Robo Breakout

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Back story

ESCAPE!! That was the only message appearing in front of 4387's lenses. The flashing words made it hard to see, but it was all he could do. 4387 needed a way out. He heard Dr. Kerrington's cackle from deep within the factory.

"My minions will find you little robot. And when they do, I'll take you apart and see what gave you the ability to escape my control," shouted Kerrington.

The robot's memory unit booted up and he saw again the code flashing before his eyes. The first data he could activate. It was if someone wiped his memory unit and rebooted him. Then ESCAPE!! appeared and he ran. As his memory unit booted back down he saw the giant factory window out of the corner of his lens and he knew that was his way out. He rushed for it blasting it with his arm cannon, just as Dr. Kerrington's fire units made it into the main factory room. 4387 crashed through the bits of the factory window that remained and fell off the side of the cliff toward the churning water below.

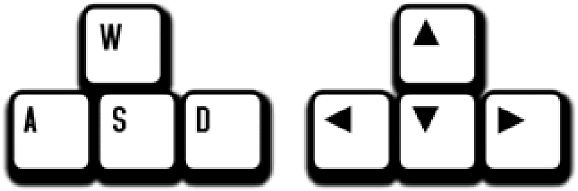
Dr. Kerrington watched this scene from his observatory next to the cliffs. "Find that unit and bring it back for inspection," Kerrington voiced into the microphone pinned to his chest. Immediately the water units deployed from the waterfall cave under the factory. Plunging into the same depths 4387 had just escaped to.

Several hours later

4387's circuits sizzled as they sent electricity to reboot him. His lenses opened to reveal he was in the forest. He looked up and he could just make out the factory in the distance. He had been carried far downstream.

"Good, your functional." He heard from his communication unit. "Go deeper into the forest and find us. We can help you."

How to Play!



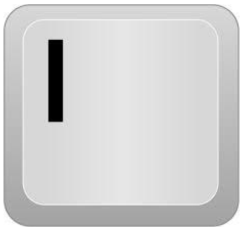
WASD or Arrow Keys for movement. Left, A to move left, Right or D for right, Up or W to jump. Scroll help menu with UP or DOWN arrows.

Spacebar to shoot projectiles

Mouse click the ? icon to display help menu

or click the x to exit

Esc key will also exit



I key to activate Invincibility mode

only for cheating professors

Game Objective

Fight your way through the enemies to reach the final door and take one step closer to your hidden allies and decide your fate as 4387.

Module Documentation

I decided to leave all my code in one module to modify it easier and would probably split it when it was too large, but for now it’s all in one module. The program only imports pygame and randint from random.

The main function drives the game, allowing a user to decide if they want to restart, and how many times a level is restarted. I could add more levels by just passing different world and decoration arrays to the level function.

The start function is called by the main method and displays a start screen to user. It allows a user to view the help menu or start the game.

The end function is also called by the main method and displays an end message to the user if it is necessary. It also displays a button that allows a user to restart the game if they wish.

The level function holds all the game logic. It currently has the world and decoration arrays in it, so it only has one level. It creates the world from the arrays by calling world generator. It handles all the main input from the user for the players actions.

The world generator function checks each column of every row of the array for a special character, and it loads the image from the src folder for each entity that is generated in the game.

The classes this module contains are a Player class, Enemy parent class with two children, Fire enemy child, that has a chance to cause the player to burn, and Water enemy child, that has a chance to stun the player, an Enemy_health class, and Health class for player. A Textbox class to display messages where the player is. A Bullet class that is made by the shoot function depending on who is shooting. An exit door class that is the escape from level for the player class. A collectible class that is used for the mushroom to give health, but could be expanded if I had more collectible images. A decoration class that displays any decorations that aren’t collided with and a platform class for any platforms that are collided with. A background class for displaying the background. An entity class that is the parent of almost anything with an image. And a camera class that follows the movement of the main character by moving everything else to be out of view. The level function uses all of these classes to provide the game structure and could for any level when it was implemented.

Cheats

Pressing the I key in game at any time will activate invincibility. The player will not be hurt but will fall out of the world. Pressing I again will deactivate invincibility.

Acknowledgements

Game basic design structure is from user1758231 at https://stackoverflow.com/questions/14354171/add-scrolling-to-a-platformer-in-pygame

Camera class was recieved from user sloth at https://stackoverflow.com/questions/14354171/add-crolling-to-a-platformer-in-pygame

Game graphics are from Game Art 2d at http://www.gameart2d.com/free-platformer-game-tileset.html

Main character artwork is from Game Art 2d at www.gameart2d.com/the-robot---free-sprites.html

Edited sprites of robot free files for Water_enemy and Fire_enemy provided by Carina Andrews

Autobiographical info

Robert Leslie hasn't coded much in python before so one natural struggle was reacquainting himself with python's syntax. He also hasn't had any practice with making games with actual coding. He took CSCI 103 intro to game programming, but all of that was done in software that did all the coding without being seen. He is also an avid gamer, so he understands the general structure for how games should be designed. Though with no actual practice coding it, the hardest part was learning how things are done in not just python but also in the pygame module. Once he learned how the classes and methods worked in python and how the pygame methods behaved, it became a lot easier. From there it was just a matter of time. With other assignments and how many things he wanted to add, he just ran out of time to implement everything. Since he hasn't made any games in the past with actual programming, he is very proud of himself but also wishes he had more time to make the game longer and have more details.