| No. | Name | Requirement | Priority (1 highest-3 lowest) | Rationale | Author |
|---|---|---|---|---|---|
| | | **USER MANAGEMENT** | | | |
| 1 | User Authentication | The system shall allow users access to their account by checking username and password | 1 | Allows users to access their account which stores their game data | Remy Rogers |
| 2 | Account Creation | The system shall allow new users to create an account using a username and password | 1 | Accounts provide secure access and ensure progress can be stored | Nitin Bhupatiraju |
| 2.1 | Account Username | The player must create a not already existing username | 1 | Allows player to create a name; allows system to easily identify account | Yoshitha Chilukuri |
| 2.2 | Account Password | The player must create a password | 1 | Allows player to create the secure account | Yoshitha Chilukuri |
| 2.3 | Guest Player | The system shall allow users to play as a guest without creating an account | 1 | Guest mode makes it easier for first time players | Aashrith Atluri |
| 2.4 | Account Deletion | The system shall allow users to delete their account | 3 | Helps users who wish to delete the game and data | Remy Rogers |
| 3 | Account Recovery | The system shall provide a "Forgot password" option on the login screen | 2 | Password recovery ensures users can regain access to their accounts | Aashrith Atluri |
| | | **GAME FLOW** | | | |
| 4 | Save Progress | The system shall allow players to save their current progress during gameplay | 1 | Saving progress will let players continue later without losing progress | Aashrith Atluri |
| 4.1 | Continue Game | The system shall allow players to continue saved game after login | 1 | Players will have the option to leave game and come back to same spot | Yoshitha Chilukuri |
| 5 | Summary | The system shall display a summary screen at the end of a game session showing score, time, and achievements. | 1 | Shows players a quick overview of how they did | Yoshitha Chilukuri |
| 6 | Tutorial | The system shall display a tutorial informing the user about how the game works and how to play | 1 | Ensures user understands the game before playing | Nitin Bhupatiraju |
| 7 | Session Timer | The system shall warn the player when a time threshold is reached (e.g., 5 minutes remaining) | 3 | Creates urgency in players | Yoshitha Chilukuri |
| 8 | Warning Alerts | The system shall provide players with warnings as timer nears end | 1 | Allows users to stay mindful of the time | Yoshitha Chilukuri |
| 9 | Pause/Resume | The system shall allow players to resume the game from the point where they paused | 3 | Players will have option to take a quick break from game | Yoshitha Chilukuri |
| 10 | Difficulty Levels | The system shall provide multiple difficulty levels | 1 | Players should have the option to pick a level based on their gaming confidence | Nitin Bhupatiraju |
| 10.1 | - Easy Level | | 1 | Beginners should have a level to play with to encourage replayment | Yoshitha Chilukuri |
| 10.2 | - Medium Level | | 1 | Intermediate players should have a level to play in | Yoshitha Chilukuri |
| 10.3 | - Hard Level | | 1 | Experienced players will be challenged; encourages replayment | Yoshitha Chilukuri |
| 11 | Checkpoints | The system shall automatically save the player's progress at each checkpoint | 1 | Automatic saving ensures players can resume from the last checkpoint | Aashrith Atluri |
| 12 | Game Over Conditions | The system shall end the game when the user has completed all puzzles | 1 | Allows the user to win the game | Remy Rogers |
| 12.1 | | The system shall end the game when the user makes 5 mistakes on easy difficulty | 1 | Ends the game when the user has exceeded the number of mistakes allowed | Remy Rogers |
| 12.2 | | The system shall end the game when the user makes 3 mistakes on moderate difficulty | 1 | Ends the game when the user has exceeded the number of mistakes allowed | Remy Rogers |
| 12.3 | | The system shall end the game when the user makes 1 mistake on hard difficulty | 1 | Ends the game when the user has exceeded the number of mistakes allowed | Remy Rogers |
| 13.4 | | The system shall end the game when the user requests | 1 | Allows the user to end the game if they cannot solve the puzzle | Remy Rogers |
| 13.5 | | The system shall end the game when the timer runs out | 1 | Stay consistent with timer | Yoshitha Chilukuri |
| 14 | Start New Game | The system shall allow players to replay the game | 1 | Allows the user to replay the game | Remy Rogers |
| 14.1 | | The system shall have varied puzzles when the game is replayed | 1 | Gives the user a unique experience every game replay | Yoshitha Chilukuri |
| 15 | Multiple Endings | The system shall provide up to 3 possible endings that reflect player choices and actions throughout the game | 2 | Inspires players to keep playing and promotes players to think about choices | Yoshitha Chilukuri |
| 15.1 | Closing Cutscene | The system shall provide 3 closing scenes depicting the respective ending | 3 | Depicts the outcomes to players; to see story's conclusion | Yoshitha Chilukuri |
| 16 | Opening Cutscene | The system shall provide 1 opening scene to the game | 3 | Depicts the story to players; sets up the scene and mood | Yoshitha Chilukuri |
| | | **GAMEPLAY MECHANICS** | | | |
| 17 | Leaderboard | The system shall store player name for the purpose of a leaderboard | 1 | Enables competitiveness between users, and allows for replayability | Nitin Bhupatiraju |
| 17.1 | Sort By Best Time | The system shall sort the displayed leaderboard by fastest completion times | 1 | For user convenience, provides the option to view players best times | Yoshitha Chilukuri |
| 17.2 | Sort By ABC Option | The system shall sort the displayed leaderboard by ABC upon user interaction | 1 | For user convenience, the option to sort player names by ABC will make it easy to find your own name | Nitin Bhupatiraju |
