



K.R. MANGALAM UNIVERSITY

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FIT FORGE AI

Second Year Project PPT

Submitted By

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PROBLEM STATEMENT

Many people lack access to personal trainers and proper guidance for fitness routines . Another big problem is that fitness apps don't give the same level of personal feedback as a trainer would . Without real-time advice on exercise form or intensity, users are more likely to hurt themselves or not get the most out of their workouts. Plus, many people find it hard to stick to a workout routine due to limited time, access to equipment, or not having a gym nearby. Most fitness apps provide fixed workout plans that don't change as users get fitter, which can lead to slow progress or boredom. These apps often only take basic information like age or fitness level into account, but they don't adjust workouts based on real-time factors like how tired you are, your mood, or how your body is feeling. Because of this, many users lose motivation and stop using the app, which makes it harder to reach their goals.

Our application (Mobile App) FitForge Ai - An AI Virtual Gym Trainer aims to fix these problems by offering workouts that adjust based on your progress and how you're feeling . With this app, users get more effective, safer, and motivating workouts that help them stay on track with their fitness goals.

OBJECTIVE

Sample Objectives

1. Build an AI-powered fitness app that provides virtual training and feedback .
2. To integrate advanced motion detection technologies into the app to automatically analyse user's posture and speed .
3. Using computer vision that detects posture during exercise and provides corrections in real-time . Ai design personalised workout plans based on user goals

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4. Tracks progress and calorie burn using wearables or camera input . Integration with AR for workout essential . This is just for interactiveness . We will try to achieve it .

5. Advancing with AI and AR for a futuristic approach .

The objective is to overcome the gap from various projects and to create a smart gyming app. The use of machine learning algorithms is done to make it smarter, and a GUI is created using tkinter in python to make it accessible and easy to understand for its users.

KEY FEATURES

Our application FitForge Ai - The AI Virtual Gym Trainer is an app that uses smart technology to help you work out better. It creates workout plans that are just right for you, whether you're a beginner or someone who's been working out for years.

The app adjusts your exercises based on how you're doing and keeping at your pace , so it keeps getting more suited to your needs. It also gives you real-time feedback during your workouts, so you know if you're doing things right. Plus, it tracks your progress over time, so you can see how you're improving. Apart from exercises , our app uses tech like computer vision that will analyse your posture and train / guide you accordingly . It will adapt to the individual user's workout plan and timings and speed

