A
Mini-Project Report on

FITPROAI

Submitted in partial fulfillment of the requirements for
the degree of
BACHELOR OF ENGINEERING
IN
Computer Science & Engineering Artificial
Intelligence & Machine Learning by

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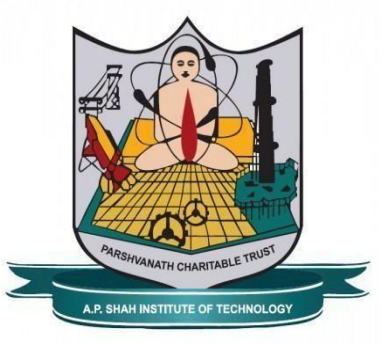

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CERTIFICATE

This is to certify that the project entitled "**FITPROAI"** is a bonafide work of Krishna Dongre (22106089), Tanveer Angane (22106057), Anish Gawade (22106109), Siddharth Chaurasiya (22106060) submitted to the University of Mumbai in partial fulfillment of the requirement for the award of **Bachelor of Engineering** in **Computer Science & Engineering (Artificial Intelligence & Machine Learning).**

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Project Report Approval

This Mini project report entitled "**FITPROAI"** by Krishna Dongre, Tanveer Angane, Anish Gawade and Siddharth Chaurasiya is approved for the degree of **Bachelor of Engineering** in **Computer Science &Engineering & AIML**, **2023-24**.

External Examiner:

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Place: APSIT, Thane
Date:

Declaration

We declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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ABSTRACT

This project presents the development of a comprehensive gym website, enriched with an interactive AI Gym trainer and a robust user login system. The website serves as a digital gateway for fitness enthusiasts, providing a wide range of features and services.Users can create accounts, log in, and access personalized fitness plans, and engage with the AI Gym trainer for real-time assistance. The AI trainer employs advanced AI technologies to offer workout recommendations, answer queries, and enhance the user experience.This project exemplifies the fusion of web development, artificial intelligence, and user authentication systems to create an engaging and informative platform for individuals passionate about their fitness journey.

Keywords: User login system , personalized fitness plans ,Workout recommendations, Fitness Journey.

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

In a world where technology continues to revolutionize every aspect of our lives, our project bridges the gap between fitness and AI-driven solutions. This project is a dynamic fusion of a gym website and a sophisticated AI Gym Trainer, offering a comprehensive fitness experience.Our website is more than just a virtual gym; it's your dedicated fitness companion. With an AI Gym Trainer, it provides personalized workout plans, real-time exercise recommendations, and instant assistance. Whether you're a seasoned fitness enthusiast looking to optimize your routines or a novice seeking guidance, our platform caters to your fitness journey.Incorporating a secure and user-friendly login system, this project ensures a seamless and safe fitness experience. But Fit Pro AI is more than just a virtual personal trainer. It's a holistic wellness platform that empowers you to take control of your health in every aspect of your life. Data of users are stored in a database using MySQL. It represents the perfect blend of cutting-edge technology and fitness expertise, empowering users to achieve their health and fitness goals.

The motivation behind our project is driven by the compelling need to transform the fitness experience and make it accessible, personalized, and effective for people of all fitness levels. Several key factors have fueled our motivation:

1) Rising Health Awareness: In recent years, there has been a significant increase in health consciousness and fitness awareness. More individuals are seeking ways to lead healthier lives and improve their physical well-being.
2) Accessibility: Traditional gym facilities are not always easily accessible or affordable. Our project aims to bring the gym experience to anyone with an internet connection, enabling people to work out from the comfort of their homes or while traveling.
3) AI Advancements: The advancements in artificial intelligence have opened up new possibilities in the fitness sector. Our motivation stems from harnessing AI to create a virtual gym trainer capable of offering intelligent workout recommendations and guidance.
4) Real-Time Guidance: Develop an AI Gym Trainer that can provide instant feedback, exercise recommendations, and answer user queries during their workout sessions.

