### **Functional Requirements**

#### **Login and Register Functionality**

· User can register to the website, by entering a username/email and password.

· User must be presented with and agree to a policy agreement to register.

· User should be able to request a password reset.

· User can login using their credentials.

#### **Game Functionality**

· User must be able to play against a computer.

o CPU must have three modes: easy, medium, and hard. This will affect how a category is selected on the CPU’s turns.

· User must be able to play against another registered user, by entering their username (?)

^^how user is selected is yet to be determined. Either random search or usernames.

· System must select a suit for a game (by user choice or random) and distribute cards evenly among players.

o Deck must be distributed so that all players have the same amount, and there are no duplicates.

A round must proceed such that:

· System must allow a player to select a category of their card.

· When a player selects a category, their stat and the other player(s) cards are compared for that category.

· The player whose card with the highest stat must get all the compared cards added to the back of their deck.

· Players who have run out of cards are out of the game and are eliminated from play.

· System must allow the player who won a round to select the next category.

· If all but one player is out of cards, the player with cards wins, and the game session ends.

### **Non-Functional Requirements**

* **Response Time:** Ensure that card comparisons and game actions have response times under 2 seconds for a smooth user experience.
* **Authentication and Authorization:** Implement secure user authentication using industry-standard methods (e.g., OAuth) and role-based authorization.
* **Error Handling:** Provide user-friendly error messages and logs for debugging, ensuring minimal disruption to gameplay.
* **Availability:** Maintain at least 99.9% availability, with scheduled maintenance windows during off-peak hours.
* **Device Compatibility:** Optimize the user interface for desktops, tablets, and smartphones, ensuring responsiveness.
* **Data Backup and Recovery:** Perform backups with a retention period of at least 30 days. Implement data recovery procedures.
* **Data Privacy:** Comply with GDPR and provide users with control over their data through privacy settings.
* **Logging:** Implement detailed logging of user actions, errors, and server events to assist in troubleshooting.
* **User Documentation:** Create user guides and tooltips to assist players in using the game effectively.

\*NOTE: With multiplayer there maybe a login/register feature required so data security will need to be adhered to (ensuring passwords and any other sensitive data is stored safely and securely)