio option selected, the application would render the live portfolio website on the screen.
- ***Edit Portfolio*** *: Selecting the edit portfolio option will redirect the user to the database.*



Hey, I'm your new Portfolio Manager_

❑ ***View Portfolio*** :



About

Hi 👋
I'm **saiteja.** It is my pleasure to introduce myself to you. I am currently pursuing graduation in Computer Science from the Indian Institute of Information Technology Senapati, Manipur.

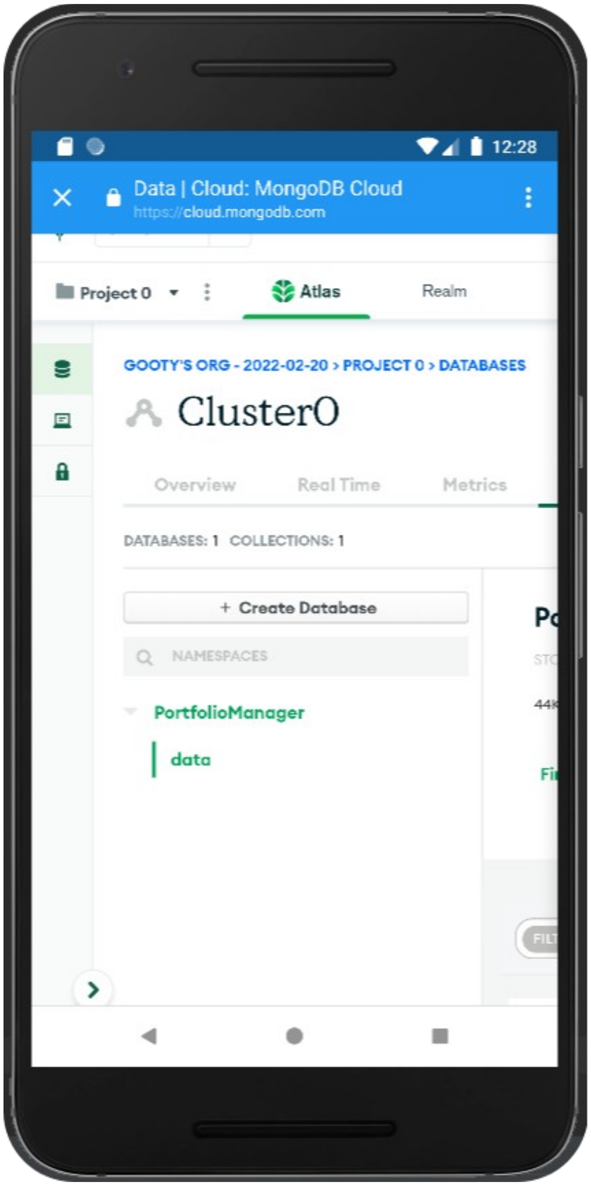
I'm a **developer,** geek and curious human.

Additionally, to being a passionate developer, I'm a lifelong reader, anime fan, and sports enthusiast, I truly enjoy these activities as well.

Skills

JavaScript, C++, Python, Java, Dart

- ***Edit Portfolio*** : Through this interface, the user can edit the database and the changes will be reflected on the live website


