
# PART 2 POE

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# DETAILED REPORT

## Purpose

The VC Fitness app is designed to help users manage their fitness routines and track their health data conveniently from their Android devices. With core functionalities like user registration and login, BMI calculation, creating and viewing custom workout plans, the app provides a personalized fitness experience. The app's user authentication and database management rely on Firebase, making it secure, scalable, and easy to integrate with future features. This foundational structure sets the stage for a comprehensive fitness tracking system that will evolve over time as more features are added.

## Design Considerations

1. **User Interface (UI) Design**:
    - **Simplicity & Clarity**: The UI is designed to make the app intuitive, allowing users to easily access key features such as BMI calculation, creating workout plans, and viewing their workouts.
    - **Navigation**: A side navigation menu offers quick access to essential features like Home, Settings, BMI, Create Workout, and View Workouts.
    - **Responsiveness**: The app is optimized for various screen sizes, ensuring it works seamlessly across multiple Android devices.
2. **Firebase Authentication**:
    - **User Registration & Login**: Firebase Authentication is used to manage user login and registration, enabling users to create accounts, log in securely, and access their data from any device.
    - **Security**: Firebase ensures secure authentication using industry-standard protocols, including email/password-based authentication.
3. **Firebase Database**:
    - **Data Storage**: Firebase Realtime Database is used to store user data, including workout routines and BMI calculations. This provides real-time syncing across devices, ensuring that users can access their data from any device connected to the app.
    - **Scalability**: As Firebase is a cloud-based service, it automatically scales with the number of users, ensuring that as the app grows, performance remains consistent.
4. **Offline Functionality**:
    - While the current version of the app focuses on core features like workouts and BMI calculation, future iterations will implement offline capabilities, allowing users to access workouts and log data even without an internet connection.
5. **BMI Calculation**:

- The BMI (Body Mass Index) calculation feature allows users to input their weight and height, and the app computes their BMI, helping users track their overall health status.

6. **Workout Management**:
    - **Create Workout**: Users can create customized workout routines by selecting exercises and defining their workout plans.
    - **View Workouts**: Users can view their saved workout routines, which are stored in Firebase for easy access and syncing across devices.

## Utilization of GitHub and GitHub Actions

1. **GitHub for Version Control**:
    - **Repository Management**: The project repository is hosted on GitHub, with commits and branches managing different stages of development. This includes a history of changes and feature implementations.
    - **Collaborative Development**: GitHub allows for version control, enabling future collaboration by maintaining a clean, organized history of code changes.
2. **GitHub Actions**:
    - **Continuous Integration (CI)**: GitHub Actions has been integrated into the repository to run automated tests and build the app on each commit, ensuring the app remains stable and functional.
    - **Automated Builds**: Each push to the main repository triggers GitHub Actions to build the app, ensuring that it compiles correctly in different environments.

# README

## Introduction

The VC Fitness App helps users create workout routines, calculate their BMI, and manage their fitness goals. The app uses Firebase for user authentication and database management, ensuring secure and scalable data storage.

## Features

- User registration and login using Firebase Authentication.
- BMI calculation feature to help users track their fitness.
- Custom workout plans, allowing users to create routines.
- View existing workout routines.
- Real-time data sync using Firebase Realtime Database.

## Installation

### Prerequisites

- Android Studio
- Kotlin 1.6
- Firebase Authentication and Realtime Database configured

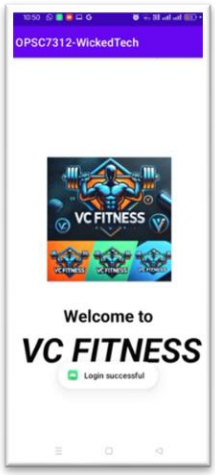
### Steps

1. Clone the repository:
2. Open the project in Android Studio.
3. Set up Firebase by adding the google-services.json file (available from Firebase Console).
4. Build the project by navigating to Build > Make Project.
5. Run the project on an Android emulator or a physical device.

## Usage

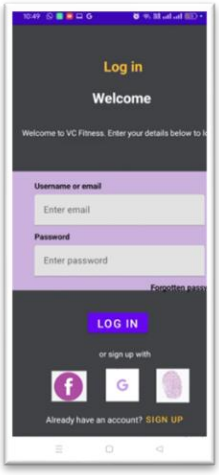
- **Login/Register**: Users can sign up or log in using their email and password.
- **BMI Calculator**: Users can enter their height and weight to calculate their Body Mass Index (BMI).
- **Create Workout**: Users can create custom workout plans, which are stored in Firebase.
- **View Workouts**: Users can view their saved workout plans.

## User Instructions

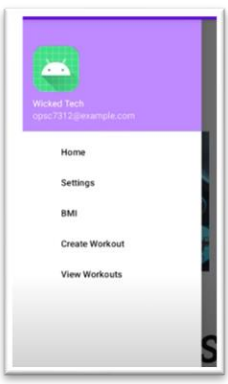



The user is welcomed by a splash screen. Displaying the app logo


The user should first create an account to signup.



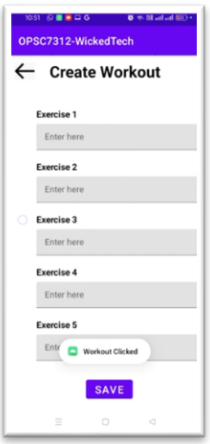

The user can then login with their details.



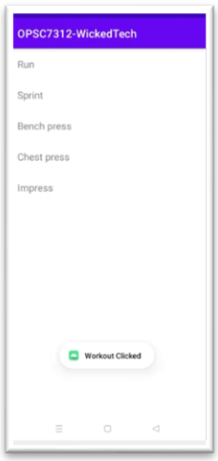

The user menu displays the different options the user can access.


Here the user can enter their details which will be used in future calculations.


The users BMI will be automatically calculated from their details above.




The users can create custom workout schedule.




The workout schedule which was added by the user.


The user can add details to each workout, e.g. reps.

## API Reference

The VC Fitness app uses Firebase Authentication and Firebase Realtime Database for managing user data and workout plans.

## Firebase Authentication

- **POST /auth/register**: Register a new user.
- **POST /auth/login**: Log in an existing user.

## Firebase Realtime Database

- **POST /workouts**: Save a user-created workout plan.
- **GET /workouts**: Retrieve user-specific workout plans.

## Contributing

Contributions are welcome! Please fork this repository and submit a pull request with your changes. Ensure all code is tested before submission.

## License



## Video Link

https://youtu.be/1ugaVH9L4Y8