5) Security and Privacy: Ensure that user data and personal information are securely stored and protected, maintaining the trust and confidence of users.
6) Cost-Effective Solution: Offer a budget-friendly alternative to traditional gym memberships and personal trainers, making fitness more affordable for everyone.

CHAPTER 2

LITERATURE SURVEY

2. LITERATURE SURVEY

2.1 HISTORY :

The genesis of the AI gym trainer web app is deeply rooted in the convergence of technological innovation, fitness culture, and the ever-expanding reach of the internet. Its origins can be traced back to the early 2000s when the internet was still in its nascent stages of development, but already showing promise as a platform for sharing information and connecting people globally. During this time, fitness enthusiasts and professionals began to explore the potential of online platforms to provide workout routines, nutrition guidance, and community support.In the mid2000s, as the internet became more interactive and user-friendly, virtual personal trainers emerged as a novel concept. These early incarnations of AI gym trainers were rudimentary, often relying on simple algorithms to generate generic workout plans and offer basic fitness advice.

However, they laid the groundwork for more sophisticated AI-powered solutions to come.

The real breakthrough for AI gym trainers came with the advancement of artificial intelligence and machine learning technologies in the late 2000s and early 2010s. These groundbreaking technologies enabled fitness websites to analyze vast amounts of user data, including fitness goals, exercise preferences, and performance metrics, to deliver highly personalized recommendations and feedback in real-time. Users could now receive tailored workout plans, nutrition advice, and even virtual coaching sessions that adapted dynamically to their individual needs and progress By the mid-2010s, AI gym trainers had gained widespread popularity as people increasingly turned to digital platforms for fitness guidance and support. Startups and established fitness brands alike began to invest heavily in AI technology to enhance their online offerings, leading to the development of more sophisticated and comprehensive solutions. These AI gym trainers boasted a plethora of features, including advanced workout generators, intuitive progress tracking tools, and immersive coaching experiences, all powered by intelligent algorithms that continuously learned and evolved over time.

In recent years, the evolution of the AI gym trainer web app has been accelerated by rapid advancements in technology and changing consumer behaviors. The integration of wearable fitness devices, mobile apps, and virtual reality experiences has further enhanced the user experience, making fitness more accessible, engaging, and personalized than ever before. Moreover, the global COVID-19 pandemic has fueled a surge in demand for online fitness solutions, propelling AI gym trainers to the forefront as people seek alternative ways to stay

active and healthy from the safety of their homes.Looking ahead, the future of the AI gym trainer web app promises to be even more exciting and transformative. With continued advancements in AI, machine learning, and digital health technologies, we can expect to see a new wave of innovative features and capabilities that will further revolutionize the way we approach fitness and wellness in the digital age. From personalized workout plans and virtual coaching sessions to immersive fitness experiences and beyond, the possibilities are truly endless for the AI gym trainer web app.

2.2 LITERATURE REVIEW :

Implementation Chatbot Whatsapp using Python Programming for Broadcast and Reply Message Automatically

The use of VPS (Virtual Private Server) in Indonesia is still very expensive. The Chatbot application system is very important in the marketing field, especially for disseminating information directly and acceptable to many users at a time. This paper focused on using the WhatsApp application for the Chatbot system. This Chatbot system uses the Python programming language. The message Chatbot flow system will be sent first to the user. Then the Python program will read the incoming message to enter Chatbot. If the incoming message matches the existing conditions, the chatbot will send the information according to the condition. But if it doesn't match, Chatbot will continue to repeat the process of reading incoming messages. The Chatbot system is designed to run successfully on 15 contacts at a time. Chatbot server connection speed affects the speed of sending messages and checking every incoming message. Chatbot simulation program cannot read messages that enter the server if the message contains stickers, emojis and gifs. This is because Python program cannot read the message. This research can still be developed by adding a random message feature **[1].**