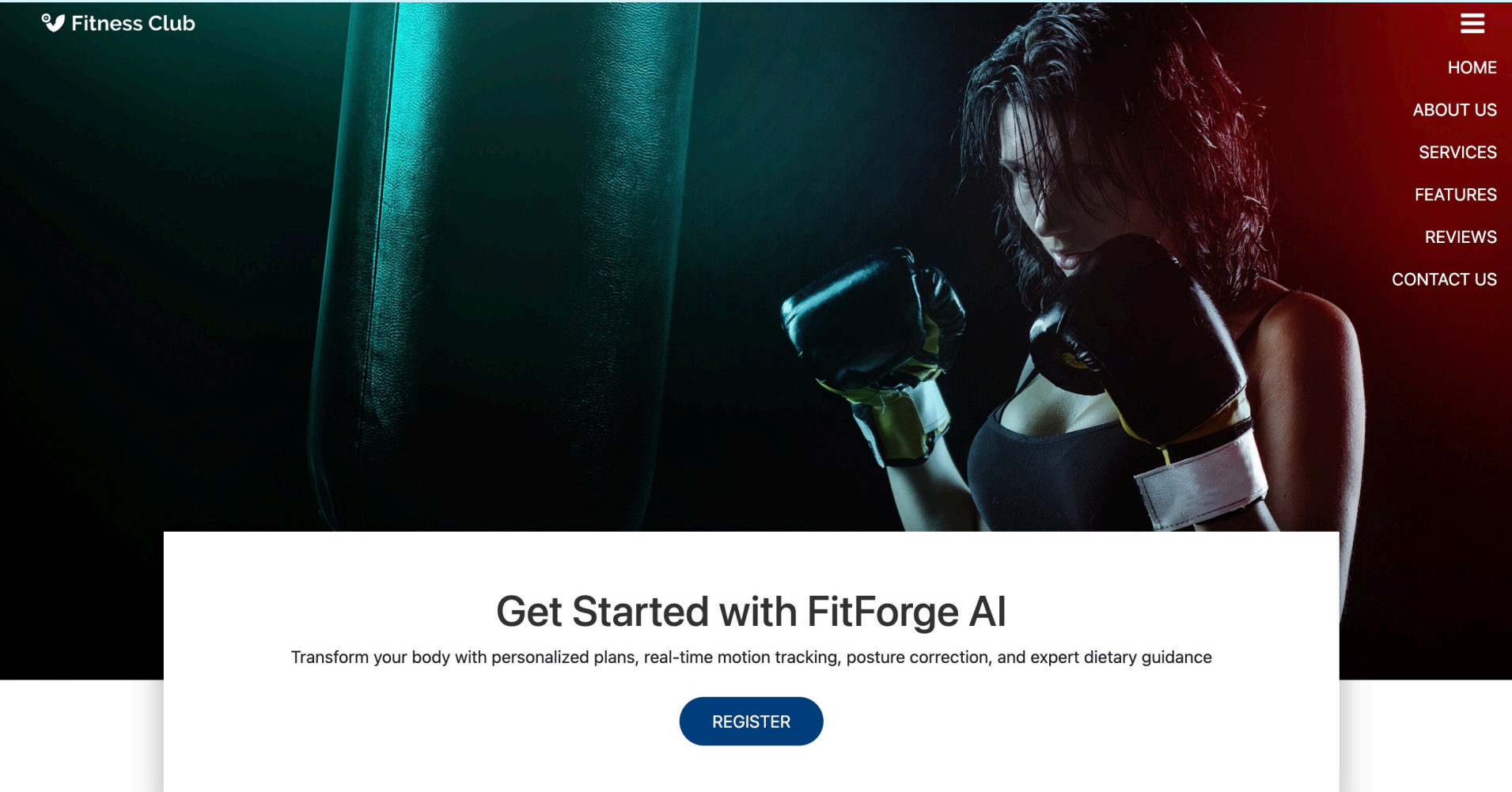
USE CASE

- It will overcome the limitations of traditional fitness apps by providing a personalized,
- adaptive workout experience that evolves based on real-time user data. While many existing
- fitness apps offer pre-set workout plans, these plans often fail to adjust as the user progresses
- or as their needs change
- The AI Virtual Gym Trainer aims to address these issues by using artificial
- intelligence to create dynamic workout plans that adapt to the individual's performance,
- energy levels, mood, and overall progress.
- Another key feature of FitForge Ai is its ability to offer real-time feedback on exercise form
- and technique
- Many people face barriers to regular exercise, such as lack of time, gym access,
- or expensive personal trainers. This app removes those barriers by providing a flexible
- solution that can be used at home, in the park, or while traveling.

METHODOLOGY

- POSTURE DETECTION by Python and Javascript libraries
- WEBSITE by HTML CSS JS
- Motion tracking datasets

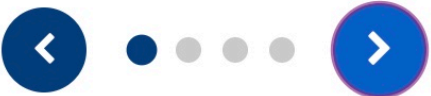
• WEBSITE



Real-Time Posture Tracking

Our advanced AI continuously monitors your form during workouts, providing instant feedback to prevent injuries and maximize effectiveness.

- ✓ Instant posture correction alerts
- ✓ Detailed form analysis
- ✓ Exercise-specific guidance





Create Your Account

Email address

paarth1407@gmail.com

Password

...

Confirm Password

...|

Sign Up

Already have an account? [Log In](#)



Tell Us About Yourself

Help us create your personalized fitness plan

1. What is your gender?

Male

Female

Other

2. What is your age group?

18-25

26-35

36-45

46+

3. What is your primary fitness goal?

Weight Loss

Muscle Gain

Endurance

Flexibility

4. How often can you workout?

3 days/week

5 days/week

Daily

Weekends only

5. Do you have any injuries or health conditions?

None

Back Pain

Knee Pain

Other

Complete Setup

EXPECTED OUTCOME

Its goal is to

boost user performance, motivation, and make fitness accessible to everyone, no matter where they are. Whether you're a fitness enthusiast or someone looking for simple guidance, the app is designed to support a wide range of users in achieving their health and fitness goals with ease and convenience. AI brings a level of customization that traditional training methods can't match. In a world where everyone's fitness goals, body types, and schedules are different, a one-size-fits-all approach no longer works. AI can collect data from each user—like their progress, preferences, and even energy levels—to create a workout plan that constantly evolves as they improve. AI-driven fitness apps that monitor real-time data such as heart rate, movement, and fatigue levels can optimize training intensity and duration, ensuring that users are continually challenged at their own pace. This adaptability can increase the likelihood of success, as workouts remain engaging and appropriately challenging.