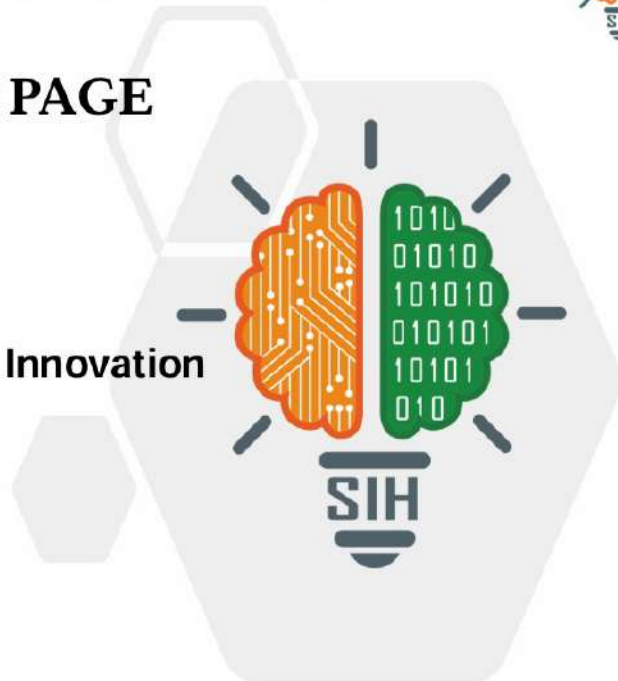# SMART INDIA HACKATHON 2024

TITLE PAGE

- **Problem Statement ID – 1599**

- **Problem Statement Title- Student Innovation**

- **Theme-   Fitness & Sports**

- **PS Category- Software**

- **Team ID- 8891**

- **Team Name :- Hackfit**

AR Fitness

SMART INDIA
HACKATHON
2024

❖Proposed Solution (Describe your Idea/Solution/Prototype)

Solutions:- AR Fitness

❖ **App**-based fitness solution with **AR-guided 3D avatars** for home workouts.
❖ Personalized **nutrition plans** & **Meal tracking**
❖ **AR Yoga Avatars** & Personalized **Yoga Plans**
❖ Guided **Meditation** and Breathing Exercises
❖ Daily Mindfulness **Reminders**
❖ **Chatbot** for Real-Time Feedback and Suggestions
❖ Real-Time **Visual Posture Correction**
❖ **App store** for ordering
   • Protein
   • Supplements
   • Gym kits ect.

Real Time Problems:-

❖ Gym accessibility for introverts
❖ Busy Professionals
❖ Home fitness enthusiasts
❖ Limited to video feedback or none at all
❖ Often lack interactive social features
❖ Rarely integrate a shopping platform within the fitness app.
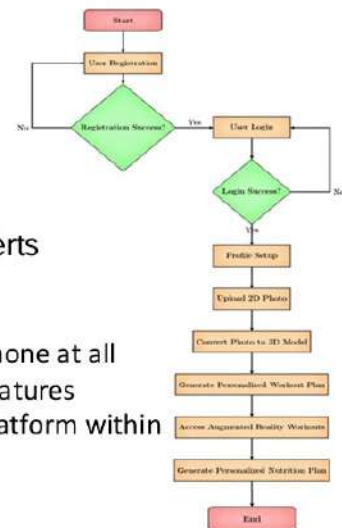
Existing Solutions: Use basic app functionalities not Given All Features

