



DEVELOPING GAMES ON THE RASPBERRY PI

KENLON, S.: *DEVELOPING GAMES ON THE RASPBERRY PI. App Programming with Lua and LÖVE*. New Zealand, Berkeley : Apress, 2019. 319 p. ISBN 978-1-4842-4169-1.

[Patrik Voštinár](#)

The games industry enjoys huge popularity with people of all ages. Students, pupils and even adults play games on computers, consoles and mobile devices. Working with computer science, especially with developing software is nowadays very popular. In almost the whole world there is a lack of specialists for computer science. The solution could be a motivation for studying programming, for example studying developing games. The book is focused on teaching how to develop games on the nowadays very popular and cheap computer Raspberry Pi. In answer to the questions “What is interesting about this book?”, or “Why should we read this book?” this book does not require previous experience or skills with computers or programming. Everything you need to know, you can learn from this book. After reading this book it is possible that you will continue in studying programming, or in case you already have some programming skills, you will gain experience with developing games. The book is interesting also because it uses the very popular and cheap computer Raspberry Pi (35€) for programming.

The book contains 319 pages, which are divided into 14 chapters. Furthermore, each chapter contains homework - additional tasks, which you can do after reading the chapter. The first chapter describes some basic steps about the Raspberry Pi – how to install Linux, first boot and writing your first Lua Script. Through reading about developing games in this book, you will also learn basic Linux commands. To get through this book, you will use Lua as a programming language for developing games. Lua is a small, fast, modern programming language that can be used for everything from system maintenance to graphics and standalone games. It is a leading scripting language in the video game and visual effects industry, and it is used for front-end development in several popular game engines. The programming language C is known for its speed and extensive library support, but it is rarely categorized as easy to use. Compared to language C, programming in Lua is easy to use and fast, and it has the ability to interface smoothly with C libraries¹.

For developing games, it is common that developers use some types of game frameworks. In this book the LÖVE engine is used as the game framework, which is an open source framework that leverages the Lua scripting language for developing 2D games.² The other programs used for developing games in this book are GIMP (image editor) LMMS (digital audio workstation) and GIT (distributed version control system). During reading this book you will develop four interesting games: *Rolling Virtual Dice*, *Blackjack*, *Battlejack* and *Roguelike Dungeon Crawler*. The first game *Rolling Virtual Dice* is aimed at learning variables, user input, loop, GUI logic (graphic user interface), mouse events, etc.

-
- 1 For more information, see: KURT, J., AORON, B.: *Beginning Lua Programming*. Birmingham, UK : Wrox Press Ltd., 2007.
 - 2 For more information, see: AKINLAJA, D.: *Love for Lua Game Programming*. Birmingham, UK : Packt Publishing Ltd., 2013.

In the second game *Blackjack* you will learn OOP principles and use a card dealer library. The game allows you to click an empty deck of cards to draw a card and compete against the computer in an effort to get as close to 21 without exceeding it.

The next game *Battlejack* is a modified version of Blackjack, the fantasy card game inspired by games like Magic: The Gathering, Hearthstone, Pathfinder Adventure Card Game, and other trading card games. During game play, you click your own deck to draw a card. During your turn, you click and drag cards to either the dealer's stash to cancel out a card in play, or to your own score box to add your card to your own stash. If you attempt to cancel a dealer card out with a less powerful card, nothing happens. You may add power-ups or additional cards to complete the action or click and drag the card back into your hand to continue.

The last game *Roguelike Dungeon Crawler* is an exploration (top-down dungeon or tomb in a fantasy) game with no story, randomly generated levels and monsters, and death is permanent. This game is a good example of how to demonstrate translating the same mechanics from dice and card games into a character-driven video game. Seth Kenlon is a teacher, artist, D&D dungeon master, free software and free culture advocate, and UNIX geek. He has worked in visual effects (VFX) (*The Hobbit*, *Deadpool*, *Valerian*) and computing industries (IBM, Red Hat), often at the same time. He is one of the maintainers of a Slackware-based multimedia production project.

The book is well written. The layout of the chapters and game examples are appropriately selected. The book is a good choice not only for beginners of programming, but also for software engineers, teachers and development professionals looking to up-skill and develop games for Raspberry Pi, Android and iOS. There is only one weakness of this book found – the author does not very often use “comments” on the examples in the source code in the text (in my opinion, he could put more emphasis on using comments). The book has several strengths – for learning programming, it uses the cheap computer Raspberry Pi, the interesting programming language Lua and appropriately selected game examples.

BIBLIOGRAPHY

KURT, J., AARON, B.: *Beginning Lua Programming*. Birmingham, UK : Wrox Press Ltd., 2007.

AKINLAJA, D.: *Love for Lua Game Programming*. Birmingham, UK : Packt Publishing Ltd., 2013.

Author of the review

PaedDr. Patrik Voštinár, PhD.

Matej Bel University

Faculty of Natural Sciences

Tajovského 40

974 01 Banská Bystrica

SLOVAK REPUBLIC

patrik.vostinar@umb.sk