IT342-G2
SYSTEMS INTEGRATION AND ARCHITECTURE 1

FUNCTIONAL REQUIREMENTS SPECIFICATION (FRS)

Project Title: Mini App – User Registration & Authentication

Prepared By: Mechole Angelou M. Auditor

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Version: 1

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1. Introduction

1.1. Purpose

The purpose of this system is to provide a secure and centralized way for users to access the application, manage their identity, and view their data. The intended audience of this document includes the developers, testers, project managers, and other stakeholders.

1.2. Scope

This system will let user register, login, and logout their account. This system will also let authenticated users to view their profile or dashboards.

1.3. Definitions, Acronyms, and Abbreviations

ERD – Entity Relationship Diagram

PK – Primary Key

DTO – Data Transfer Object

Spring boot – backend framework

React – frontend framework

2. Overall Description

2.1. System Perspective

The User Registration & Authentication Mini App is a standalone security module designed to manage user identity and access control. It operates within a standard web-based environment, acting as the primary entry point for any user interacting with the application's protected resources.

2.2. User Classes and Characteristics

Authenticated users – Users that are authenticated and can access main features of the system including viewing of profile and dashboards.

Guest users – Users that visits the application and are not yet authenticated. These users can register and login to their account.

2.3. Operating Environment

Hardware – Any device that can run modern web browsers.

Database – The system utilizes a centralized database for storing user records.

Browsers – The system will work on most modern web browsers.

2.4. Assumptions and Dependencies

The user device (Desktop computer, laptop, or mobile) is compatible with the system.

The database is active and is securely connected to the system during operations.

The user has basic digital literacy.

3. System Features and Functional Requirements

3.1. Feature 1:

Description: User Registration
Functional Requirements:
- The system shall let guest user to register with their first name, last name, email, and password.
- The system shall create the user after successful registration.
- The system shall validate if registration credentials are valid (proper email format and non-existing account).
-The system shall check if user email is non-existing before creating the account.

3.2. Feature 2:

Description: User Authentication
Functional Requirements:
- The system shall authenticate users once correct login credentials are sent.
- The system shall redirect authenticated users to their dashboards.
- The system shall validate if login credentials are valid (existing account and non-empty fields).

4. Non-Functional Requirements

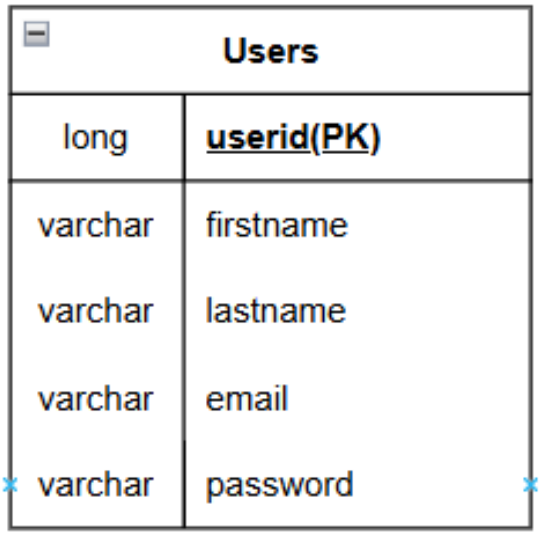
-User passwords must be encrypted and hashed after account registration and before storing in the database.

-The system should handle errors and timeout gracefully using appropriate messages.

