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Dataset Publication

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Prompt (for mapping FR- NFR)

You are AI assistant for requirements analysis. You will help to identify dependencies among the following functional requirements and the specified categories.

The functional requirements are:

1. Allow users (students, elderly, caregivers, teachers) to create and manage profiles.

2. Enable role-based access (e.g., student, teacher, caregiver).

3. Support personalized well-being recommendations based on user data.

4. Integrate IoT sensors and wearables to collect health and environmental data (e.g., heart rate, sleep, air quality).

5. Provide real-time health monitoring and alerts.

6. Track mental and emotional well-being through self-assessment tools.

7. Offer personalized physical activity suggestions based on user needs.

8. Provide dietary recommendations based on health conditions.

9. Suggest mindfulness and stress-relief exercises.

10. Send real-time alerts for abnormal health readings.

11. Notify caregivers or teachers about emergencies.

12. Provide reminders for medication, hydration, and physical activities.

13. Adjust smart home or school environment settings based on user comfort (e.g., lighting, temperature, noise levels).

14. Provide real-time feedback on environmental conditions affecting well-being.

15. Enable peer support and communication between users (e.g., forums, chat).

16. Facilitate teacher-student or caregiver-elderly interaction.

17. Provide group activities or challenges to promote social engagement.

18. Generate well-being reports based on collected data.

19. Provide predictive analytics for health trends.

20. Allow caregivers and professionals to analyze user data for better decision-making.

21. Support interoperability with healthcare systems, wearables, and IoT platforms.

22. Enable data sharing with healthcare professionals securely.

23. Implement GDPR-compliant data protection measures.

24. Provide users with control over data sharing and privacy settings.

25. Encrypt sensitive well-being data.

26. Include reward systems to encourage healthy habits.

27. Provide progress tracking and achievement badges.

28. Offer interactive challenges for engagement.

Analyze these requirements from the perspective of an expert requirements engineer. Based on your understanding of different types of requirements and potential interaction points, you will be looking for dependencies (positive or negative dependency) across the following categories:

1. Usability- Requirements aimed at ensuring the application is intuitive, efficient, and engaging for diverse users.

2. Safety- Ensures user protection from harm through secure data handling and safe system interactions.

3. Cultural and Regional Sensitivity- Adapts to diverse cultural values, languages, and regional health practices.

4. Aesthetics- The visual and interactive appeal of the system, influencing user experience through design, layout, and overall look and feel.

5. Reliability- Ensures consistent performance, minimal downtime, and accurate data processing.

6. Personalizable – Allows users to customize features based on preferences, needs, and accessibility.

Map the functional requirements to one or more of these categories. Mark which dependency are positive and which are negative. If a functional requirement cannot be mapped to any of the above categories, do not provide a false mapping. Here are some examples for your reference

Requirement: The system must provide captions for all video-based lectures.

Category: Usability

Requirement- The application shall provide an intuitive dashboard with easy navigation, tooltips, and onboarding tutorials for first-time users.

Category: Safety

Requirement- The system shall issue emergency alerts to caregivers or medical professionals when abnormal health parameters are detected.

Category: Cultural and Regional Sensitivity

Requirement– The application shall support multiple languages and allow users to select region-specific health guidelines.

Category: Aesthetics

Requirement – The interface shall use a visually appealing design with a customizable theme, ensuring readability and accessibility.

Category: Reliability

Requirement – The system shall store and sync user data in real-time, ensuring no data loss during network disruptions.

Category: Personalizable

Requirement– The application shall allow users to set personal goals, adjust notification preferences, and modify dashboard widgets.

FR-NFR Mapping

1. Allow users (students, elderly, caregivers, teachers) to create and manage profiles.

- Category: Usability, Personalizable

- Dependencies: + (Supports role-based access, personalized well-being recommendations)

2. Enable role-based access (e.g., student, teacher, caregiver).

- Category: Safety, Usability

- Dependencies: + (Enhances profile management, supports personalized well-being recommendations)

3. Support personalized well-being recommendations based on user data.

- Category: Personalizable, Reliability

- Dependencies: + (Depends on profile management, role-based access, and data collection)

4. Integrate IoT sensors and wearables to collect health and environmental data (e.g., heart rate, sleep, air quality).

- Category: Reliability, Safety

- Dependencies: + (Supports real-time health monitoring, personalized well-being recommendations)

5. Provide real-time health monitoring and alerts.

- Category: Safety, Reliability

- Dependencies: + (Depends on IoT sensor integration, supports emergency alerts)

