

COSC 2200 – Object-Oriented Programming 3  
 Abdulla Hammad

Deliverable 2: Requirements Specifications

REPORT DONE BY

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TO DO:

1. have to identfy if requirements are M, S, C, or W DONE by Hlib Marchenko

**Functional Requirements:**

(M) Deck Creation and Shuffling:

* The system should generate a standard 36-card deck for the game.
* Cards should be shuffled before the game starts.

(M) Dealing Cards:

* The system should deal a specific number of cards to each player at the beginning of the game.
* The number of cards dealt to each player should be configurable.

(M) Game Setup:

* Players should be able to enter their names or play as guest players.
* (C) The number of players should be configurable.

(M) Gameplay:

* Players should take turns to attack and defend.
* Players should be able to play cards from their hands onto the table.
* Players should be able to pick up cards from the table or draw from the deck.
* (S) Players should be able to declare the end of their turn.
* (M) Game should be able to tell when the players have no cards left in their hands.

(M) Winning Conditions:

* The game should end when one player has no cards left in their hand.
* The last player with cards remaining in their hand is declared the loser.

(S) User Interface:

* The game should have a user-friendly graphical interface to display cards, player information, and game status.
* Players should be able to interact with the game through mouse clicks or keyboard inputs.

**Non-functional Requirements:**

(C) Performance:

* The system should be responsive, with minimal lag between user actions and game responses.
* The game logic should be optimized for efficiency to handle multiple players and card interactions smoothly.

(C) Scalability:

* The system should be designed to accommodate potential future updates, such as adding features or supporting additional players.

(C) Compatibility:

* The game should be compatible with different operating systems that support .NET Core or .NET Framework, including Windows, MacOS, and Linux.

(S) Reliability:

* The system should handle errors gracefully, providing informative error messages to users when issues occur.
* The game state should be preserved in case of unexpected interruptions, allowing players to resume from where they left off.

(W) Security:

* The system should implement secure authentication mechanisms if online multiplayer functionality is included.
* User data, such as player names and game statistics, should be stored securely to protect privacy.

(C) Usability:

* The user interface should be intuitive and easy to navigate, catering to both experienced players and newcomers.
* Clear instructions and tooltips should be provided to guide players through the game rules and mechanics.

(S) Maintainability:

* The codebase should be well-structured and documented to facilitate future updates, bug fixes, and enhancements.
* Code should follow best practices and design patterns to ensure readability and maintainability.

Legend:

Must Have (M): are requirements that will be part of the determination of a successful project  
or not. All Must Have requirements must be complete for a successful project.

Should Have (S): are requirements that absolutely should be included in the project, but if  
significant changes need to be made, these requirements might be able to be dropped.

Could Have (C): are requirements that will only be implemented if time permits. These  
requirements are often satisfied in future updates and subsequent versions if time does not permit. This list also means that the decision of which features will be dropped under time constraints is made early in the project, versus near the end when time runs out.

Will not Have (W): Are requirements that may be considered by some but will not be included in  
the final deliverable for the current version. These requirements are included as it is very important in determining the scope of the deliverable and make expectations clear and defined