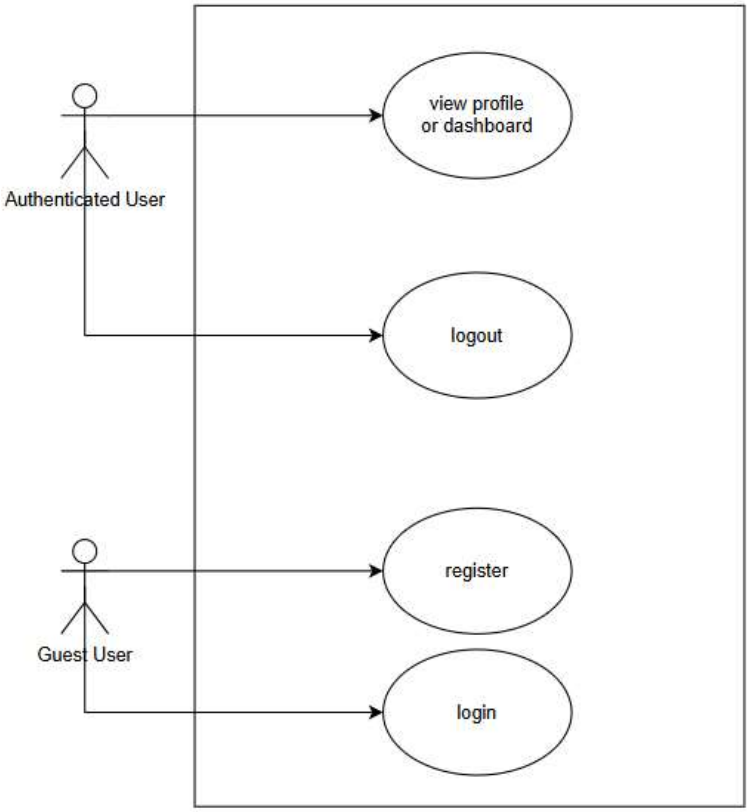
-The system shall load in less than 10 seconds assuming a stable internet connect and device.

