# Game Flow

## Getting Player Name

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Figure 31: Getting Player Name

A screenshot of a video game

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Figure 32: Game Instructions are Shown

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Figure 33: Start Game Prompt

In the "Trivia Pursuit Card Game," the game flow begins with the player being prompted to enter their name (Figure 31). Upon entering their name, the game welcomes the player and displays the instructions (Figure 32). The game then asks the player if they are ready to start by prompting for a 'y' or 'n' response. A try-catch mechanism is implemented to handle invalid inputs, ensuring that only 'y' or 'n' responses are accepted. If the player chooses 'n', the game terminates with a message saying, "You chose to stop, bye!" This initial setup ensures that the player understands the rules and is ready to engage in the game, providing a structured and error-checked starting point for the trivia challenge.

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## Start game

### Choosing From Unanswered Deck

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Figure 34: Start Game: Choosing from Unanswered Deck & Discarded Deck

In the "Trivia Pursuit Card Game," after the initial setup, the game progresses to the start of the first round. Players are given a choice to draw a card from either the "Unanswered Deck" or the "Discarded Deck." The "Discarded Deck" option includes a hint that questions drawn from it will be worth 80% of their original score.

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Figure 35: Start Game: Input Verification

The game prompts the player to enter their choice. If an invalid input is provided, the system prompts the player again until a valid choice (1 or 2) is made.

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Figure 36: Round: Question Display

Once a deck is chosen, the game presents a question to the player, displaying the question ID, format, difficulty, score, topic, and the question itself with multiple-choice options.

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Figure 37: Round: Prompting Answer

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Figure 38

The player is then asked if they want to answer the question (Figure 37). If they choose 'y', they proceed to enter their answer. After the answer is provided, the game moves to the second round, keeping the state of the "Discarded Deck" unchanged if it wasn't chosen in the previous round. This structured flow ensures that players are engaged and have clear choices and instructions, maintaining the game's rhythm and allowing them to focus on answering questions and accumulating points.

### Choosing from discarded deck

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Figure 39: Round: Choosing from Discarded Deck

In the "Trivia Pursuit Card Game," when a player chooses to draw a card from the "Discarded Deck," the game presents the same process from the "Unanswered Deck." The system reveals the entire question that is from the discarded deck, including the question ID, format, difficulty, score, topic, and the question itself along with multiple-choice options. This consistent and clear presentation of questions, regardless of the deck chosen, ensures that players have all the necessary information to make an informed decision and participate effectively in the game.

### Multiple correct

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Figure 40: Round: Multiple Correct Question



Figure 41: Round: Example of Entering Wrong Answer

In the "Trivia Pursuit Card Game," when dealing with multiple-correct answers, the player needs to use a semicolon (;) to separate their answers. During Round 3, the player is required to input their answer using semicolons to separate multiple choices, such as A;B;C. In the provided example, the correct answer is A;B;C, but for scoring demonstration purposes, only A;B is entered. This setup ensures that players can accurately input multiple answers and the game can handle and evaluate multiple-correct responses effectively, adding complexity and depth to the trivia challenge.

## Game End

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Figure 42: Game End

After three rounds of questions, the game ends. The detail of the game is shown, the player's name, total score, and the questions they have answered are displayed. The scoring system differentiates between questions drawn from the "Unanswered Deck," which are scored at 100%, and those from the "Discarded Deck," which are scored at 80%. Additionally, for multiple-correct questions, the player provided a partially correct answer, the score for that question is halved.

### End Game Menu

A screen shot of a computer menu

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Figure 43: End Game Menu

This final menu allows the player to view additional game statistics or exit the game while saving or discarding their progress. This comprehensive summary and menu ensure that players can review their performance, access further game details, and manage their game session's conclusion effectively.

## Leaderboard

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Figure 44: Leaderboard Menu

In the "End Game Menu." If they choose to display the leaderboard menu by selecting option 1, the "Leaderboard Menu" is displayed. The leaderboard menu offers four options:

1. Show Leaderboard: This option allows the player to view the current leaderboard, displaying the scores and rankings of all players.
2. Search Leaderboard: This option enables the player to search for a specific player on the leaderboard by their name.
3. Sort Leaderboard: This option provides functionality to sort the leaderboard based on different criteria such as score or name.
4. Back to End Game Menu: This option returns the player to the "End Game Menu," where they can choose other options like displaying the winner chart, saving and exiting, or exiting without saving.

