DreamWave: A WebAR & AI-Driven Career Simulation Platform for Realistic Career Decision-Making

Objective

To help students make informed career decisions by providing WebAR-based role previews and AI-driven career matching.

1. Problem Context

Many students choose careers with limited exposure to actual job roles. Decisions depend on assumptions, influence, or generic aptitude tests. This leads to career mismatch, dissatisfaction, dropouts, and misalignment between education and employability. Current tools provide information but no experiential understanding or personalized future predictions.

2. Gap Analysis

Existing systems lack:

- Realistic exposure to workplace environments
- Personalized recommendations based on both personality and skills
- Predictive insights such as stress level or career growth
- Immersive learning elements

Students are unable to visualize what a role involves before selecting a course or specialization.

3. Proposed Solution: DreamWave

DreamWeave is a Web-based platform combining:

A. **WebAR Career Tryouts:** Students use their smartphone camera to view simple AR overlays representing real workspaces (e.g. cockpit controls, surgical tools, design boards).

B. **AI Career Match Engine:** A short quiz evaluates interests, personality, and skills; a lightweight ML model generates personalized match scores.

C. **Outcome Simulator:** Predicts expected salary range, growth potential, stress index, and mismatch probability based on curated datasets.

This creates an immersive, personalized, and predictive approach to career decision-making.

4. System Overview

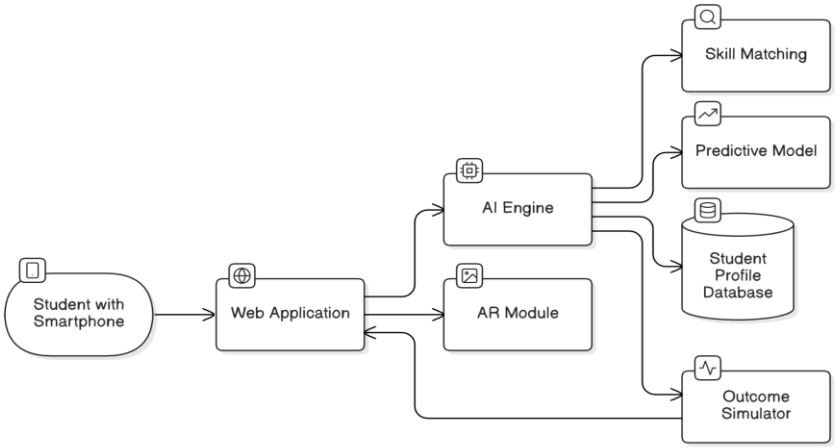

Figure 1. System Overview

5. User Flow

1) Student signs in on the web portal
2) Completes a brief skill/personality quiz
3) AI engine suggests top career matches
4) Student chooses a career and opens the WebAR preview
5) AR overlay displays typical tools or workspace elements
6) Outcome simulator shows future projections
7) Student receives a concise insight report

6. Technical Feasibility

DreamWeave is feasible using accessible, low-cost tools:

- WebAR with model-viewer or AR.js
- React frontend for cross-device compatibility
- FastAPI/Node.js backend for APIs
- Firebase/Supabase for secure profile storage
- Lightweight ML models (Random Forest / Logistic Regression) for career matching
- Simple GLB models for AR overlays

This architecture enables rapid prototyping and nationwide scalability.

7. Impact

DreamWeave enhances the quality of career decision-making by giving students a clear, experiential understanding of job roles before choosing a degree or specialization. By combining WebAR previews with AI-generated recommendations, the platform reduces guesswork, lowers the chances of career mismatch, and helps prevent dropouts caused by wrong course selection. Students gain clarity and confidence, while institutions benefit from better-aligned admissions and improved academic satisfaction. At scale, DreamWeave can support schools, colleges, and career centers in modernizing career counseling practices, contributing to a more skilled and employable youth population.

8. Future Scope

Potential extensions include VR-based simulations, industry-defined task modules, internship suggestions, and integration with national career portals.

9. Conclusion

DreamWeave transforms conventional career counseling by bringing immersive technology and predictive intelligence into the decision-making process. The combination of WebAR and AI creates a powerful ecosystem where students gain clarity through realistic role exposure and personalized insights. With its scalable architecture and strong alignment with national skill development needs, DreamWeave has the potential to redefine how India’s youth discover and pursue their ideal career paths.