5. System Models (Diagrams)

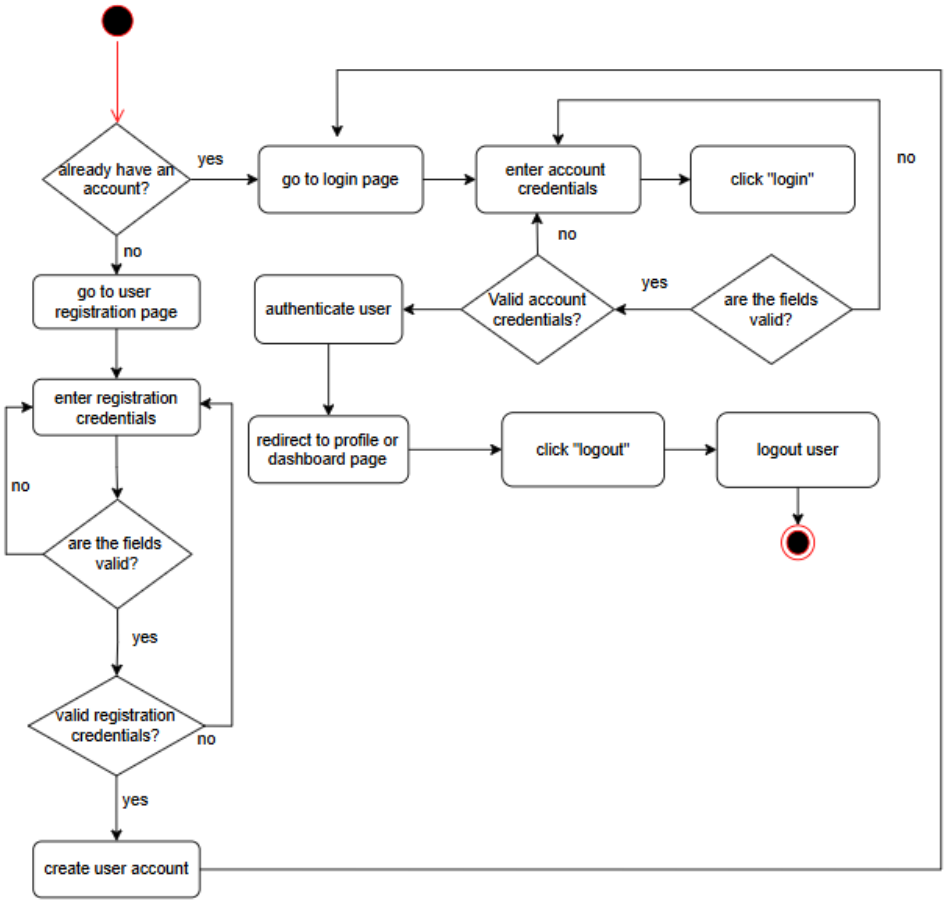
5.1. ERD



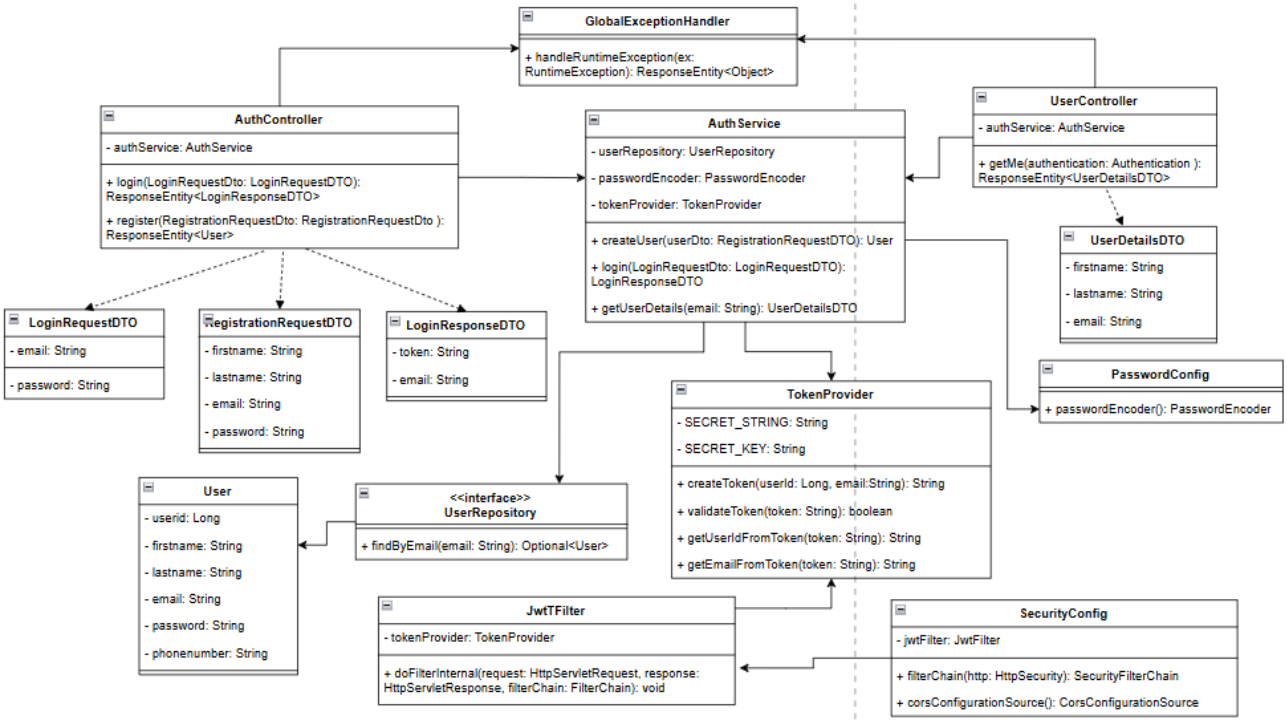
5.2. Use Case Diagram



5.3. Activity Diagram

