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Chapter 1

What's In This Book

Contents

In this chapter we discuss the what this book is going to cover. The sections in this chapter are as follows:

- Why this book - A look at why I am writing this book.
- Who this book is for - Who should read this book.
- Part 1 Introductions - A look at what is in the first part of this book.
- Part 2 First Games - A look at what is in the second part of this book.
- Part 3 Card Games - What we are covering in the third part of this book.
- Part 4 Board Games - Yep, we look at what is in the fourth part of this book.
- Part 5 Adventure Games - You should have figured out the pattern by now.
- Part 6 Arcade Games - A look at what is in the sixth section of the book.
- Part 7 Conclusions - The final section of the book is discussed.

So, let's get this journey on the way.

Why this book

I chose to write a book on Flash programming for two major reasons. First, because Flash is easier to learn than Java. People who are interested in developing games but are unable to grasp a full featured programming language like Java could probably handle creating games in Flash. In fact, I have found that Flash is nicer for game development as it has less compatibility issues and has very powerful animation capabilities.

Second, Flash is starting to supplant Java as the language to write browser based games in. There are three major reasons for this. First, Microsoft does not fully support Java (and many programmers in the Java community feel that Microsoft is actively trying to destroy the language). The second is that like Java, Flash is a cross platform language which works on a large variety of browsers and Operating Systems. The last statistics I have seen show that support for Flash is actually ahead of support for Java. Finally, Flash is a powerful animation system in it's own right, with its streaming capabilities being very internet friendly.

Who this book is for

This book is aimed at people who want to create games using Flash. People who do not own Flash but are considering purchasing the program may find this book useful as they will be able to gain a better understanding of what Flash is capable of before spending the money needed to buy Flash. For those people I would recommend downloading the free Flash 30 day trial while going over this book.

This book is also good for people who are interested in general about developing games as it clearly shows the processes required for creating a variety of different styles of games. While the games created in this book are all small games (for obvious reasons), the concepts learned here are easily applied to larger projects.

This book can be useful even if you are using other programming languages. The Flash scripting language, known as Action Script, is based on the ECMA-262 standard. This standard is better known to people as JavaScript. JavaScript is loosely based on the Java language, which itself is based on the C++ language which is an object oriented version of the C language. In other words, understanding Action Script will make it easier to learn real programming languages like Java or C++.

Part 1 Introductions

The first part of this book is designed to introduce you to this book, the game development cycle, Flash, and Action script. The overviews are not meant to be all-inclusive but are instead designed to lay the foundation for the concepts.

Chapter 1 : What's in this book

This is the chapter you are currently reading. It covers why you might want to read this book and goes over all the Parts of the book and the chapters within those parts.

Chapter 2: The Game Development Cycle

This chapter takes a look at the basic steps required to assemble a game. I break the development cycle into seven stages, though based on the size of the project some of the phases may be combined or may be broken into more phases.

Chapter 3: Introduction to Flash

We next take a look at Flash as an animation tool. Flash was originally designed as a vector animation program with internet streaming capabilities. Only later did a more powerful scripting language appear. For that reason, I am devoting an entire chapter to the animation capabilities of Flash.

Chapter 4: Action Script Basics

Action Script, as you have probably already figured out, is Flash's scripting language. This language is based on the ECMA-262 standard so those of you familiar with Javascript will be right at home. This chapter assumes that you have no programming experience and tries to lay the foundation for writing scripts.

Part 2 First Games

Our first game will be a game that has a minimal amount of Action Script in it. Instead the game will largely consist of pre-canned Flash animations. The game in question is called Nim. The game is a very old game and is one of the games that is often associated with the Mathematical discipline known as Game Theory.

Once we have our first game out of the way, we are going to do a bit more with the scripting language. To do so, we will revisit the first game by doing a variation of NIM, which we will call NIM Bomb.

Chapter 5 First Games Overview

This chapter goes over the design of the first two games we are creating and also provides a roadmap of the part.

Chapter 6 NIM

We then create the first of the two games that we are creating in this part of the book. This game is limited on the amount of Action Script that is used, As you will see, even the simplest of games is going to require a bit of Action Script in order to work.

Chapter 7 Advanced Action Script

Now that we have the first game out of the way, we focus on some of the more complex Action Script concepts. While I was tempted to place this chapter in the first part, I felt that it would be a little overwhelming right at the beginning. Instead, I decided to place it right after the first game has been completed, giving the reader time to comprehend the Action Script that was introduced earlier.

Chapter 8 Bomb Nim

The second game that we are creating in this part of the book is a variation of the first game. The big difference is the way that we do the game. This game uses a lot more Action Script to manage the game.

Chapter 9 Part summary

This is a simple summary of what was learned in this part of the book and some suggestions on how you can applied what was learned here towards your own projects.

Part 3 Card Games

Now that we have the basics of creating games out of the way, we are ready to create a “real” game. What better way to do this then to create versions of two popular card games. The first game we create is going to be Video Poker. The second game is Cribbage Square.

Chapter 10 Card Games Overview

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.

Chapter 11 Building Card Classes

Both games share the fact that they use a deck of cards. By creating a general purpose card class, we only have to do the work of creating and managing a deck of cards once.

