Software Requirements Document

# Introduction

This document will serve as a record of the software requirements for the Group 2 project for SWE 3313, Section W01, Spring semester 2020. All necessary requirements will be listed, described, and prioritized.

# Project Description

The application will feature a playable version of solitaire using the Baker’s Dozen rules. The game will consist of a deck of 52 playing cards (jokers removed) and a game board. The game board will consist of four Foundation areas where the user may place cards as well as a Tableau area consisting of thirteen card piles. The game will only allow the user to make moves that are within the parameters of the game. The game will also have simple and clear graphical elements.

Game features will allow the deck to be shuffled and individual cards to be moved between the different card areas. Additional features such as a move counter, a timer, an undo move button, or a restart current game button may be added to the game as project scheduling allows. Other advanced features such as multiplayer or online leaderboards are outside of the scope of this project.

# Product Requirements

## Functional Requirements

## Graphical User Interface

## Cards

Each of the 52 cards in the deck shall be represented by an image. Each card image shall feature the card’s suit as well as its rank. Card ranks shall consist of numbers 2-10 as well as the ranks of Jack, Queen, King, and Ace.

## Game Board

The game board shall consist of two areas of play: the tableaus and the foundations. In addition to these 2 main elements of play for the user, user interface elements such as a move counter, timer, or undo move button will exist on the game board as well. There should be buttons displayed on the user interface that will allow the player to undo a move or quit the game. The buttons and move counter should be labeled and placed in such a way that it is easy for the player to understand and use. There should be a move counter that counts the amount of moves a player has made since game start.

## Tableaus

The tableaus area shall consist of thirteen piles of cards. Seven piles will be placed along the top of the game board and six piles will be placed along the bottom of the game board.

Each pile in the tableau area shall begin the game with four cards, each face up. Four of the piles shall have a king as the bottom-most card. All other cards in each of the piles will be randomized (shuffled).

## Foundations

The foundations area shall consist of four landing areas for piles of cards. The foundations shall begin the game empty. The four landing areas shall be arranged vertically on the right side of the board

## Game Rules

Baker’s Dozen Solitaire is a one player game using a joker-less, four suit deck of 52 cards. In order to win the game, all 4 foundation piles must be filled in ascending order from ace to king using the cards spread out amongst the 13 tableaus. Only the top card of a tableau or foundation may be moved at one time and once a tableau is empty, it may not be filled. Unlike the foundation piles where rank and suit matter, the tableaus must be built down only by rank. In other words, a card may be stacked on another as long as the prior card is one rank higher.

## Nonfunctional Requirements

## Usability

The system will allow for a single player to play a single game of Baker’s Dozen Solitaire. Upon launching the application, the game will immediately set up the game and ready play for the user. At any moment during play, the user will be able to resize window of the game. Also, the player can start up and quit the game as they wish.

## Performance

The application runs smoothly with minimal load times under 15 seconds. The application takes minimal system resources.