12:28

Data | Cloud: MongoDB Cloud

https://cloud.mongodb.com

Project 0 · Atlas · Realm

GOOTY'S ORG - 2022-02-20 > PROJECT 0 > DATABASES

Cluster0

Overview · Real Time · Metrics

DATABASES: 1 COLLECTIONS: 1

+ Create Database

NAMESPACES

PortfolioManager

data

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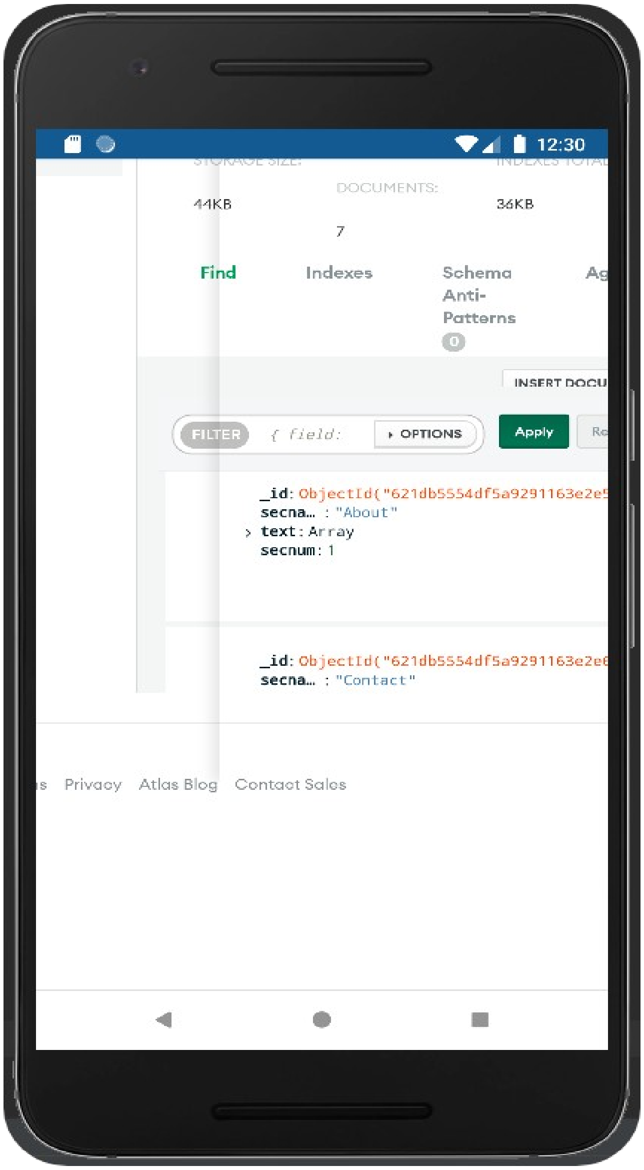

12:30

STORAGE SIZE: 44KB

DOCUMENTS: 7

INDEXES TOTAL 36KB

Find · Indexes · Schema Anti-Patterns 0 · Ag

INSERT DOCU

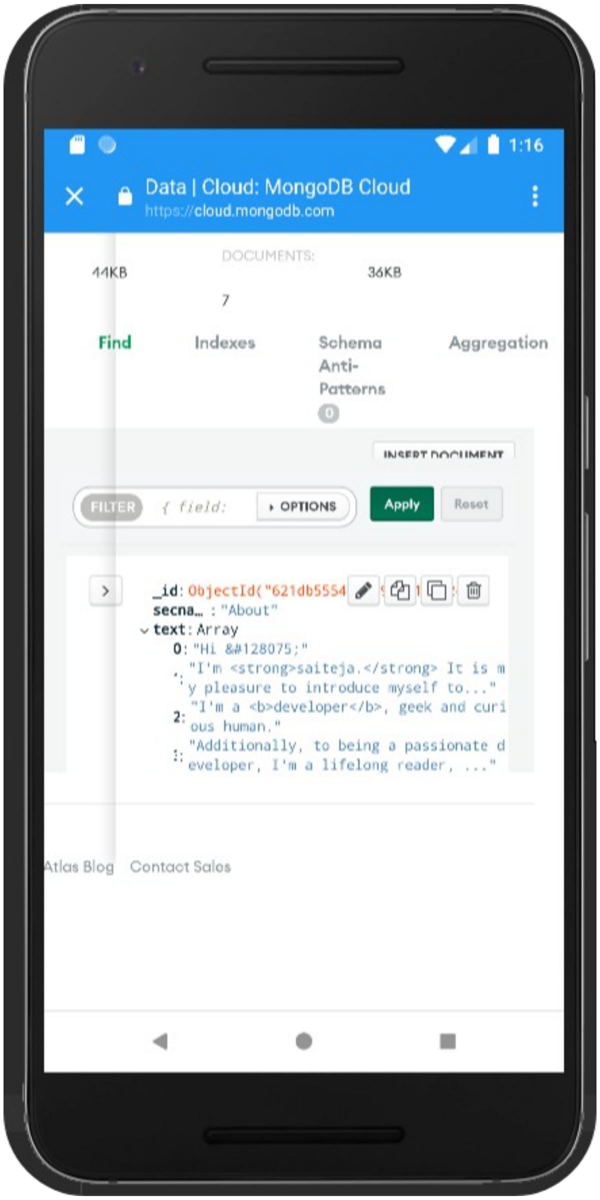
FILTER { field: · OPTIONS · Apply · Re

```
_id: ObjectId("621db5554df5a9291163e2e5
secna… : "About"
> text: Array
secnum: 1
```

```
_id: ObjectId("621db5554df5a9291163e2e6
secna… : "Contact"
```

