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Proposal Idea: Health and Fitness tracker

System Name: Fitness Fusion

**System Description:**

The Health and Fitness Tracker and Community System is intended to support people in leading healthy lifestyles, tracking their fitness advancement, and establishing connections with a community of like-minded individuals. Users, personal trainers, and administrators are the three user roles that it supports.

This WRSPM of the system “Fitness Fusion” is an analysis that provides a comprehensive overview of the key aspects involved in planning and developing a health and fitness tracker system as well as being able to share fitness results. Users will be able to share progression and help build a community of fitness tracking. considering the world in which it operates, its requirements, specifications, program structure, and the necessary machine and infrastructure considerations. It serves as a foundation for the project's development and implementation.

**WRSPM Anaysis:**

**World:**

Fitness Fusion is designed for health-conscious individuals, fitness enthusiasts, and fitness trainers. Since the health and fitness industry is growing, with increasing demand for digital tools to track and improve fitness. There are existing fitness apps, forums, and virtual fitness classes, but the unique community aspect sets this system apart. FitnessFusion needs to integrate with wearable devices and nutritional databases to provide accurate tracking and recommendations.

**Requirements:**

- User registration and authentication.

- User profile management.

- Fitness data tracking (manual and automatic).

- Nutrition planning and tracking.

- Progress visualization and recommendations.

- Community forums and groups.

- Virtual fitness class scheduling and participation.

- Administrator roles for user management and system oversight.

**Specification:**

**User Registration and Authentication:**

- User registration form with validation.

- Email verification.

- Secure password storage and authentication.

**Fitness Tracking Module:**

- Manual data entry forms.

- Integration with fitness wearables (e.g., Fitbit, Apple Watch).

- Data analysis algorithms.

**Nutrition Planning Module:**

- User dietary preferences and restrictions.

- Nutrition database integration.

- Meal planning algorithms.

**Community Module:**

- Forum creation and moderation tools.

- Group creation and management.

- User interaction features (likes, comments).

**Virtual Fitness Class Module:**

- Scheduling interface for trainers.

- Live streaming integration.

- User enrollment and participation tracking.

**Administrator Dashboard**

- User management tools.

- Content moderation capabilities.

- Notification management.

**Program:**

Developed using Java.

- User registration and profile management interfaces.

- Fitness and nutrition tracking forms.

- Community forums and group pages.

- Virtual fitness class scheduling and participation screens.

Database:SQL or NoSQL database (e.g., PostgreSQL, MongoDB) to store user data, fitness records, forum posts, and more.

**Machine:**

**Server Infrastructure:** A cloud-based server infrastructure (e.g., AWS, Azure, Google Cloud) for hosting the application and databases.

**Load Balancing:** To distribute user traffic efficiently.

**Scalability:** The system should be designed to handle increased load as the user base grows.

**Data Backup and Recovery:** Regular backups and mechanisms for data recovery in case of system failures.