A Fitness App to Fit Everybody’s Schedule

In modern life, many people are sedentary and do not move enough which can lead to a series of physical and mental health conditions including obesity, diabetes, and poor mental health. The aim of this study was to reduce or eliminate this entirely by offering a solution which will work for everyone, even those with a very full schedule and who may find it difficult to stay active. This was carried out by gathering data from potential users, using both questionnaires and interviews to do this. After gathering data on what potential users would like the solution to do, designs were made and then implementation of the app was carried out, based on these designs. Following on from this,

sufficient testing was carried out to ensure it worked as intended and satisfied the user requirements. The main findings of this study were that every person will benefit from increasing physical activity, while many people struggled sticking to a workout schedule due to reasons such as the gym being intimidating, expensive and a hassle to commute to. Our solution was made to address these issues and allow people an alternative way to increase physical activity **[2].**

Exploring the Application of Artificial Intelligence in Sports Training

With the rapid development of computer science and information technology, artificial intelligence (AI) has been developed from theory to application. As a key technology in the modern society, AI is increasingly affecting all aspects of people's daily lives, including sports training. AI can be considered as an assistive technology to provide specific support to athletes' physical education training through various means such as data analysis and simulation of training scenarios. Although research on AI is still in the preliminary stage, it is significant to explore how AI can be applied in sports training since this emerging technology could facilitate people's physical training to some extent. This paper first reviews the existing research on AI applications. Then, based on the fundamental concept and related research results of AI, this study explores three specific cases of AI application in sports training and explains the main principles. This research focuses on discussing the strong relationship between AI technology and physical education training and highlights the advantages of AI, including utilization, convenience, and innovation **[3].**

Application of Internet of Things and artificial intelligence for smart fitness

The revolution of Internet of Things (IoT) is pervading many facets of our everyday life. Among the multiple IoT application domains, well-being is becoming one of the popular scenarios in IoT which aims to offer new services including smart fitness. This paper focuses on smart fitness covering IoT-based solutions for this domain as well as the impacts of artificial intelligence and social-IoT. IoT-based smart fitness is divided into three categories: Fitness trackers (including wearable and non-wearable sensors), movement analysis and fitness applications. Data collected from IoT-based smart fitness and users could be used for enhancing training performance by Artificial Intelligence (AI)-based algorithms. Sensor to sensor relationship is another notable topic which can be implemented by social-IoT that can share data, information and experiences of users' training from different places and times **[4]**.

CHAPTER 3

Problem Statement

3. Problem Statement

The FitProAI web application, though promising in its aim to revolutionize fitness routines and tracking, faces several critical issues that impede its effectiveness and user satisfaction. Foremost among these is the glaring absence of personalized features, resulting in generic fitness plans that fail to accommodate individual goals, preferences, and fitness levels. Moreover, the application suffers from a limited exercise database, constraining users' ability to diversify their workouts and optimize their routines. Tracking tools within FitProAI are often inaccurate and unreliable, undermining users' trust in the platform and hindering their progress monitoring efforts. Compounding these issues is a dated and unintuitive user interface that complicates navigation and detracts from the overall user experience. Additionally, the lack of comprehensive guidance and educational resources leaves users feeling unsupported and uninformed, particularly those new to fitness. Furthermore, the absence of robust social integration features deprives users of community support and motivation, detracting from the holistic fitness experience. Addressing these challenges is crucial for FitProAI to fulfill its potential as a leading fitness platform, empowering users to achieve their goals effectively and sustainably.

CHAPTER 4
Experimental Setup

HARDWARE SETUP

Computer: Users will access the website from various devices such as desktop computers, laptops, tablets, and smartphones.

Memory (RAM): For FitProAI, 4GB to 8GB of RAM is sufficient for smooth performance.

Storage: You'll need sufficient storage space for your development tools, libraries, datasets.

At Least 100MB of free storage space is recommended.

SOFTWARE SETUP

1. **Operating System:** This web application is made on Windows / ios / Linux Operating system
2. **Web Development tools:** Text Editor or integrated development environments (IDEs).

   We have use tools like Visual Studio Code.
3. **API:** ChatBot API (Messaging)
4. **Programming Languages and Frameworks:**

***Frontend**: HTML and CSS are used for the user interface to make the frontend look more attractive.

***Backend:** PHP and My SQL, JavaScript.