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Requirements Dataset:

PURE dataset- multi mahjong

1. Players should be able to create, manage, and delete their accounts.
2. Secure login with username and password.
3. Option to reset passwords and update profile details.
4. The game should provide multiple levels of difficulty.
5. Different game modes, including single-player and multiplayer options.
6. Players should be able to compete or collaborate in real time.
7. Matchmaking system for connecting players of similar skill levels.
8. Automatic and manual saving of game progress.
9. Cloud-based storage for accessing progress across multiple devices.
10. Players earn points, coins, or virtual currency for achievements.
11. In-app purchases for upgrading characters, weapons, or unlocking features.
12. High-quality graphics rendering with smooth animations.
13. Support for different screen resolutions and devices.
14. Background music and sound effects to enhance the gaming experience.
15. Volume control options for music and effects separately.
16. AI-driven non-player characters (NPCs) that interact dynamically with players.
17. Adaptive AI difficulty for a challenging experience.
18. Intuitive and responsive UI for easy navigation.
19. Customizable control settings for different input devices (keyboard, controller, touch).
20. Online leaderboard to track player rankings.
21. Achievements and badges to encourage player engagement.
22. Integration with social media for sharing scores and inviting friends.
23. In-game chat and messaging for player communication.
24. Detection and prevention of cheating or hacking attempts.
25. Secure transactions for in-app purchases.
26. Support for multiple platforms (PC, console, mobile).
27. Seamless synchronization of progress across devices.

Prompt (for FR-NFR mapping)

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. Players should be able to create, manage, and delete their accounts.

2. Secure login with username and password.

3. Option to reset passwords and update profile details.

4. The game should provide multiple levels of difficulty.

5. Different game modes, including single-player and multiplayer options.

6. Players should be able to compete or collaborate in real time.

7. Matchmaking system for connecting players of similar skill levels.

8. Automatic and manual saving of game progress.

9. Cloud-based storage for accessing progress across multiple devices.

10. Players earn points, coins, or virtual currency for achievements.

11. In-app purchases for upgrading characters, weapons, or unlocking features.

12. High-quality graphics rendering with smooth animations.

13. Support for different screen resolutions and devices.

14. Background music and sound effects to enhance the gaming experience.

15. Volume control options for music and effects separately.

16. AI-driven non-player characters (NPCs) that interact dynamically with players.

17. Adaptive AI difficulty for a challenging experience.

18. Intuitive and responsive UI for easy navigation.

19. Customizable control settings for different input devices (keyboard, controller, touch).

20. Online leaderboard to track player rankings.

21. Achievements and badges to encourage player engagement.

22. Integration with social media for sharing scores and inviting friends.

23. In-game chat and messaging for player communication.

24. Detection and prevention of cheating or hacking attempts.

25. Secure transactions for in-app purchases.

26. Support for multiple platforms (PC, console, mobile).

27. Seamless synchronization of progress across devices.

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. Performance – The system’s ability to execute tasks within acceptable time limits, ensuring responsiveness and scalability under varying workloads.

2. Accessibility – The system's ability to be used effectively by people with diverse abilities, including those with disabilities, across different devices and environments.

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

4. Security – Measures to protect the system from unauthorized access, data breaches, and other threats, ensuring confidentiality, integrity, and availability.

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

6. Cost – The total expenditure associated with developing, deploying, and maintaining the system, including initial investment and long-term operational expenses.

7. Efficiency – The system's ability to optimize resource utilization (e.g., processing power, memory, and energy) to achieve high performance with minimal waste.

8. Understandability – The ease with which users and developers can comprehend the system’s functionality, structure, and usage, contributing to usability and maintainability.

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 platform should integrate seamlessly with widely used learning management systems (LMS).

Category: Performance

Requirement: The system shall process and display search results within 2 seconds for up to 1,000 concurrent users.

Category: Accessibility

Requirement: The system shall provide text-to-speech support and keyboard navigation for all interactive elements to ensure accessibility for visually impaired users.

Category: Security

Requirement: The system shall enforce multi-factor authentication (MFA) for all administrative users to prevent unauthorized access.

Category: Aesthetics

Requirement: The system shall use a consistent color scheme, typography, and layout that adhere to the company’s UI design guidelines.

Category: Cost

Requirement: The system shall be designed to operate on cloud infrastructure with a maximum monthly operational cost of $5,000.

Category: Efficiency

Requirement: The system shall process batch data uploads of up to 10,000 records within 5 minutes while utilizing no more than 50% of available CPU resources.

Category: Understandability

Requirement: The system shall provide tooltips and inline documentation for all complex form fields to help users understand their purpose and required input.