s Privacy Atlas Blog Contact Sales

- ➢ *By selecting a section to be edited, clicking on the editor icon, making necessary changes, and clicking on update document, the user can complete the changes.*

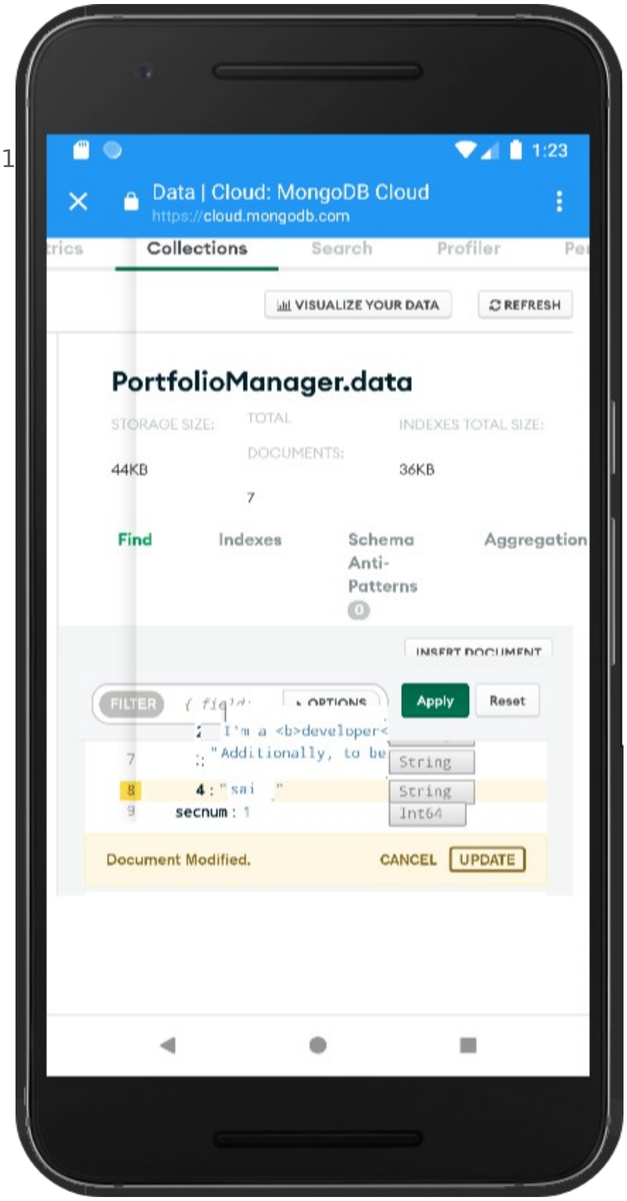


DOCUMENTS: 7

44KB 36KB

```
_id: ObjectId("621db5554
secna… : "About"
text: Array
   0: "Hi &#128075;"
   1: "I'm <strong>saiteja.</strong> It is my pleasure to introduce myself to..."
   2: "I'm a <b>developer</b>, geek and curious human."
   3: "Additionally, to being a passionate developer, I'm a lifelong reader, ..."
```

