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# Members of (Group 3 Team):

Youssef Alaa Eldin Abdelshefi Abdelal ID: 21038400

Mohamed Amin Abd El-Rahim

ID: 21011677

Wagdy Lamiy fahmy
ID: 21042696

Shymaa Ahmad Abdelrahman Saied *ID:* 21027165

# PureFit (Fitness Application)

PureFit is a comprehensive fitness app built with Flutter that helps users track their steps, water intake, calorie consumption, set personalized fitness goals, discover tailored workouts, and access nutrition information. PureFit also includes an Al-powered Trainer Coach to provide customized workout and diet plans based on user progress. The app enhances users, health and fitness journeys by offering an all-in-one solution for tracking and maintaining a healthy lifestyle.

# **Technologies Used:**

#### • Dart, Flutter:

The app is built using Flutter for cross-platform mobile development and Dart as the programming language.

#### • Clean Architecture:

Follows Clean Architecture principles to maintain separation of concerns and scalability.

#### · Dependency Injection:

Uses get\_it for dependency injection.

#### Local Databases:

Sqflite and Shared Preferences are used for local storage.

#### APIs:

- » Dio for handling network requests.
- » Gemini API for Al-based workout and nutrition suggestions.

#### • State Management:

BLoC (Business Logic Component) for managing app state.

#### • Notifications:

awesome\_notifications is used to schedule and show notifications.

#### Animations:

Lotti animations for enhanced user experience.

#### Pedometer:

The app uses Pedometer to track users' steps.

#### • Alarm Management:

alarm\_manager\_plus is used for setting alarms and reminders.

#### Localization:

Flutter Localization is used to provide multi-language support.

# **Technology and Main Problem**

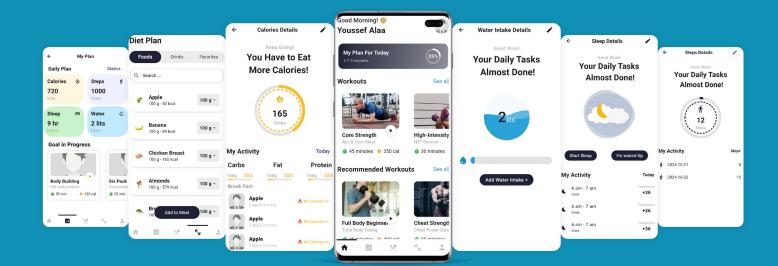
#### **Main Problem Solved:**

PureFit addresses the challenge of tracking and managing multiple fitness aspects (steps, water intake, calories, and workouts) in one place. By integrating Al-powered training guidance through the Gemini API, it offers personalized fitness suggestions, making it easier for users to reach their health goals.

# **Targeted Android Version**

# **Targeted Android Version:**

The minimum supported Android version for PureFit is minSdkVersion 21 (Lollipop), ensuring compatibility with a broad range of devices.



#### **Main and Profile Screens:**

#### 1. Home Screen (/homeScreen):

The dashboard provides an overview of daily progress in steps, calories, and water intake. Users can quickly access different features from here.

#### 2. Profile Screen (/profileScreen):

Displays user details like age, gender, body metrics, and fitness goals. This screen serves as a summary of the user's health data.

#### 3. Edit Profile Screen (/editProfileScreen):

Allows users to edit personal information such as age, gender, height, weight, and fitness goals.



# **Tracking and Target Screens:**

#### 4. Track Steps Screen (/trackStepsScreen):

Displays the current step count and allows users to set daily step goals. The screen also provides motivational prompts and progress bars.

#### 5. Track Steps Details Screen (/trackStepsDetailsScreen):

This screen allows users to set daily step goals and displays a detailed summary of their step count, distance covered, and calories burned. Users can set a target for their daily steps, and the app will notify them when they reach or fall behind their target. The screen also provides historical data of steps taken over the week, month, and year.

#### 6. Water Screen (/waterScreen):

Users track their daily water intake and can set hydration goals. A progress bar shows how close they are to reaching their daily water target.

#### 7. Water Details Screen (/waterDetails):

Here, users can set a daily hydration goal and track how much water they've consumed throughout the day. The app will notify users when they haven't met their water intake goals and remind them to drink more. Historical data is available to track water intake trends over time.

