

# Business Requirements

The Memory Match Game is designed to challenge players to test their memory by flipping pairs of matching cards. The objective is to match pairs within the least number of moves, and the player's performance is timed. The leaderboard, stored in Firestore, will rank players based on their fastest completion times. A history of previous games will also be stored to track improvements.

Key Requirements:

- **Game logic** to flip and match cards.
- **Timer** to track completion time.
- **Move tracker** to count the number of moves made.
- **Leaderboard** to store best completion times in Firestore.
- **Game history** to allow players to track previous performance.
- **Responsive web interface** for desktop

## Nouns and Verbs

**Nouns:**

- **Card:** Represents a single playing card in the game, which can be flipped to reveal a value.
- **Player:** The user interacting with the game.
- **Leaderboard:** A ranking system displaying the best times of all players.
- **History:** Stores data for each game played by a user (game duration, number of moves, date).
- **Timer:** Tracks the duration of the game.
- **Move Count:** Tracks the number of moves made by the player.
- **Match:** A pair of cards that are identical.
- **Firestore:** A cloud storage service for storing leaderboard and history data.

**Verbs:**

- **Flip:** Action of turning a card over to reveal its value.
- **Match:** Identifying and pairing two identical cards.
- **Track:** Monitoring the number of moves made and the time taken.
- **Store:** Saving player results (score, moves, and time) in Firestore.
- **Display:** Showing the leaderboard and previous scores on the UI.

## Target Audience

- **Casual gamers:** Individuals who enjoy light, quick games that test their memory.
- **Competitive players:** Users who want to improve their times and compare their scores with others.
- **All ages:** The game will be suitable for players of various age groups, as it's simple yet challenging.

## Use Cases

### 1. As a player:

- I want to flip two cards at a time and check if they match, so I can complete the game.
- I want to track my progress and see how many moves I've made, so I can improve my performance.
- I want to see a timer tracking how long I take to complete the game, to challenge myself and set records.
- I want my best completion time to be stored and displayed on a leaderboard, so I can compare my performance to others.

### 2. As a returning player:

- I want to check my previous best times and see how I compare to other players, so I can see my improvement.
- I want the game to allow me to retry multiple times and improve my score, so I can keep challenging myself.

- I want to see a history of my past games, including my time and number of moves, so I can track my progress over time.