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2013 CATCD

USER GUIDE

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About The Game

Super Mario Bros. is a single-player game that enables users to alleviate their boredom by living vicariously through the hero Mario as he battles his way through the Mushroom Kingdom to rescue his beloved Princess Peach.

In this recreation of the 1985 game of the same name, you navigate Mario to the end of each level, all the while avoiding enemies (Koopas and Goombas) and falling into holes.

Mario scrolls across the 2-dimensional level until he meets the flag marking the end, at which point he moves on to the next level.

Get excited to take a journey with Mario through the world of the Mushroom Kingdom!

Background

Super Mario Bros. for NES

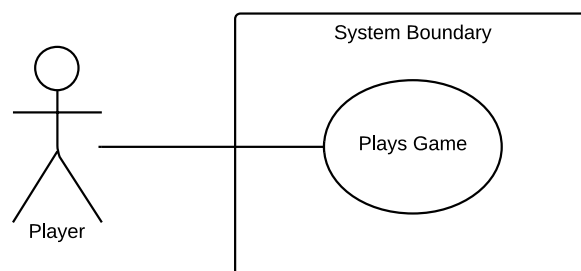
This Java application is a recreation of the classic Super Mario Bros. video game released for Nintendo Entertainment System (NES) in 1985. The game was available for bundle with the purchase of new NES hardware units, or as a standalone game. It has been called “The Greatest Game of All Time” by video game website IGN, and had the highest sales numbers of any video game until Nintendo beat their own record with sales of Wii Sports for their Nintendo Wii console. Nintendo recognizes the tremendous success Super Mario Bros. had, and continues to release new games in the Mario franchise today, in addition to making Super Mario Bros. available on almost all of their video game consoles.

Motivation

Our take on Super Mario Bros. ports the original NES game to Java from scratch, borrowing only sounds and graphic assets from the Nintendo original. Our development team wanted a taste of the experience that developers for Nintendo almost 30 years ago had creating such an iconic side-scrolling game. The use of object-oriented programming most certainly afforded us many advantages over the development structures used by Nintendo with their NES, yet implementation of gameplay physics and collision detection made the Java port of this game no easy task.

Our development team was up for the challenge and came out on top with a successful remake of Super Mario Bros. on the Java platform.

UML Use Case Diagram



Instructions

User Controls

Keyboard Input	Action Performed
C	Jump
X	Run
←	Move Left
→	Move Right
Enter / Return	Pause / Resume

Gameplay

Compiling The Game

Note: This game makes use of the JavaFX package, included with Java 7. The game will not compile or run correctly under other versions of Java. Please visit <http://www.oracle.com/technetwork/java/javase/downloads/index.html> to download the most recent version available for your system.

If you have not received a compiled version of the game, you must first compile it. Ensure you have the latest version of Java installed on your machine (see note above). Compilation should be fairly seamless using your method of choice (Eclipse and javac to name two), however you may need to add an external JAR file to your project build path. The JavaFX JAR is already installed on your system wherever Java is installed on your system. From the Java Home folder on your system, the JAR file we want is `jre/lib/jfxrt.jar`. Once you have added `jfxrt.jar` to your project build path, the program should build successfully.

Starting The Game

Once the game has started, you will be presented with a Super Mario Bros. title screen (Figure 1). Click on the window to ensure that the Java Virtual Machine has captured your mouse and keyboard input, then press the Enter / Return key to start the game.



Figure 1

Playing The Game

Use the controls defined in User Controls (above) to move Mario to the right through the level. Obtaining coins increases Mario's coin count. Jumping up and hitting a question mark block ("?") will release a coin or, on occasion, a Power-Up Mushroom, which will increase Mario's size. When Mario is bigger he can break normal blocks that are above him and withstand one instance of enemy damage.



Figure 2

Mario must avoid enemies. These come in the form of Goombas and Koopas.

If Mario is small and collides with one of these enemies, Mario will be killed. If Mario is big and collides with one of these enemies, he will be made small. Both enemies can be defeated by jumping on top of them. Koopas will come back to life if not jumped on a second time. Jumping on a Koopa a second time will cause his shell to move away.



Figure 3

Falling into holes in the ground will kill Mario, regardless of his size.

Winning The Game

The objective is to continue travelling right through the level until the end. The end of the level is marked by a flagpole, which Mario must jump into in order to clear the level. Mario will enter the castle and move to the next level.

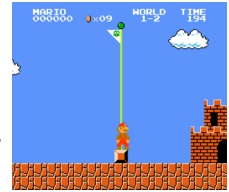


Figure 4

Currently this edition of Super Mario Bros. includes only two levels. Once Mario enters the third level, the game will not find another level file, and Mario will continually die in an empty level. As a result, a player is said to have won the game after having completed two levels.

Citations

http://en.wikipedia.org/wiki/Super_Mario_Bros.

http://en.wikipedia.org/wiki/Nintendo_Entertainment_System