TECHNICAL APPROACH

- **Frontend:-** HTML, CSS, JavaScript (React for web apps, React Native for mobile apps)-
- **Backend:-** Node.js or Express.js.
- **Database:-** MongoDB or Firebase
- **API Integration:-** Use of fitness APIs for step count, calorie tracking, etc.
- **Chatbot Implementation:-** Dialogflow or IBM Watson for chatbot development.
- **AR Tech:-** Unity AR Foundation, ARKit, ARCore.
- **AI/ML:-** TensorFlow or similar for personalized recommendations.
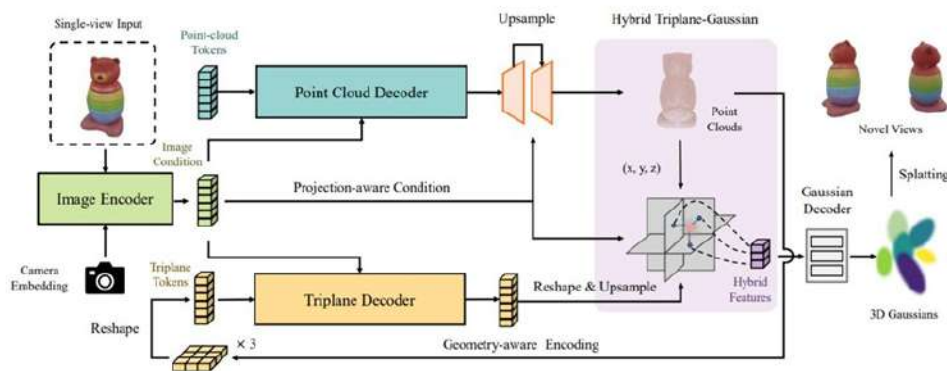
Flowchart of 2D photo convert into 3D model

FEASIBILITY AND VIABILITY

❖ **Technically Feasible:-**
- Basic web and mobile development skills.
- Integration with Wearable Devices.
- Cloud-Based Scalability.

❖ **Challenges:-**
- Ensuring chatbot accuracy and user engagement.
- Accurate avatar rendering.
- User adoption of AR technology.
- Stock and logistics management for the store.
- Gym Equipment Required As per User Needs.

❖ **Mitigation:-**
- Regular updates
- AI optimization
- User feedback integration
- Stock Management
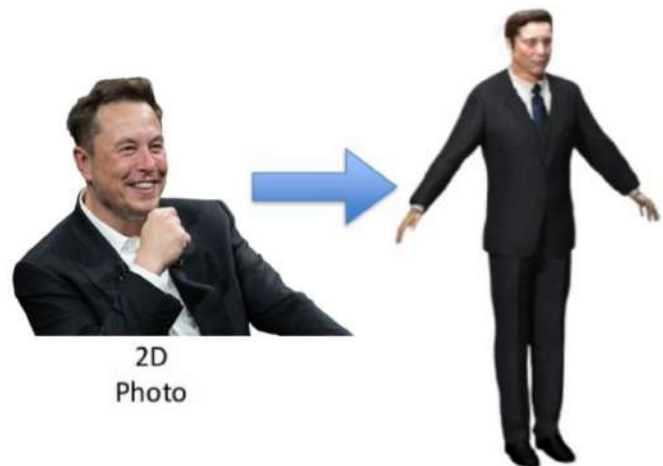
2D
Photo

Personalized
3D Avatar Workout
Video With 360*

IMPACT AND BENEFITS

❖ **Target audience:**
- Targets Introverts, home fitness enthusiasts
- Busy Professionals
- Makes fitness more accessible and personalized.
- As well As Gym Enthusiastic person also.

❖ **Social:**
- Encourages a healthy lifestyle with personalized support.
- Virtual group workouts foster social connections and motivation.

❖ **Economic:**
- Cost-effective solution compared to professional fitness services.
- Allowing for easy updates and feature additions without significant additional investment.

❖ **Environmental:**
- Promotes outdoor activities, reducing indoor sedentary time.
- Reduces carbon footprint by minimizing the need for commuting to gyms.

Hackfit

RESEARCH AND REFERENCES

SMART INDIA HACKATHON 2024

- https://blog.everfit.io/ai-in-fitness-coaching-a-deep-dive-into-real-world-use-cases (Deep study of Fitness through Official Websites and Offline)
- https://chatbotinsider.ai/revolutionizing-the-fitness-industry-with-chatbots/
- https://ideausher.com/blog/ai-fitness-chatbot-development/https://www.who.int/news-room/fact-sheets/detail/physical-activity (Define Personalized fitness chatbot is Possible)
- https://betterme.world/articles/workout-problems/ WHO (Research on Workout Problems and Health issues and Disease Problems)
- https://mobile.metaperson.avatarsdk.com/generator (Define Personalized Self Avatar is Possible)