11



PortfolioManager.data

STORAGE SIZE: 44KB

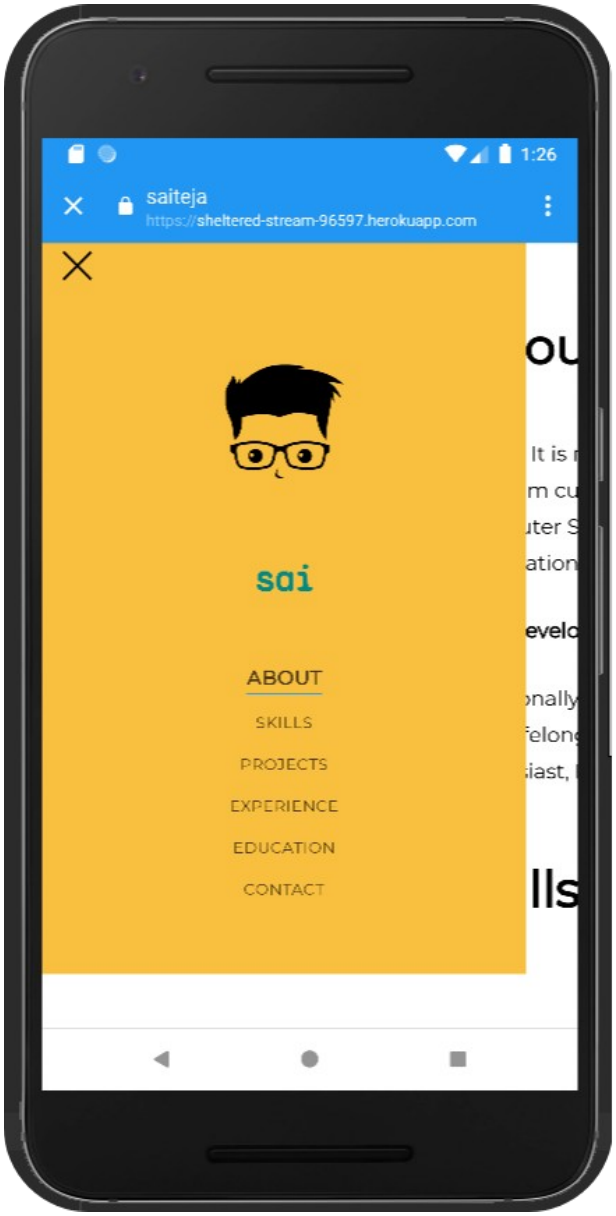
TOTAL DOCUMENTS: 7

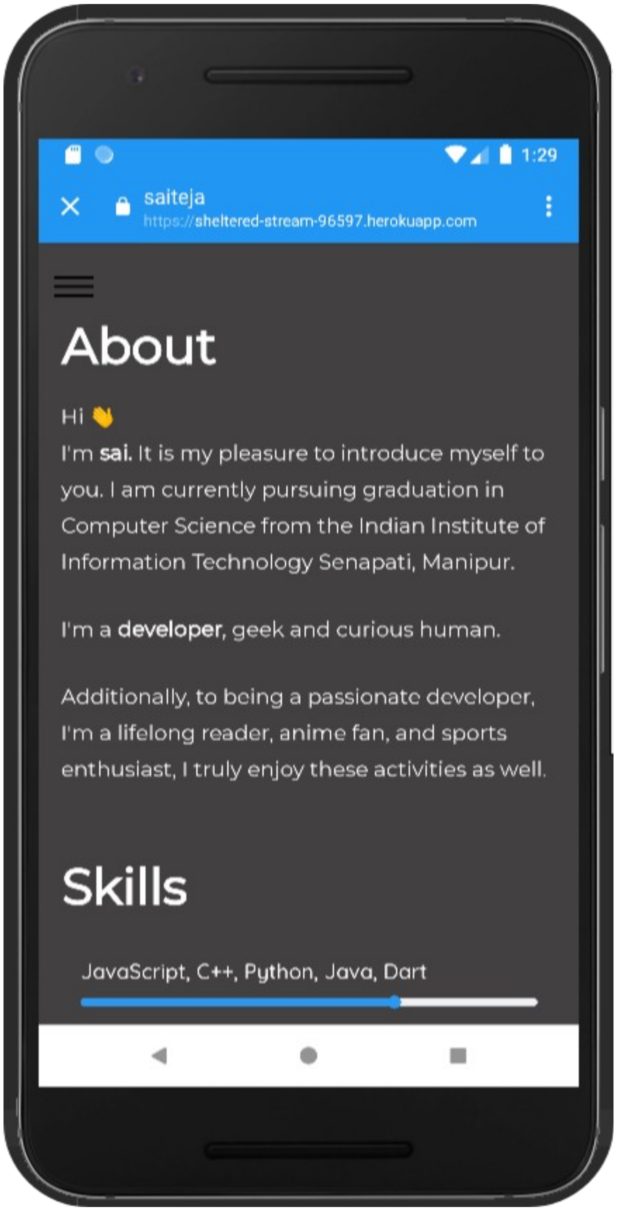
INDEXES TOTAL SIZE: 36KB

```
   2: "I'm a <b>developer<
   3: "Additionally, to be      String
   4: "sai  "                   String
secnum: 1                     Int64
```

Document Modified.

- Check the changes made to the database by clicking on the view portfolio option on the launch screen.





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Skills

JavaScript, C++, Python, Java, Dart

