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Chapter 10

Card Games Overview

Contents

This chapter takes a look at Card Game in general and then goes over the design aspects of the two games that are being created in this part.

- Why Card Games - Why create computer versions of Card Games?
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- Common Classes - Taking advantage of code re-use.
- Video Poker Design - Designing the Video Poker game.
- Cribbage Square Design - Designing the Cribbage Square game.

Why Card Games

The set of games that we are going to create in this book is a pair of card games. The reasons for doing a computer version of a card game is pretty much the same reasons for doing a computerized board game. Here are the three biggest reasons I consider doing computer versions of card games.

Fair Referee.

Cheating in card games is probably not as common as it is with board games, with the possible exception of solo games. In single player card games, such as solitaire, a lot of people tend to "bend the rules". Having the computer act as a referee prevent cheating and as such makes the game more challenging for people who can't resist.

Solo Play.

It is not always possible to find someone to play a game with. Computers have the ability to take the roll of missing people. While the computer may not be as fun as playing against a real human, it can still be an enjoyable time. This feature, while important, is not utilized in this part of the book as both of the games we are creating are solo games.

Scoring.

A lot of card games have complex scoring rules. Take the Poker Squares game. To see how well you did you need to score a dozen hands of poker. The computer is able to perform this calculation in a matter of seconds without error.

Part Plans

When I think about card games, there are three card games that come to mind immediately. Solitaire, Poker, and Cribbage. Solitaire games are very common, with most windows users having a copy of klondike solitaire on their machines. While in the future I may put together a collection of solitaire games, I am not sure it would be an appropriate game for this book.

Poker. There are almost as many variations of poker as there are variations of Solitaire. Still, poker is a fun game. Perhaps the easiest poker game to play is video poker. Video poker is a single player version of the Five Card Draw game that most people have played.

Cribbage. While I had thought about doing a cribbage game, I have already created one as part of my Ultimate Retro series of games. While thinking about doing a version of poker squares, I realized that there is also a cribbage square game.

With this in mind I decided that the first thing that would have to be done is the creation of a card library that could be used by both games. The common class requires knowledge of Action Script Class Creation. This is followed by my version of Video Poker. Finally, a version of Cribbage Square.

Common Classes

One nice feature of card games, is that once you have created a card game you are able to take advantage of existing assets and code to handle the cards. In this Part we are going to take advantage of this in two ways.

First, we are going to create a card movie. This movie will have frames for all the cards in a deck and will be able to display any particular card. While fairly simple to build, creating a deck of cards is a time consuming process. Thankfully, we only need to do it once. After the card movie has been created, you simply need to drag it into the new Flash movie to use it in other card games. You could also place it into a common library.

Next we are going to create some Flash classes. Sadly, Flash classes are not as convenient to create or use as Java classes. Still, knowing how to create classes in flash is probably an important skill.

Video Poker Design

Video Poker is like the casino machines. You may bet one or five dollars. Once you have bet, the cards will be drawn. You can then choose which cards you want to draw by clicking on the card. The word “draw” will appear above the card to indicate that it is going to be drawn. If you change your mind, just click on the card again. Once you are done click on the draw cards button to see the results. Here is the table of pay-outs:

GAME RESULT	PAYOUT	GAME RESULT	PAYOUT
Pair of Jacks or better	1	Two Pairs	2
Three of a Kind	3	Straight	4
Flush	5	Full House	9
Four of a Kind	25	Straight Flush	50
Royal Flush	250		

Cribbage Square design

There are at least three ways that a cribbage squares game can be created. To understand why this is, perhaps it is best to explain the cribbage scoring system. In cribbage, players hands consist of four cards. In addition to this there is a fifth common card called the nib. Hands are scored using the four cards and the nib to form any of the following:

- Jack matching suit of nib = 1 point
- group of cards adding up to 15 = 2 points
- pair of cards = 2
- 3 of the same card can make 3 pairs so it pays 6 points
- four of a kind can make 6 pairs so it pays 12 points
- Flush (not including nib) = 4,
- Flush (including nib) = 5.
- run of 3 or more sequential cards = length of run.

From looking at the above, you can see that the nib is important. It is still possible to score hands using only four cards, so one solution would be to have a four by four grid and not bother with the nib. Still, this is not as fun. The question is how do you represent the nib in a square? If you use a 5 by 5 grid of cards, you could designate that the fifth card in each row, column, diagonal is the nib card. Another way, and the way we are going to do it is to have a four by 4 card placement grid. We would also have an extra slot, the nib slot, where we would place the nib card.

Now, for those unfamiliar with the square concept, let us briefly explain how the game works. The player has a grid of locations where they can place cards. They then start drawing cards. Each card they draw is placed on whatever open location they wish to place it on. That location is now closed. The player keeps drawing cards until all the slots have been closed.

Now the score is calculated for each row, each column, and the two diagonals. This score is the total of all of these totals. The goal is to get as high of score as possible. Even more fun is to play the game with a group of people. Each person would go through the set of cards and get their score. The same order of cards would be used for all the people. The person in the group with the highest score would be considered to be the winner.