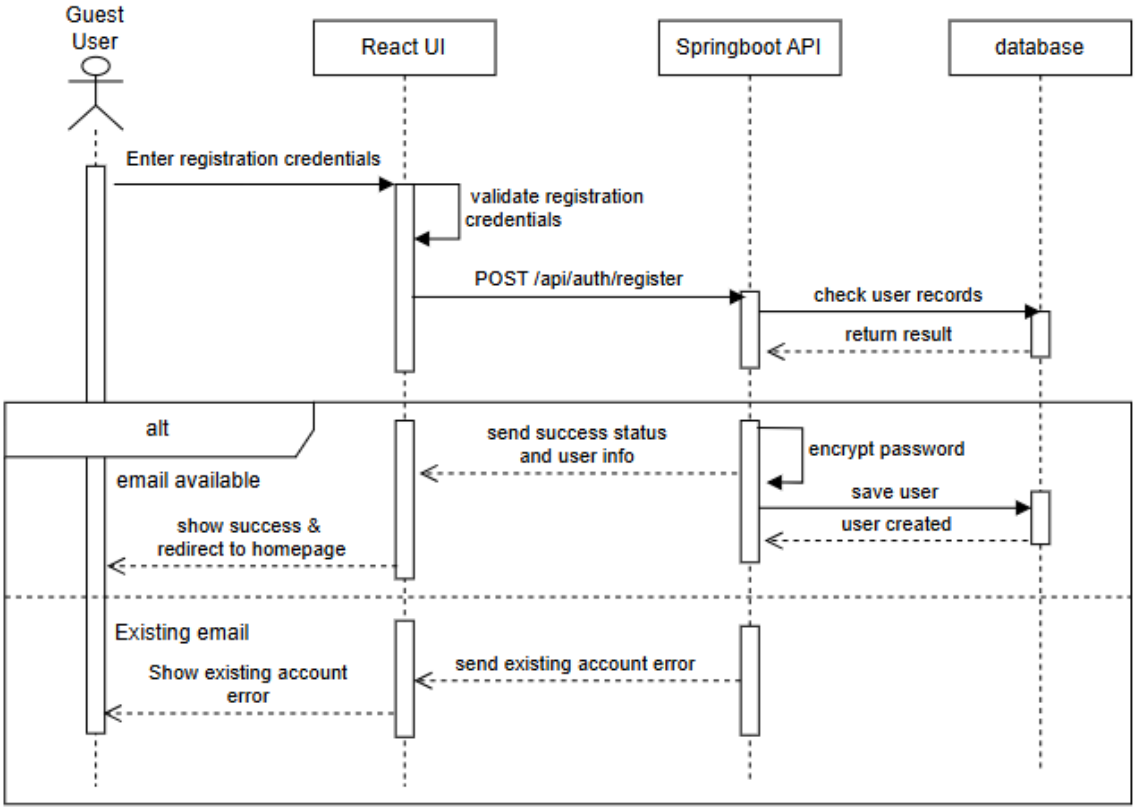


5.4. Class Diagram

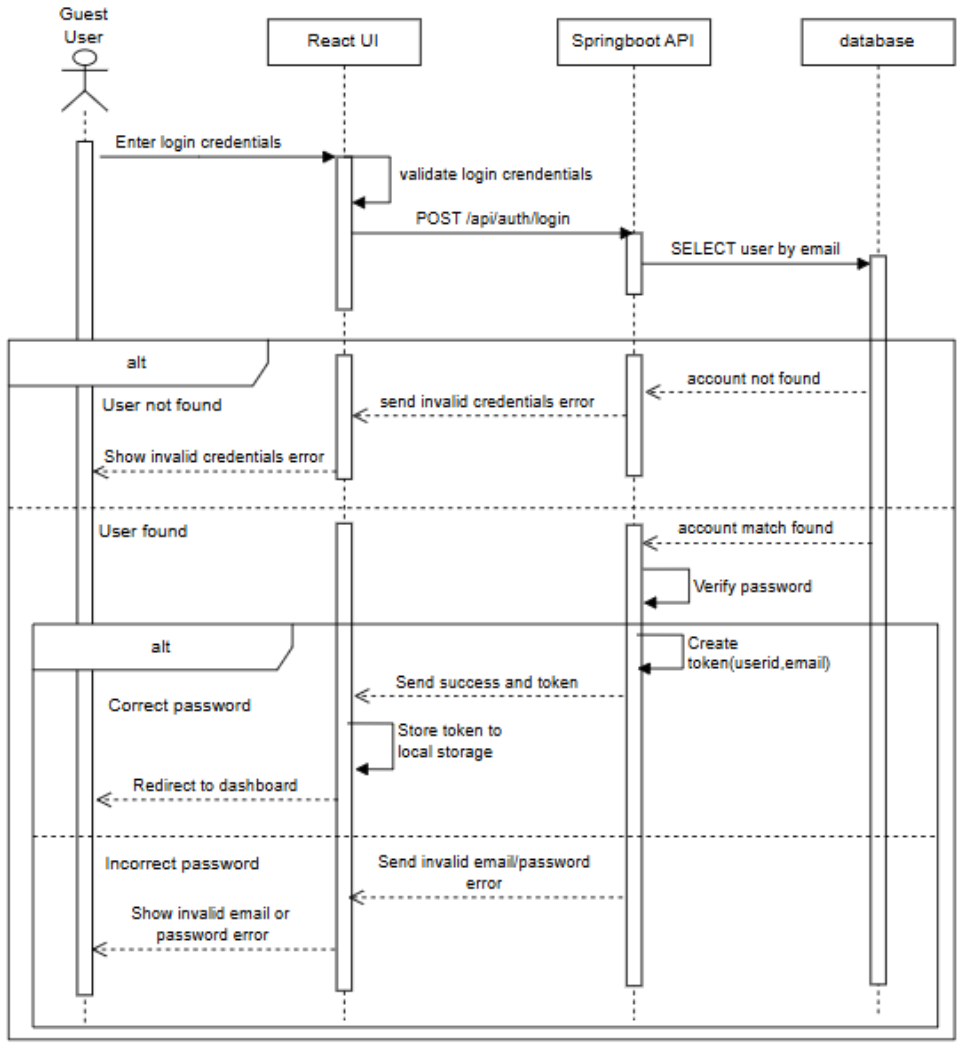


5.5. Sequence Diagram

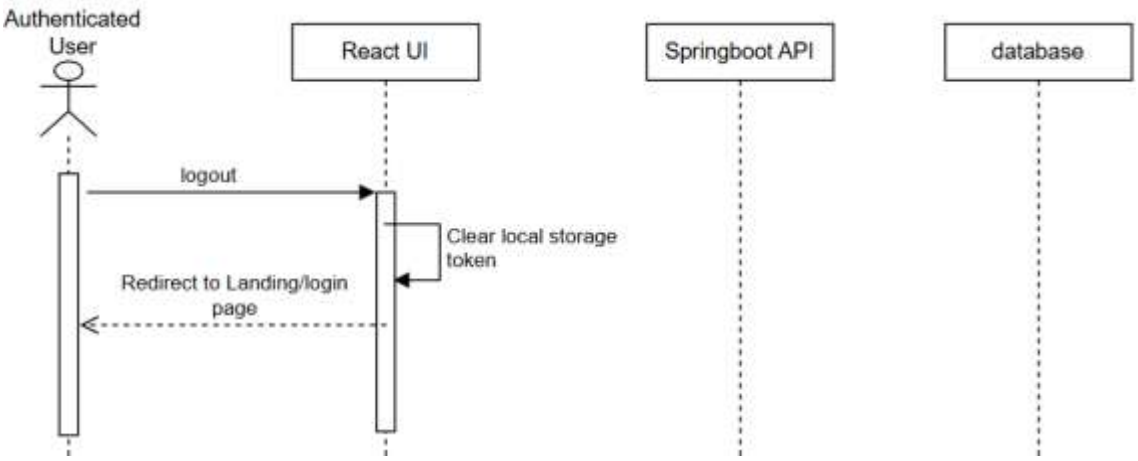
Register



Login



Logout