Non - Functional Requirements:

- *Safety Requirements :*
  - *App will use secured database.*
  - *An ordinary user can view a website, but cannot edit any content that is being displayed.*

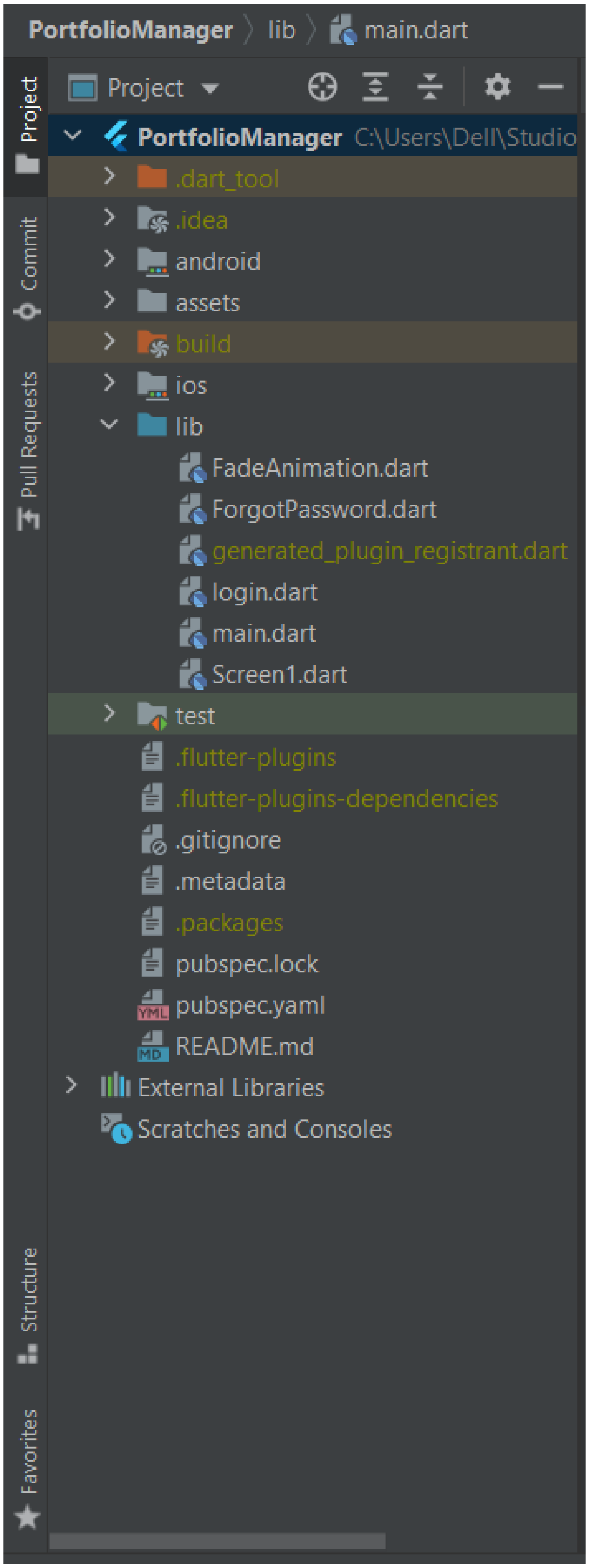
- **Performance Requirements :**
  - *Assuring that when application is made to start up it shouldn't take more than 3 seconds to load initial screen and also that app will not hindrance to the user input. To display the portfolio website, the app should take no longe than 2 seconds.*

