Requirements Definition Document

**Introduction**: A document by and for SWE 3133, Group 2. This Requirements Definitions document was created to record all the things the final product must do for our client. All requirements will be rated on importance to help plan out what should be completed first. The final page of this document will contain our prototype. For project diagrams and Use Case please view the Requirements Specification document.

**Requirements Overview**: The main category of this software is “Game”. This game will be developed by a small team of software engineers, with varying skill and narrow deadlines. Due to these facts the project’s scope will be small, allowing the team to focus on completing what the client asked for. The client wants an application that allows the user to play the Baker’s Dozen version of solitaire. Here are some basic things the app needs to do that this document will elaborate on later:

* This game should have a board with a jokerless deck of 52 playing cards that are shuffled.
* The player can start up and quit the game as they wish.
* Game needs to have an undo move button, quit button, and a move counter.
  + The game needs to display this all to player and it needs to have a user-friendly interface.
* The player wins when all conditions are met.
* Finally, the user should only be able to make moves that follow the game’s rules.

This is the simplified overview of our requirements. The team will focus on creating a working version of this app with these requirements take center stage. More advanced features may be added if the project moves along smoothly and the project is finished and tested before the deadline. Possible advanced features will be discussed below, which can be implemented if there is enough time left before the final deadline when all basic requirements are met.

**Requirements**:

1. **“This game should have a board with a jokerless deck of 52 playing cards that are shuffled”**
   1. Gameboard: The gameboard has two types of slots that the cards are placed in. The first one is tableaus. Before the game starts the game should shuffle all the cards and place them each of them into all the tableaus in small decks of four. If a king is in one of these small decks, it’s moved to the back of the deck. Foundations on the other hand are empty at game start. There are 13 tableaus and 4 foundations, and all cards should always be visible.
      * Advanced feature: The cards could visually be shuffled and distributed amongst the tableaus via animation.
   2. Cards: The entire game and its rules revolve around the cards. Each card will be represented by their value and its suit. This value will be displayed to be player using an image to represent the card. The game uses 52 playing cards from a deck that is shuffled with every new iteration of the game. When cards are being distributed onto the gameboard, the cards must be placed in decks of 4 and kings must always be shuffled to the back. The value and suit of each card must be read by the game to determine if a player’s move is legal.
      * Advanced feature: The game could separately animate the kings shuffling to the back after the deck is distributed throughout the tableaus.

Importance Rating: 5/5

1. **“The player can start up and quit the game as they wish.”**
   1. Startup: When the app is loaded the game should immediately begin.
      * Advanced Feature: Start up screen and/or menu screen when the app is loaded
   2. Quit: There should be an in-game option to close the game by using a button.

Importance Rating: 1/5

1. **“Game needs to have an undo move button, quit button, and a move counter.”**
   1. User-Interface:
      * Buttons: There should be buttons displayed on the user interface that will allow the player to undo a move or quit the game.
        + Advanced Feature: Add a restart button to reset the game.
      * Move-Counter: There should be a move counter that counts the amount of moves a player has made since game start.
      * User-Friendly: Buttons and move counter should be labeled and placed in such a way that it is easy for the player to understand and use.

\*View prototype to see interface’s design\*

Importance Rating: 2/5

1. **“The player wins when all conditions are met.”**
   1. Win Condition: When all four foundation are filled from ace to king, the player should win the game.
      * Advanced Feature: When the player wins the game, the game should reshuffle and restart the game. The is all displayed via animation.

Importance Rating: 3/5

1. **“Finally, the user should only be able to make moves that follow the game’s rules.”**
   1. Rules: You can only move one card at a time. The only cards that may be moved are the cards on top of each of the small decks. Cards can only be placed on top of a card with a value that is one higher. For a move between tableaus the suit must be different than the moving card, while foundations need the same suit for the move to be possible. When a move is not legal the game should simply place the card back to where it originally was. Once a card is placed on a foundation, that card cannot be moved anymore.

**Prototype:**