### Show leaderboard

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Figure 45: Leaderboard: Show Leaderboard

When players choose to "Show Leaderboard" from the "Leaderboard Menu", they are presented with a detailed table displaying the performance of all players. The leaderboard includes columns for the player's name, the IDs of the questions they answered (Q1, Q2, Q3), their respective scores for each question (Score1, Score2, Score3), and their total score, by default it is sorted by the highest to lowest total score. The question id that are empty signifies that the player has skipped a question.

### Seach Leaderboard

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Figure 46: Leaderboard: Search Leaderboard

When players select "Search Leaderboard" by entering 2 from the "Leaderboard Menu," they are prompted to enter a player's name to search for their specific performance details. Upon entering the player's name, for example, "Yuzu," the game displays the player's total score along with detailed information about each question they answered. This includes the question ID, score obtained, and whether the answer was correct. the figure above allows players to review individual performances in detail, providing insights into their accuracy and scoring for each question. After viewing the search results, the "Leaderboard Menu" is displayed again. This functionality enhances the player's ability to analyze and understand their or others' performance more deeply within the game.

### Sort Leaderboard

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Figure 47: Leaderboard: Sort Leaderboard

#### Sort by lowest

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Figure 48: Leaderboard: Sort by lowest

#### Sort by highest score

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Figure 49: Leaderboard: Sort by highest

The leaderboard functionality in the Card Trivia Game includes options to display, search, and sort the leaderboard. When the player selects the sorting leaderboard option, they are prompted to choose between sorting by highest score or lowest score.

If the player chooses to sort by lowest score, the leaderboard is rearranged to show players starting with the lowest scores at the top. This provides a view where players who have scored the least are listed first, moving up to higher scores. If the player chooses to sort by highest score, the leaderboard is rearranged to show players starting with the highest scores at the top. This gives a view of the top-performing players first, descending to those with lower scores.

In both cases, the sorted leaderboard displays players’ names, question IDs, individual scores for each question, and their total scores, allowing the player to see the ranking based on their chosen criteria. After sorting, the leaderboard menu is presented again for further actions such as viewing, searching, or returning to the end game menu.

## Winner Chart

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Figure 50: Winner Chart Menu

From the end game menu, players can select the "Display Winner Chart Menu" option. This brings up the Winners Chart Menu, which offers two main actions:

1. Show Winner Chart: This option displays a chart listing the top players based on their performance in the game. It showcases the players with the highest scores.
2. Search Winner Chart: This allows the player to search for specific players within the winner chart to see their detailed performance and ranking.

The menu also provides an option to return to the end game menu for further actions or to exit the game. This functionality helps players quickly find and view the top scorers and their standings in the game.

### Display Winner Chart

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Figure 51: Winner Chart: Display Winner Chart

The Display Winner Chart section in the Card Trivia Game reveals a detailed chart of the top players ranked by their scores. Upon selecting the option to display the winner chart from the Winners Chart Menu, a list is shown that ranks players according to their performance. The chart includes columns for rank, player names, and their respective scores. For example, Emma ranks first with a score of 40, followed by Andrew with 38, and Matthew with 35, and so on. This comprehensive list allows players to see where they stand compared to others and to identify the top performers in the game. Players can then choose to either go back to view the winner chart again, search the winner chart, or return to the end game menu to perform other actions or exit the game.

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### Search player in Winner Chart

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Figure 52: Winner Chart: Search Player

The Search Player in Winner Chart feature allows players to look up their rank on the winners’ chart. When a player selects the option to search the winner chart from the Winners Chart Menu, they are prompted to enter the player's name they wish to search. For instance, if the player enters the name "Yuzu," the system will search the chart and display the rank of the specified player. In this example, the search result shows that Yuzu is ranked 66. This feature provides players with an easy way to find their standing without scrolling through the entire chart or if they are not in the top 30 at all, making it user-friendly and efficient. Players can then choose to view the winner chart again, search for another player, or return to the end game menu for additional options.

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## Saving Player Record

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Figure 53: Saving Player Record

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Figure 54: Yuzu record saved in scores.csv

The feature shown above allows players to save their game record before exiting. When a player selects the "Save & Exit" option from the End Game Menu, the game confirms the action by displaying a message that the game has been saved successfully and proceeds to exit. The saved player record includes details such as the player's name, the questions they answered, the scores for each question, and the total score. For example, Yuzu's game data shows that Yuzu answered questions Q192, Q107, and Q215 with respective scores of 5, 4, and 5, totalling to a final score of 14. This feature ensures that players can preserve their game.