1. Players should be able to create, manage, and delete their accounts.

- Category: Security, Usability

- Dependency: Positive (Secure account management enhances security and usability)

2. Secure login with username and password.

- Category: Security

- Dependency: Positive (Secure login is essential for protecting user accounts)

3. Option to reset passwords and update profile details.

- Category: Security, Usability

- Dependency: Positive (Easy password reset and profile management enhance security and usability)

4. The game should provide multiple levels of difficulty.

- Category: Usability, Aesthetics

- Dependency: Positive (Variety in difficulty levels enhances user experience and engagement)

5. Different game modes, including single-player and multiplayer options.

- Category: Usability, Aesthetics

- Dependency: Positive (Multiple game modes increase user engagement and enjoyment)

6. Players should be able to compete or collaborate in real time.

- Category: Performance, Usability

- Dependency: Positive (Real-time interaction enhances user experience, but requires good performance)

7. Matchmaking system for connecting players of similar skill levels.

- Category: Performance, Usability

- Dependency: Positive (Efficient matchmaking enhances user experience, but requires good performance)

8. Automatic and manual saving of game progress.

- Category: Usability, Efficiency

- Dependency: Positive (Saving game progress enhances user experience and reduces data loss)

9. Cloud-based storage for accessing progress across multiple devices.

- Category: Efficiency, Performance

- Dependency: Positive (Cloud-based storage enhances user experience, but requires efficient data management and good performance)

10. Players earn points, coins, or virtual currency for achievements.

- Category: Aesthetics, Usability

- Dependency: Positive (Reward systems enhance user engagement and motivation)

11. In-app purchases for upgrading characters, weapons, or unlocking features.

- Category: Cost, Security

- Dependency: Positive (Secure in-app purchases enhance revenue and user trust)

12. High-quality graphics rendering with smooth animations.

- Category: Aesthetics, Performance

- Dependency: Positive (High-quality graphics enhance user experience, but require good performance)

13. Support for different screen resolutions and devices.

- Category: Accessibility, Efficiency

- Dependency: Positive (Support for various devices enhances accessibility and reduces development costs)

14. Background music and sound effects to enhance the gaming experience.

- Category: Aesthetics

- Dependency: Positive (Immersive audio enhances user experience)

15. Volume control options for music and effects separately.

- Category: Usability, Accessibility

- Dependency: Positive (Customizable audio settings enhance user experience and accessibility)

16. AI-driven non-player characters (NPCs) that interact dynamically with players.

- Category: Aesthetics, Performance

- Dependency: Positive (Dynamic NPCs enhance user experience, but require good performance)

17. Adaptive AI difficulty for a challenging experience.

- Category: Aesthetics, Usability

- Dependency: Positive (Adaptive difficulty enhances user engagement and challenge)

18. Intuitive and responsive UI for easy navigation.

- Category: Usability

- Dependency: Positive (Intuitive UI enhances user experience and reduces frustration)

19. Customizable control settings for different input devices (keyboard, controller, touch).

- Category: Accessibility, Usability

- Dependency: Positive (Customizable controls enhance accessibility and user experience)

20. Online leaderboard to track player rankings.

- Category: Aesthetics, Usability

- Dependency: Positive (Leaderboards enhance user engagement and competition)

21. Achievements and badges to encourage player engagement.

- Category: Aesthetics, Usability

- Dependency: Positive (Achievements and badges enhance user motivation and engagement)

22. Integration with social media for sharing scores and inviting friends.

- Category: Usability, Cost

- Dependency: Positive (Social media integration enhances user engagement and reduces marketing costs)

23. In-game chat and messaging for player communication.

- Category: Usability, Security

- Dependency: Positive (Secure in-game chat enhances user experience and trust)

24. Detection and prevention of cheating or hacking attempts.

- Category: Security

- Dependency: Positive (Anti-cheating measures enhance user trust and fairness)

25. Secure transactions for in-app purchases.

- Category: Security, Cost

- Dependency: Positive (Secure transactions enhance revenue and user trust)

26. Support for multiple platforms (PC, console, mobile).

- Category: Accessibility, Efficiency

- Dependency: Positive (Multi-platform support enhances accessibility and reduces development costs)

27. Seamless synchronization of progress across devices.

- Category: Efficiency, Performance

- Dependency: Positive (Seamless synchronization enhances user experience, but requires efficient data management and good performance)

Negative dependencies:

- High-quality graphics rendering (Requirement 12) may negatively impact Performance (Category) if not optimized properly.

- In-app purchases (Requirement 11) may negatively impact Cost (Category) if not managed efficiently.

- Multi-platform support (Requirement 26) may negatively impact Efficiency (Category) if not implemented correctly, leading to increased development costs and complexity.

- Seamless synchronization (Requirement 27) may negatively impact Performance (Category) if not implemented efficiently, leading to delays or data loss.

Prompt (for 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 gaming 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. Fear

2. Anxiety

3. Joy

4. Relief

5. Resentment

6. Relaxation