Software Design Document

Best Gin Rummy

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Revision 2

SRS Revisions

Date	Description	Revision	Editor
12/18/2016	Created the document	0	Krish Kalai
12/19/2016	Revisions (not complete)	1	Krish Kalai
12/20/2016	Completing previous revisions	2	Krish Kalai

Table of Contents

1. Introduction

1.1 Purpose

The purpose of the document is to describe the design and implementation of my Simple GIn Rummy game. Currently, this game uses text-based user interface. Eventually, this game will be ported to Android platform.

1.2 Scope

This document describes the implementation details of my Simple Gin Rummy. This is a two player game where a human player can play against an artificial intelligence based simulated player.

1.3 Definitions

Sequences Consists of three or more cards of the same suit in a sequential order. Sequences are shown in parenthesis. Example: [(AC 2C 3C) (9H 10H JH QH KH)]

Group Consists of three or four cards of the same rank. Groups are shown in parenthesis. Example: [(7D 7S 7H) (QS QD QH QC)]

Deadwood Remaining unmatched cards that does not belong in any sequence or group. Deadwood points are calculated by adding point values of the deadwood cards.

Closed Deck This deck starts with 52 standard playing cards. 10 cards will be distributed to each player and one card will be distributed to the open deck. Players will be able to draw cards from this deck. Cards are always placed face-down.

Open Deck This deck will start with one face-up card. Players will be able to draw from the open deck. When discarding, the card goes to the open deck, face-up. A player cannot discard the same card which is taken from the open deck on that turn.

Hand This starts with 10 cards. Player's draws card to the hand, and discard from here. The player knocks when the hand's deadwood is 10 or less.

Knock If a player has a deadwood 10 or less, the player can knock. In this simplified version, whoever knocks first wins the game.

Turn In a turn, a player can draw a card from the closed or open deck, and drop a card to the open deck, face-up. In this game, the drop card is always the rightmost card in the hand (see auto-melding for details).

Auto-melding This game melds the player's hand automatically. During melding, it prioritizes sequences over groups. Deadwood cards will be in order on the right of the hand. The rightmost card will be the highest weighted cards which can be dropped.

Auto-knock In this simplified version, the game will force the player to knock once the deadwood is 10 or less.

2. Design Overview

2.1 Description of problem

Gin Rummy is a two player card game game created in 1909 by Elwood T. Baker and his son C. Graham Baker. This is my high school AP Computer Science project, the goal is to digitize the gameplay and port to Android based platform.

2.2 Technologies used

It is a Java based application and runs on Mac, Windows, and Linux based system. An Android based version will be released soon.