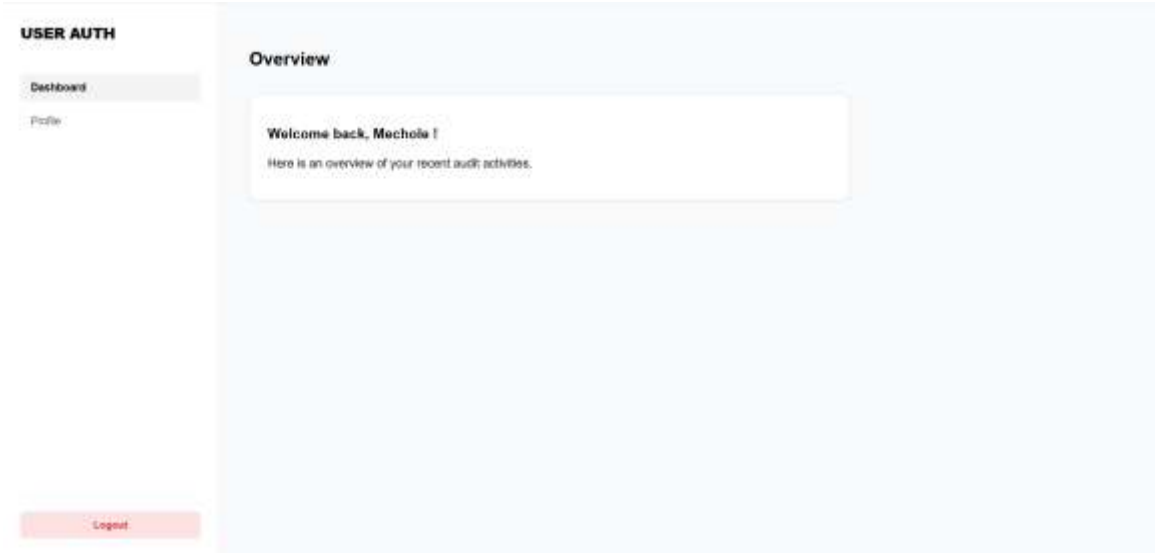


Web UI

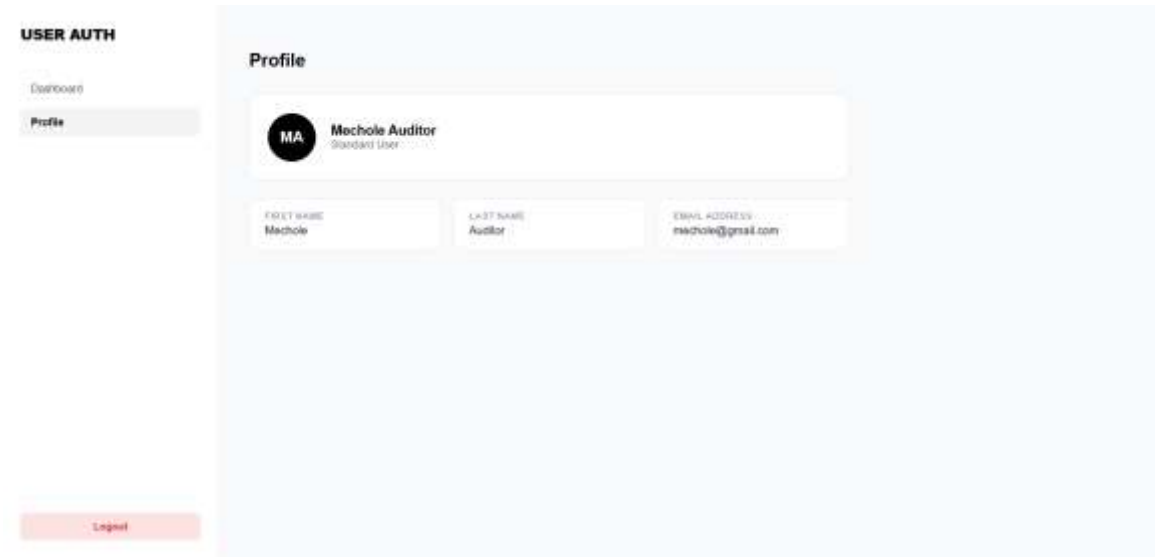
Landing/login page

Registration page

Dashboard



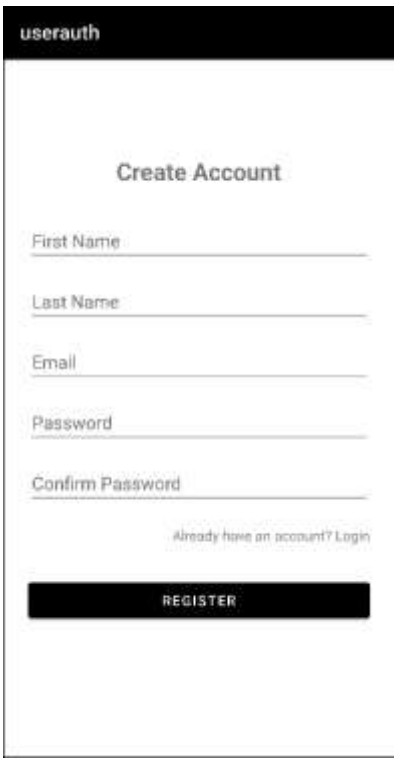
Profile



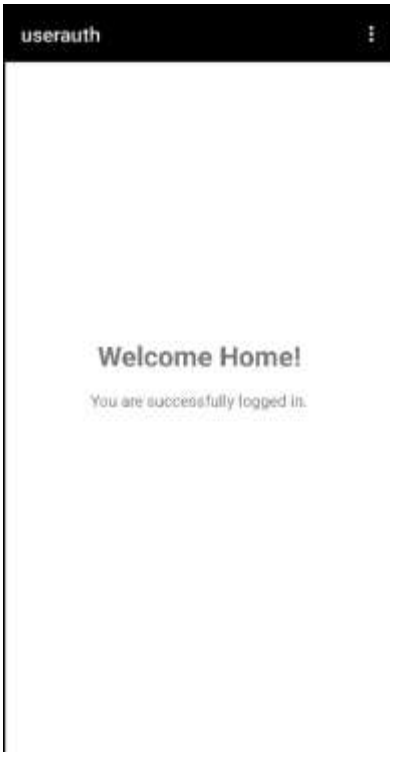
Mobile UI

Landing/login page

Register page



Dashboard



Profile

6. Appendices

Include any additional information, references, or support materials.