- **Hosting the Website :**
  - *It should be possible to access the portfolio website live at anytime from anywhere by using some platform.*

- *Technology Stack*:

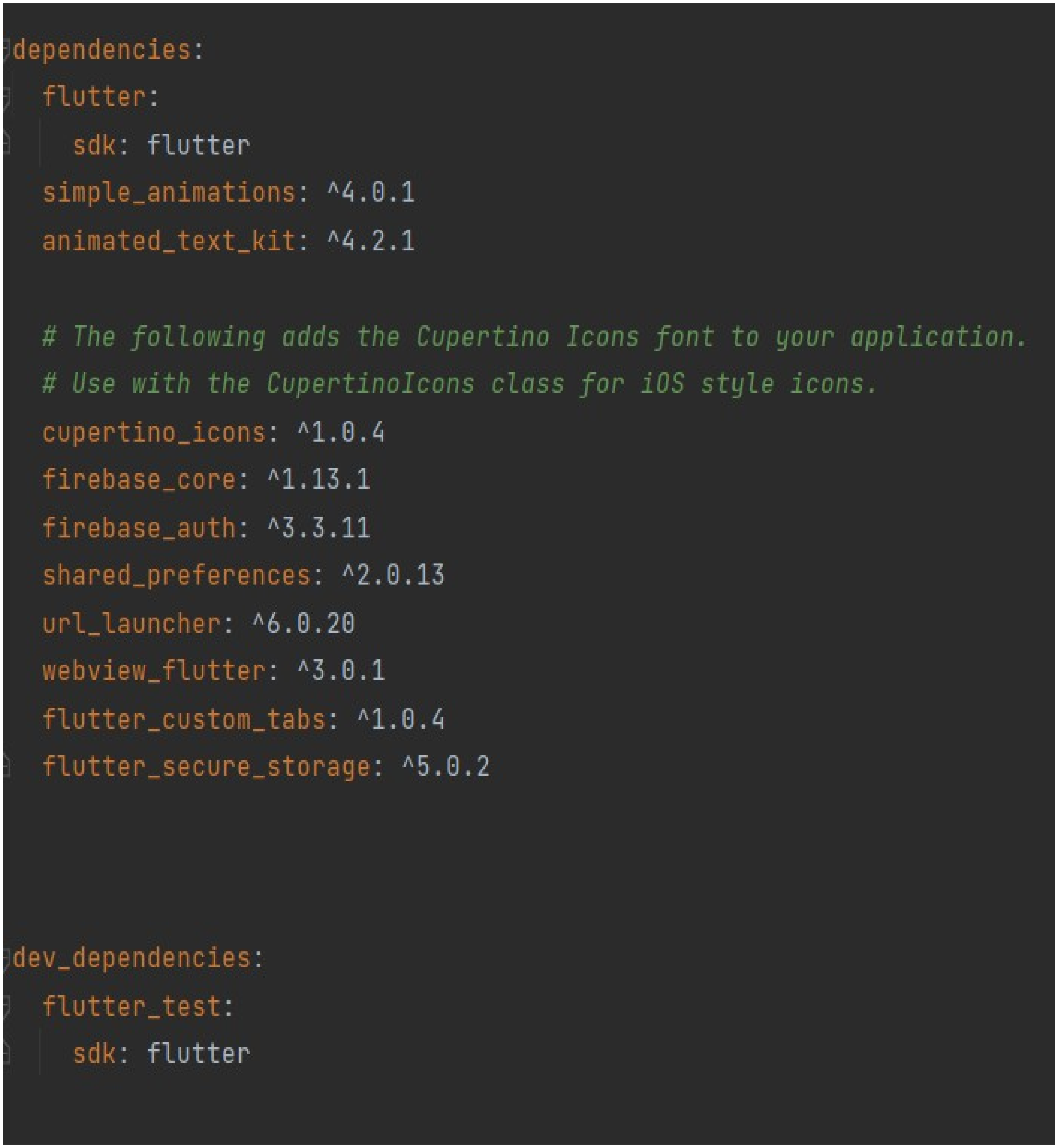
1. **Dart**
2. **Mongo DB**
3. **MongoDB Atlas**
4. **Swift**
5. **Android Studio**
6. **Flutter**
7. **JSON**