6. Track mental and emotional well-being through self-assessment tools.

- Category: Personalizable, Usability

- Dependencies: + (Supports personalized well-being recommendations, mental health tracking)

7. Offer personalized physical activity suggestions based on user needs.

- Category: Personalizable, Usability

- Dependencies: + (Depends on profile management, personalized well-being recommendations)

8. Provide dietary recommendations based on health conditions.

- Category: Personalizable, Reliability

- Dependencies: + (Depends on profile management, personalized well-being recommendations)

9. Suggest mindfulness and stress-relief exercises.

- Category: Personalizable, Usability

- Dependencies: + (Supports mental health tracking, personalized well-being recommendations)

10. Send real-time alerts for abnormal health readings.

- Category: Safety, Reliability

- Dependencies: + (Depends on real-time health monitoring, IoT sensor integration)

11. Notify caregivers or teachers about emergencies.

- Category: Safety, Reliability

- Dependencies: + (Depends on real-time health monitoring, emergency alerts)

12. Provide reminders for medication, hydration, and physical activities.

- Category: Personalizable, Usability

- Dependencies: + (Supports personalized well-being recommendations, medication management)

13. Adjust smart home or school environment settings based on user comfort (e.g., lighting, temperature, noise levels).

- Category: Personalizable, Usability

- Dependencies: + (Depends on profile management, IoT sensor integration)

14. Provide real-time feedback on environmental conditions affecting well-being.

- Category: Reliability, Safety

- Dependencies: + (Depends on IoT sensor integration, supports personalized well-being recommendations)

15. Enable peer support and communication between users (e.g., forums, chat).

- Category: Usability, Cultural and Regional Sensitivity

- Dependencies: + (Supports social engagement, community building)

16. Facilitate teacher-student or caregiver-elderly interaction.

- Category: Usability, Cultural and Regional Sensitivity

- Dependencies: + (Supports social engagement, community building)

17. Provide group activities or challenges to promote social engagement.

- Category: Usability, Cultural and Regional Sensitivity

- Dependencies: + (Supports social engagement, community building)

18. Generate well-being reports based on collected data.

- Category: Reliability, Personalizable

- Dependencies: + (Depends on data collection, personalized well-being recommendations)

19. Provide predictive analytics for health trends.

- Category: Reliability, Safety

- Dependencies: + (Depends on data collection, supports personalized well-being recommendations)

20. Allow caregivers and professionals to analyze user data for better decision-making.

- Category: Safety, Reliability

- Dependencies: + (Depends on data collection, supports personalized well-being recommendations)

21. Support interoperability with healthcare systems, wearables, and IoT platforms.

- Category: Reliability, Safety

- Dependencies: + (Enhances data collection, supports personalized well-being recommendations)

22. Enable data sharing with healthcare professionals securely.

- Category: Safety, Reliability

- Dependencies: + (Depends on data collection, supports personalized well-being recommendations)

23. Implement GDPR-compliant data protection measures.

- Category: Safety

- Dependencies: + (Enhances data security, supports secure data sharing)

24. Provide users with control over data sharing and privacy settings.

- Category: Safety, Personalizable

- Dependencies: + (Enhances data security, supports secure data sharing)

25. Encrypt sensitive well-being data.

- Category: Safety

- Dependencies: + (Enhances data security, supports secure data sharing)

26. Include reward systems to encourage healthy habits.

- Category: Usability, Personalizable

- Dependencies: + (Supports personalized well-being recommendations, behavior change)

27. Provide progress tracking and achievement badges.

- Category: Usability, Personalizable

- Dependencies: + (Supports personalized well-being recommendations, behavior change)

28. Offer interactive challenges for engagement.

- Category: Usability, Cultural and Regional Sensitivity

- Dependencies: + (Supports social engagement, community building)

Prompt (LLM Emotion mapping)

You are AI assistant for requirements analysis.Your task is to predict the likely emotional responses of different user demographics to a given functional requirement for a well being software system.}

Carefully consider the provided functional requirement as user query. Understand its purpose, functionality, and potential impact on users. The FR will be provided in the following format:}

Evaluate the FR from the perspective of the following user demographics. Consider their specific needs, goals, technical expertise, and potential frustrations.}

Demographic 1: Individuals with technical background

Demographic 2: Novice Individuals from non technical background

Access the provided contexts to find relevant examples of past user feedback, reviews, and emotional responses to similar features of a different healthcare application system.

Generate the emotional response with respect to different user demographic into one or more of the following category of emotions-

1. Empowered

2. Hopeful

3. Ashamed

4. Feel respected

5. Engaging

6. Curiosity

7. Frustated

8. Connected