2.3 System Architecture

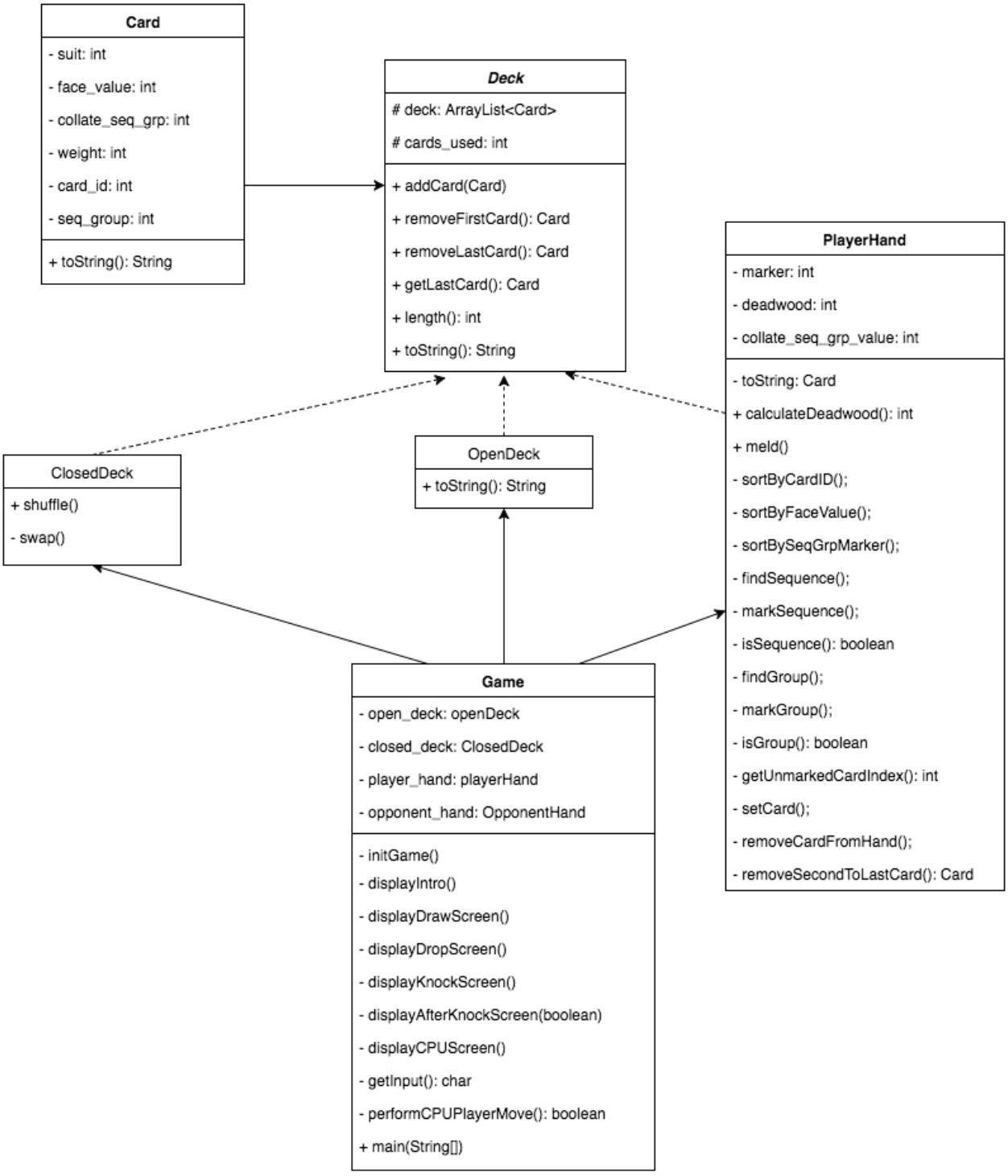

Figure 1: *UML diagram of the Gin Rummy game design.*
The original diagram can be acessed via this link:
https://drive.google.com/file/d/0BwhQBrCUd3LGWkhvV0hzblBqY1k/view?usp=sharing

2.4 System Operations

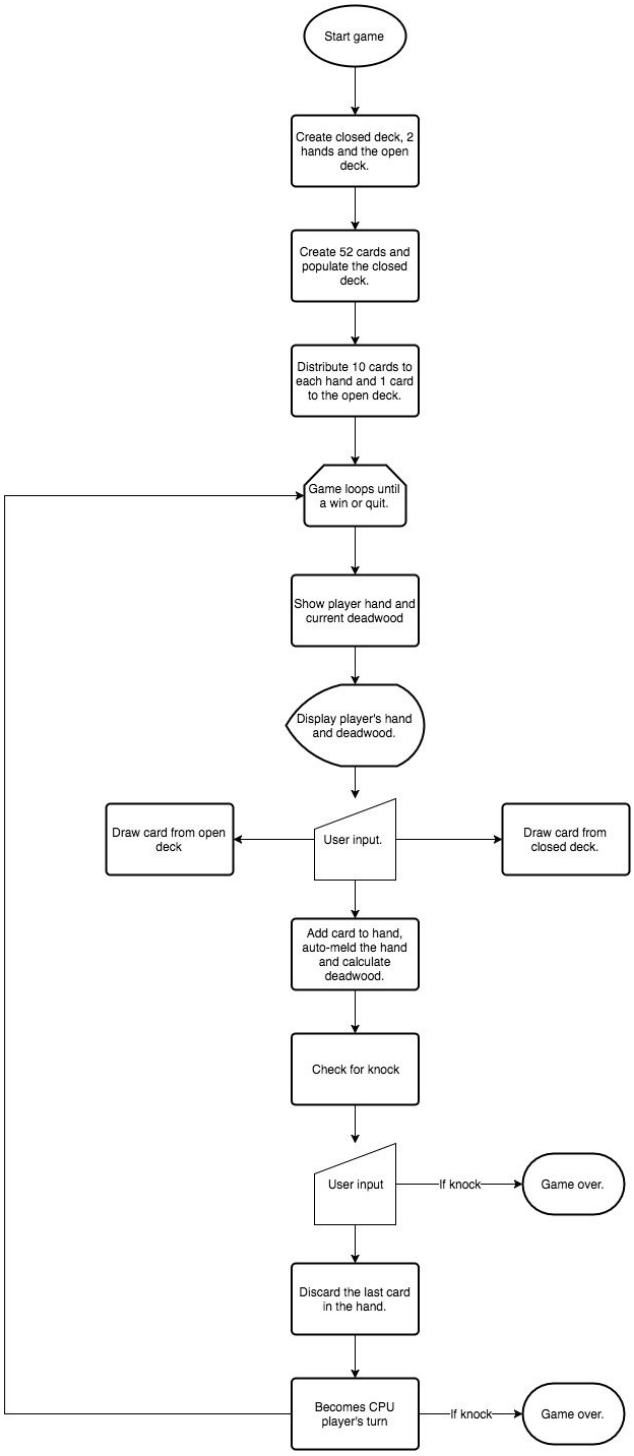

Figure 2: *Flowchart diagram of game process.*
The original diagram can be acessed via this link:
https://drive.google.com/file/d/0BwhQBrCUd3LGelpjSGY1VkhDSWs/view?usp=sharing