About this Book

What this book is all about?

This book is a practical introduction to programming 2D and 3D games, techniques used in programming these games, and how to benefit from these techniques. It illustrates a large number of mechanics used in video games and shows by example how to program these mechanics and combine them to achieve the desired behavior. It illustrates also how to put the player into control and deal with interactions between player and various game elements.

The book focuses on programming as one of the important fields regarding video game development. However, game development is a huge world with tons of arts and skills to learn. The book has also exercises that allow you to evaluate your understanding of the covered topics. Each one of these exercises has a new idea that is not previously discussed, and challenges you to program your own variations of the examples.

Who can benefit from this book?

Everyone. Regardless of the purpose for which you want to learn game programming, and, most importantly, regardless of your current knowledge and experience in programming, you can benefit from the topics covered in this book. It gives you the basic knowledge you need to start quickly and effectively in the world of game development, with a focus on game logic and mechanics programming.

Does the book require specific game engine / programming language?

From a technical point of view, this book and its examples deal only with Unity3D game engine. Additionally, all scripts in the book are written using C# programming language. It has, however, a vision of being engine/programming language independent. Therefore, I have tried to avoid using any templates that are specific to Unity3D game engine and build everything from scratch depending on basic functions that are most likely to be found in all game engines. I am really interested in seeing someone applying the examples of this book using other engines and programming languages.

How to read this book?

This book offers you a non-linear approach to reach the knowledge you seek. If you already know what do you want to learn and what type of games you wish to create, you can jump from chapter to chapter reading only the sections you need. Say, for example, that you want to create car racing game. In this case, you have to read the first chapter which covers common basics then jump to section 6 of chapter 2 to see how to implement the input system you need. In this case, you are not interested in applying mouse look for first person control, which is covered in another section of chapter 2.