Chapter 12 Video Poker

With a deck class in hand, we are now able to create one of the most well known game out there. Video poker is one of the most popular forms of poker where you play a five card draw hand with better hands paying out more.

Chapter 13 Cribbage Square

Cribbage Square is a game where you have a grid where you place cards. You draw cards and try to place them in the appropriate grid location to maximize the hands as scored horizontally, vertically, and diagonally.

Chapter 14 Cards Summary

This is a simple summary of what was learned in this part of the book and some suggestions on how you can applied what was learned here towards your own projects.

Part 4 Board Games

In this section we are going to create a pair of games where the computer has to actually think. While the thinking in these games are more of algorithmic sort, throughout this section we will look at the concept of artificial intelligence and how it is used to create computer opponents in games.

The first game we are creating is Pent Up Anger, which is a fairly traditional board game. The second game is a three dimensional version of the game everyone knows how to play, tic tac toe.

Chapter 15 Board Game Overview

We first start with a look at board games and why you would want to create a computerized version of a board game. From that point we then design the two games that are going to be created in this section.

Chapter 16 Pent Up Anger

We start off by creating the board game Pent Up Anger. This version of the game has no computer opponents, just humans playing against each other.

Chapter 17 Pent Up AI

Now we take a look at creating a computer opponent, or more commonly known as an AI. We apply this knowledge to Pent Up Anger to add the ability to play against a computer opponent.

Chapter 18 Three Dimensional Tic Tac Toe

The second game is the every popular Tic Tac Toe, except this time the game is three dimensional. The addition of a third dimension really adds to the complexity of the game making a very simple game into a much more challenging task.

Chapter 19 Tic Tac AI

As we did with Pent Up Anger, the Tic Tac Toe game we created in the last chapter was a two player game. This chapter we add a very challenging computer opponent.

Chapter 20 Cards Summary

This is a simple summary of what was learned in this part of the book and some suggestions on how you can applied what was learned here towards your own projects.

Part 5 Adventure Games

The first time that I seen flash, the first thought that came into my head was Adventure Games. I was actually quite surprised that Flash has not been used for more adventure games than it has. Granted, when I quickly put together a simple test adventure game I realizes that a large adventure game done with the extensive amount of animation that I would want in it would be a fairly time consuming undertaking.

With that in mind, this chapter creates two different adventure games using two different techniques for assembling the game. One of those Weeks is the first episode of a larger series of games, while Dragon and the Sword is a simple traditional adventure game.

Chapter 21 Adventure Games

A look at what adventure and role-playing games are.

Chapter 22 Single versus Multiple Movies

With the rather extensive overview of Adventure and Role-Playing games under our belt, we can now spend a bit of time designing the two games that are going to be developed in this part. More to the point, we look at two radically different ways of putting together an adventure game.

Chapter 23 One of those Weeks

The first type of adventure engine we create is the all-in-one-movie engine. This is your typical Flash movie, with the entire game in a single movie.

Chapter 24 Rooms engine

The other approach that we take towards creating an adventure game is to create a game where every room in the game is a separate movie, with a single master movie being in control of everything.

Chapter 25 Dragon and the Sword

With the concepts of creating a movie that uses external movies understood, it is time to actually create a game using this technique.

Chapter 26 Finishing the Dragon

As Dragon and the sword is such a large game, it needs two chapters to cover it's creation.

Chapter 27 Adventure Summary

This is a simple summary of what was learned in this part of the book and some suggestions on how you can applied what was learned here towards your own projects.

Part 6 Arcade Games

What many people want is arcade like games. To introduce you to the concepts behind arcade games, in particular the concept of levels, we will create a version of one of the easier arcade games. In String Along, you control a string of balls. As you gather new balls, your length grows. We will then create a more elaborate arcade game where the goal will be to knock off all the lights on the level.

Chapter 28 Arcade Games

We take a look at arcade games and why action games are known as Arcade games. We then design the two games that we are going to be creating in this part.

Chapter 29 Game Concepts

In this chapter we look at some of the concepts that are used in the creation of action games. This chapter reviews the concepts of lists, sprites, tile sets, and scrolling.

Chapter 30 String Along

Now we are ready to create our first action game.

Chapter 31 Additional String Along Levels

As the game is designed to have multiple levels, we spend this chapter creating three sets of levels for the game.

Chapter 32 Lights Out

Now we are ready for a bit of smashing action, so we create our Lights Out game, which relies heavily on trigonometry and a bit of physics.

Chapter 33 Arcade Summary

This is a simple summary of what was learned in this part of the book and some suggestions on how you can applied what was learned here towards your own projects.

Part 7 Conclusions

All good things must come to an end, and this book is no exception. While I enjoyed writing this book, it was a huge amount of work, making me better appreciate what professional writers have to go through. This part of the book is here to summarise what you have learned in this book and to give you an idea of my future plans.

Chapter 34 Book Summary

We have covered a lot of material in this book so it only makes sense to provide a chapter that summarizes everything.

Chapter 35 Where to go From here

A look at where you the reader can go from here, and also a look at some of the projects I am planning.