➢ *Project File Structure*:



```
PortfolioManager  C:\Users\Dell\Studio
    .dart_tool
    .idea
    android
    assets
    build
    ios
    lib
        FadeAnimation.dart
        ForgotPassword.dart
        generated_plugin_registrant.dart
        login.dart
        main.dart
        Screen1.dart
    test
    .flutter-plugins
    .flutter-plugins-dependencies
    .gitignore
    .metadata
    .packages
    pubspec.lock
    pubspec.yaml
    README.md
External Libraries
Scratches and Consoles
```

➢ *Application Requirements*:



```
dependencies:
  flutter:
    sdk: flutter
  simple_animations: ^4.0.1
  animated_text_kit: ^4.2.1

  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^1.0.4
  firebase_core: ^1.13.1
  firebase_auth: ^3.3.11
  shared_preferences: ^2.0.13
  url_launcher: ^6.0.20
  webview_flutter: ^3.0.1
  flutter_custom_tabs: ^1.0.4
  flutter_secure_storage: ^5.0.2



dev_dependencies:
  flutter_test:
    sdk: flutter
```

Testing

- ***Manual Testing*** **:**

I have implemented all the mentioned functionality in our app using different types of stateful, stateless widgets and functions. I have manually tested functionality of the app and below I am providing a drive link for your reference of testing which consists of all the required excel sheets.

Click Here : Manual Testing

Limitations

Although I have put our best efforts to make this software flexible, easy to operate, we can not rule limitations out even. Though the software presents a broad range of options to its users , some intricate options could not be covered on it.

- The application is only for Android & i-OS and will not work for other mobile OS like blackberry, Symbian etc.
- Only the content that appears on the website can be edited, but the style or new elements cannot be added to the website

Future Enhancements

- In future, I will give you the ability to change the style and add new elements to the website
- I can make a web version of the current application.

Contributions & Resources

- *Gooty Saiteja (19010104)* :
  - Code Implementation (Portfolio Manager) & Database (Function for retrieve Data).
  - Use Case and UML Diagrams.
  - SRS implementation (Functional Requirements).
  - Bug Fixing
  - SRS Documentation
  - Database Architect and Design
  - Code Implementation(Role based Authentication)
  - Project Architect
  - Manual testing
  - Integrated Flutter with firebase.
  - Code Implementation (UI integrated with Firebase).

Resources :

- Manual Testing
- Github