PROJECT PROPOSAL

1) Major Area

Health and Fitness

AI enabled Fitness Analyzer

2) Problem Statement

How might we create an AI-powered nutrition analyzer for fitness enthusiasts, revolutionizing dietary tracking and personalizing nutritional insights to optimize health and fitness goals effectively?

3) Total Cost

Rough Total Cost Estimation : Rs.20,000

4) College Code and College Name

2116

Rajalakshmi Engineering College, Thandalam

5) Guide Name, Designation, Mobile No. & Email id

Name:

Designation:

Phone Number:

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6) Student Team Details

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7) Project Summary

Our aim is to create a dynamic web application with AI capabilities, revolutionizing healthcare accessibility. We're focused on delivering personalized health solutions tailored to individual needs. Through prioritizing user experience and ongoing innovation, we're reshaping the healthcare landscape

Embarking upon the noble pursuit of enhancing healthcare accessibility, our initiative endeavors to cultivate a sophisticated web application that harnesses the transformative capabilities of artificial intelligence (AI). This innovative platform aims to deliver personalized health solutions tailored to individual needs, leveraging AI technologies such as machine learning and natural language processing to analyze vast amounts of data and generate actionable insights in real-time. With a user-centric approach, we will solicit feedback from stakeholders to ensure the platform meets the unique preferences and requirements of its users. Through continuous improvement and innovation, we strive to revolutionize the way healthcare is delivered and experienced, ultimately empowering individuals to take control of their health and well-being in today's digital age.

8) Proposed Solution with Methodology

Our application is designed to provide users with information about government schemes. Using machine learning, it analyzes user queries to determine eligibility criteria and other relevant details. This is made possible by natural language processing, which helps the chatbot understand user intent and extract important information from their questions.

With our application, users can easily find out if they qualify for government schemes without having to navigate complex websites. By combining machine learning and natural language processing, we ensure accurate and user-friendly responses, making it simple for users to access valuable information.

9) Work plan/ Time Schedule indicating the project milestone

Weeks 1-2: Project Initiation and Planning
Milestone 1: Project Kickoff
Define project goals, objectives, and success criteria.
Identify key stakeholders and establish communication channels.
Milestone 2: Project Planning
Create a detailed project plan including timelines, milestones, and resource allocation.

Weeks 3-4: Data Collection and Analysis
Milestone 3: Data Collection Setup
Develop data collection mechanisms for users' personal details, medical history, and health-related information.
Milestone 4: Data Analysis
Analyze collected data for fitness and wellness insights.

Weeks 5-6: AI Model Development
Milestone 5: AI Model Design
Design and develop AI models for analyzing user data.
Train and fine-tune AI models using collected data.
Milestone 6: AI Model Validation
Validate AI models through simulated scenarios and user feedback.

Weeks 7-8: Prototype Development
Milestone 7: Prototype Development
Build a functional prototype of AI FitHub.
Develop features for generating personalized diet plans and exercise routines.
Milestone 8: Prototype Testing
Implement tracking mechanisms for progress monitoring.
Conduct comprehensive testing of the prototype.

Weeks 9-10: Testing and Optimization
Milestone 9: Optimization
Optimize AI algorithms for accuracy and scalability.
Milestone 10: User Acceptance Testing (UAT)

Weeks 11-12: Deployment and Launch
Milestone 11: Documentation and Marketing
Prepare documentation, user guides, and training materials.
Finalize branding, marketing materials, and promotional strategies.
Milestone 12: Deployment and Launch
Deploy AI FitHub to production environment.
Launch AI FitHub to the target audience and gather initial user feedback

10) Plan of Action for Implementation

Frontend Languages:

HTML/CSS/JavaScript: Use these standard web technologies for creating the user interface of AI FitHub. HTML provides the structure, CSS handles the styling, and JavaScript adds interactivity and dynamic functionality to the frontend.

React.js or Vue.js: Consider using a modern JavaScript framework like React.js or Vue.js to build interactive and responsive user interfaces. These frameworks offer component-based architecture, which can be beneficial for managing complex UI elements.

Backend Languages and Frameworks:

Python: Python is widely used in AI and machine learning development due to its rich ecosystem of libraries and frameworks. You can use Python for backend development, data processing, and model training in AI FitHub.

Django or Flask: Choose a Python web framework like Django or Flask for backend development. Django provides a full-featured MVC architecture with built-in ORM, admin interface, and authentication, while Flask is lightweight and offers flexibility for building RESTful APIs and backend services.

TensorFlow or PyTorch: For model training facilities, consider using TensorFlow or PyTorch, which are popular deep learning frameworks in Python. TensorFlow is known for its scalability and production readiness, while PyTorch offers a more dynamic and intuitive approach for building neural networks.

Scikit-Learn: Use Scikit-Learn, a Python library, for traditional machine learning tasks such as regression, classification, and clustering. It provides efficient tools for data preprocessing, model selection, and evaluation.

11) List of facilities available in the college to develop the prototype

GPU-enabled high-performance computer for ML model training and optimization.

12) Details of Financial Assistance required

Nil

13) Expected Outcomes/results

The expected outcome of the AI FitHub project encompasses personalized fitness recommendations based on user data, leading to improved health metrics, increased user engagement, and enhanced wellness. Through efficient data analysis using machine learning algorithms, the platform aims to deliver tailored diet plans, exercise routines, and wellness suggestions aligned with users' goals and preferences. This personalized approach is anticipated to drive positive changes in users' fitness levels, nutritional habits, and overall well-being over time. Additionally, AI FitHub prioritizes data privacy and security, ensuring that users' sensitive information is safeguarded, fostering trust and long-term usage.