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Turtles

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<Tortle.io> System Requirements Document

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# **Introduction**

*The purpose of this document is to outline the system requirements for the applications Tortle.IO. We will go through a model of Output – which includes visual design, sound design and animation. Input – User interaction and Character/Game actions. Processes – Menu structure, Gameplay, Notifications. Performance – Load times, Multiplatform consistency. Security – Account protection and privacy. This lays out an outline of the way we want Tortle.IO to perform during release and gives a scope of how the development cycle should be at all stages.*

# **Description Model**

# *1. Output:*

# *● Visual Design:*

# *○ The UI will feature a soft color palette and a cozy atmosphere to the visuals and*

# *sound design.*

# *○ Simple, rounded button designs, playful icons, and minimalistic borders will*

# *enhance the game’s relaxed tone, encouraging players to feel at ease.*

# *○ Animations will be smooth and light-hearted, such as gentle transitions when*

# *navigating menus or subtle effects when interacting with objects.*

# *○ The game’s health, progress, and other important information (e.g., inventory,*

# *resources) will be presented clearly but without overwhelming the player. Tooltips*

# *and subtle cues will guide the user when needed.*

# *● Feedback & Interactivity:*

# *○ Instant feedback for player actions will be provided through visual and sound*

# *cues. These will be non-intrusive, ensuring the player remains immersed without*

# *unnecessary distractions.*

# *○ The UI will display soft animations for important events (such as the turtle*

# *leveling up or gaining new abilities) to add a rewarding and cheerful feeling.*

# *2. Input:*

# *● User Interaction:*

# *○ The interface will be primarily mouse and keyboard-controlled for PC and touch*

# *screen controls for mobile, with a strong emphasis on intuitive navigation,*

# *requiring minimal clicks and effort.*

# *○ Buttons and clickable elements will be large enough to accommodate easy*

# *interaction, even on smaller screens or for players who prefer relaxed gameplay.*

# *● Character and Game Actions:*

# *○ The UI will feature clear, easy-to-understand icons for actions like exploring,*

# *gathering, or defending against in-game threats*

# *3. Processes:*

# *● Menu Structure:*

# *○ The game’s main menu will include simple navigation for features like starting a*

# *new game, loading a saved game, accessing options (sound, controls, etc.), and*

# *viewing in-game stats.*

# *○ Submenus (e.g., inventory) will be easily accessible via a collapsible,*

# *non-obtrusive sidebar or dropdown, maintaining a clean, open interface.*

● Gameplay Experience:

○ Throughout gameplay, key information will be displayed unobtrusively, such as

the turtle’s health and progress toward new abilities or achievements.

○ The UI will manage game state transitions smoothly—whether the player is in a

peaceful environment or encountering dangerous mobs—by subtly altering the

color schemes and tone of certain UI elements.

○ Progression in the game will be visually represented, with easy-to-follow bars or

symbols indicating development.

● Pop-Up Windows & Notifications:

○ Informational pop-ups (e.g., tips, achievements, event notifications) will appear

gently, using non-invasive animations that align with the game’s friendly,

stress-free aesthetic.

○ These pop-ups will fade in and out with a soft animation to avoid abrupt

interruptions, ensuring the gameplay flow remains uninterrupted.

4. Performance:

● Load Times and Responsiveness:

○ The UI will be optimized for quick load times and fluid responsiveness, ensuring

there is no lag when switching between menus or performing actions in-game.

○ The system should support smooth transitions, with no noticeable delays when

moving through different game screens or performing UI interactions.

● Multiplatform Consistency:

○ The design will be responsive, adapting seamlessly to various screen sizes and

devices, from desktops to mobile phones, while maintaining consistency in visual

quality and performance.

○ The UI will adjust for both landscape and portrait orientations (for mobile) to

ensure accessibility and ease of use on all devices.

5. Security:

● Account & Data Protection:

○ Players will be required to create an account or log in via secure methods to

ensure that their game progress and other sensitive data (e.g., inventory,

achievements) are protected.

○ The game’s login process will use industry-standard encryption protocols to

secure player credentials and personal information.

● Privacy Considerations:

○ Any data shared will be stored securely, with user consent provided upfront, and

privacy controls will be easily accessible from within the game settings.

General System Requirements:

● Output:

○ The UI design must provide a visually appealing, relaxing atmosphere, with

smooth, engaging animations and intuitive design. Players should feel like they’re

interacting with a game that respects their time and provides a casual, enjoyable

escape.

● Input:

○ All interactions should be designed for ease of use, with clear instructions and

minimal effort required to navigate or interact with the game.

● Processes:

○ The game’s UI should support various player actions, all with easy-to-understand

controls that don’t hinder the gameplay experience.

● Performance:

○ The game should run smoothly on low to medium-tier devices, with the UI

performing efficiently without heavy processing power or memory use.

○ Load times for menus and transitions should be kept minimal to avoid interrupting

the player’s immersion in the game.

● Security:

○ The UI will handle user authentication securely and protect player data, ensuring

that all interactions remain private and secure.

○ Use encryption to store passwords.

○ Implement CAPTCHA or similar anti-bot measures during account creation.

○ Validate emails through a confirmation link to ensure authenticity.

# **Class Diagram**

\*Class Diagram

# **Use Case Diagram**

\*Use Case Diagram

# **Use Case Scenarios**

\*Use Case Scenarios

# **System Sequence Charts**

\*System Sequence Charts