| 17.3 | Sort by most points Option | The system shall sort the displayed leaderboard by most points upon user interaction | 1 | For user convenience, the option to sort player scores by most allows quick glances at who is in the leader | Nitin Bhupatiraju |
| 18 | Puzzle Validation | The system shall validate players inputs to determine if a puzzle is solved correctly | 2 | Ensures that players can only progress after correctly completing puzzles | Aashrith Atluri |
| 19 | Puzzle Retries | The system shall allow players to retry a puzzle if they fail to solve it | 2 | Allowing retries for players keeps the game engaging | Aashrith Atluri |
| 20 | Puzzle Escalation | The system shall increase puzzle complexity based on game progression | 1 | Increasing puzzle complexity keeps the game challenging and prevents boredom | Aashrith Atluri |
| 21 | Inventory | The system shall allow players to collect items during gameplay and store them in an inventory | 2 | An inventory system will allow players to keep track of collected items | Yoshitha Chilukuri |
| 22 | Inventory Reminder | The system shall allow players to check inventory at will | 2 | Helps players keep track of what is in their inventory | Yoshitha Chilukuri |
| 23 | Item Feedback | The system shall inform players when items are used or thrown away | 3 | Ensure players are aware that they used or disposed of items | Yoshitha Chilukuri |
| 24 | Hint System | The system shall provide hints to players when requested during gameplay | 2 | Helps players overcome difficult puzzles, improving overall engagement | Yoshitha Chilukuri |
| 24.1 | Hint Limits | The system shall provide up to 5 hints on easy difficulty | 1 | Allows players to have a limited number of hints based on easy difficulty | Remy Rogers |
| 24.2 | Hint Limits | The system shall provide up to 3 hints on moderate difficulty | 1 | Allows players to have a limited number of hints based on moderate difficulty | Remy Rogers |
| 24.3 | Hint Limits | The system shall provide up to 1 hint on hard difficulty | 1 | Allows players to have a limited number of hints based on hard difficulty | Remy Rogers |
| 25 | Penalties | The system shall apply penalties to players when mistakes are made during gameplay | 1 | Encourages players to play correctly; increases pressure of game | Yoshitha Chilukuri |
| 25.1 | Point Deduction | The system shall deduct points from the player's score when an incorrect action or puzzle solution occurs. | 1 | Encourages players to play correctly; increases pressure of game | Yoshitha Chilukuri |
| 25.2 | Notify User | The system shall notify the player clearly when a penalty is applied, specifying the type and reason for the penalty | 1 | Informs user of the mistake so they can learn and do better next time | Yoshitha Chilukuri |
| 26 | Navigation | The system shall have navigation controls for player to move around | 1 | Allows players to interact with game more | Yoshitha Chilukuri |
| 27 | Reward Points | The system shall award players with points when discovering items, unlocking doors, and correctly answering puzzles | 1 | Encourages players to play correctly | Yoshitha Chilukuri |
| 27.1 | Notify User | The system shall notify the player clearly when a reward is earned, specifying the type and reason for the reward | 1 | Informs user of what they did good so they can apply that knowledge in next games | Yoshitha Chilukuri |
| 28 | Certification | The system shall award the user with a certificate after completing the game | 1 | Allows users to know when game has ended and they have succeeded | Remy Rogers |
| 29 | Certification Storage | The system shall store users certificates | 3 | Allows users to see the certificates they have earned | Remy Rogers |
| 30 | NPC | The system shall incorporate at least 1 NPC that player can interact with for story-telling purposes | 3 | Makes game more immersive and develops game's story | Yoshitha Chilukuri |
| | | **AUDIO/SFX** | | | |
| | Positive Interaction Audio | The system shall produce a "celebratory" sound effect when players collect items and unlock doors | 3 | Makes game more immersive; sets the mood for game | Yoshitha Chilukuri |
| | Negative Interaction Audio | The system shall produce a "negative" sound effect when players lose points and guess incorrectly | 3 | Makes game more immersive; sets the mood for game | Yoshitha Chilukuri |
| | Background music | The system shall play background music during gameplay | 3 | Makes game more immersive; sets the mood for game | Yoshitha Chilukuri |
| | | **PUZZLES** | | | |
| | Word Puzzle | The system shall incorporate word puzzles in the game | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | -anagrams | The system shall incorporate at least 1 anagram in the game | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | -ciphers | The system shall incorporate at least 1 cipher in the game | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | -riddles | The system shall incorporate at least 1 riddle in the game | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | Physical Puzzle | The system shall incorporate puzzles where player is moving | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | -maze | The system shall incorporate at least 1 maze in the game | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | -assembling object | The system shall incorporate at least 1 assembling puzzle in the game | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | Memory Puzzle | The system shall incorporate memory puzzles in the game | 1 | Adds memory puzzles that create a variety in puzzles needed to win | Remy Rogers |
| | -audio memory | The system shall incorporate at least 1 audio memory puzzle | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |
| | -picture memory | The system shall include at least 1 visual memory puzzles | 1 | Includes color/icon memory puzzles that add visuals to the game | Remy Rogers |
| | | | 1 | Puzzle variety keeps player interested in game; offers unique challenges | Yoshitha Chilukuri |