FitCraft **CS407 Fall 2023 - Group Project**

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FITCRAFT

Introduction

1. Brief Overview of the App's Purpose:
- Customized workout plans for college students.
- Tailored to specific fitness goals: weight loss, muscle building, endurance, overall wellness.

2. Need and Benefits:
- Addresses the challenge of balancing studies and well-being.
- Flexible scheduling integrates seamlessly into academic and social calendars.

3. Empowering Self-Directed Fitness:
- Promotes self-directed fitness.
  - Dynamic exercise selection keeps workouts interesting.
  - Users can create and modify plans, fostering a sense of ownership.

4. Sustainable Engagement for Motivation:
- Adapts to evolving fitness levels and preferences.
- Ensures long-term motivation and healthy habit formation.

Key Features

1. Customizable Workouts: The ability for users to create and customize their workout routines based on their fitness goals, preferences, and available equipment.

2. Workout Player: Users can play their workouts made of a combination of different exercises, and follow along while watching the video demonstration of the exercise.

3. Variety of Exercise: There are a large number of different types of exercise in the program, including aerobic exercise, anaerobic exercise, etc., for users to choose from.

4. **Ease of Use on the go**: Users can do the workouts wherever they can bring their phone, the gym, the park, a friend's place, to work,

Technology Stack

1. Cloud Firestore: Store and sync app data with a flexible, scalable NoSQL cloud-hosted database

2. Cloud Storage for Firebase: Store and retrieve large files like images, audio, and video

Built with Firebase

3. Android Studio   **4. Java**

User Interface
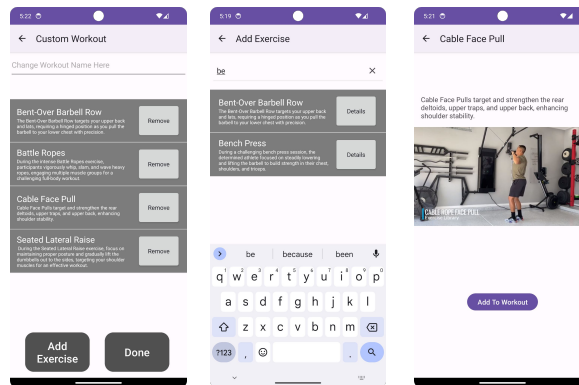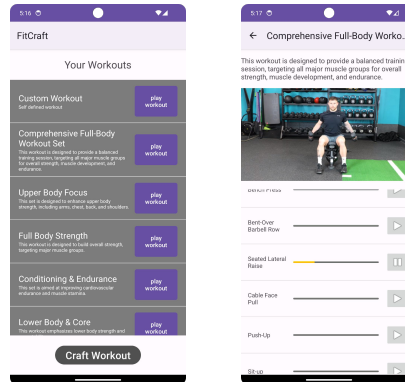
Development Team

Tairan Hu Full Stack   **Jason Zhang** Full Stack

Nianze Guo Full Stack   **Hongying Li** Full Stack

Challenges

1. Firebase Integration: Setting up and connecting to the Firebase Firestore database. Challenges with asynchronous operations and data consistency.

2. Video Player: Difficulties in streaming from Firebase Storage. Implementing smooth and user-friendly video controls.

3. Search Exercise: Real-time filtering with dynamic user input. Cache database retrieval results for optimized performance

4. User Interface Customization: Designing adaptable, custom list views. Balancing aesthetics with functional UI across devices.

Future Work

1. Social Media Integration: Allow users to share their created workouts to their friends on social media.

2. Exercise Timing Customization: Allow users to customize how long they want to do an exercise for in an workout, and be able to add breaks in between.

3. Music Integration: Allow users to play music on the app as wanted when they follow the workout, through integration with APIs from music services like Spotify.

4. More and Customized Exercises: Increase the collection of exercises in the database for users to select from. And allow users to add their own.

Useful Links

https://github.com/thu1012/FitCraft   https://youtu.be/AhfI-zcKS-A

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