#### 8. Sleep Screen (/sleepScreen):

This screen allows users to set a daily sleep duration target. The app will send notifications to remind users when it's time to go to bed based on their target sleep hours. Users can track their sleep history, view how well they are meeting their sleep goals, and analyze sleep patterns over days, weeks, and months.

### 9. Calories Screen (/calories Screen):

Tracks users, daily calorie intake and helps them monitor their diet. It syncs with nutritional APIs to offer insights on the user's caloric consumption.

#### 10. Detailed Calories Screen (/detaildCaloriesScreen):

Provides a detailed breakdown of daily, weekly, and monthly calorie consumption, allowing users to see how their diet aligns with their fitness goals.

#### 11. Body Metrics Screen (/bodyMetricsScreen):

Allows users to track their body metrics, such as weight, BMI, and body fat percentage

#### **Workout and Exercise Screens:**

# 12. Exercise Screen (/exerciseScreen):

Displays a list of suggested workouts based on the user>s fitness level and goals.

#### 13. Weekly Exercise Screen (/weeklyExerciseScreen):

Provides a weekly breakdown of planned exercises, along with progress tracking for completed sessions.

#### 14. Training Screen (/trainingScreen):

Users can start a specific workout, with timers and exercise instructions. The screen tracks workout duration and calories burned.

#### 15. Rest Screen (/restScreen):

Displays rest intervals between workout sets, helping users time their recovery phases.

#### **Personalization Screens:**

# 16. User Age Screen (/userAgeScreen), User Gender Screen (/userGenderScreen):

These screens collect demographic data to tailor the user's fitness journey.

### 17. Fitness Goal Screen (/fitnessGoalScreen):

Helps users define their fitness objectives, such as weight loss, muscle gain, or endurance.

# Sleep Section (Set Alarm & Timer Picker):

#### 18. Set Alarm Screen (/setAlarm):

This screen is part of the sleep section and allows users to set reminders for their sleep schedule. Users can set an alarm for bedtime, which will notify them when it is time to sleep based on their sleep duration target.

#### 19. Timer Picker Screen (/timerPicker):

Also within the sleep section, this screen allows users to pick specific sleep durations for tracking and optimizing sleep time. Users can set timers for naps or specific sleep goals to monitor their rest.



# My Plan Screen (Multi-feature Overview):

#### 20. My Plan Screen (/myPlanScreen):

This screen combines multiple widgets, allowing users to access key features such as steps tracking, water intake, sleep goals, and calorie monitoring. It also displays important health metricslikeBMI(BodyMassIndex)togiveusersacomprehensive view of their fitness journey. The screen provides shortcuts to each of these features and an overview of daily progress.

#### **AI Trainer Coach:**

#### 21. Trainer Chat Screen (/trainerChat):

Users can communicate with an Al-powered trainer coach powered by the Gemini API. The AI trainer offers personalized workout and nutrition advice based on user input and progress. It provides tailored recommendations, feedback on completed exercises, and motivational support to help users achieve their fitness goals.



#### **Additional Features:**

22. Forgot Password Screen (/forgotPasswordScreen), Verification Screen (/verificationScreen), Change Password Screen (/changePasswordScreen): Screens that handle password recovery, verification codes, and setting new passwords.

# Login and Registration Screens:

- 23. Login Screen (/loginScreen):
  - Allows users to sign in with their credentials or through thirdparty services.
- 24. Register Screen (/registerScreen):

New users can create accounts by entering basic details and selecting fitness goals.

**GitHub Link:** 

https://github.com/youssefalaa10/PureFit



#### **Future Plans:**

- Integration with wearable devices for more accurate step and heart rate tracking.
- Enhanced workout plans that adapt based on user progress.
- More localization options for global users.
- Introduction of social features like sharing fitness milestones with friends.



#### **References:**

- Official Flutter documentation: <u>https://flutter.dev/docs</u>
- Sqflite package documentation: https://pub.dev/packages/sqflite
- Dio package for HTTP requests: https://pub.dev/packages/dio
- BLoC state management: https://bloclibrary.dev/



#### **API:**

#### PureFit API:

The app integrates with our custom API to manage user data, track calories, provide personalized fitness plans, and synchronize activity data.

The API is hosted at:

https://pure-fit-app.glitch.me

#### • Gemini API:

Used for the Al Trainer Coach to generate personalized workout and nutrition suggestions based on user data.



