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CMPE 415

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March 7, 2021

Homework 3 Report

Statement of Project Completion

My project is working as desired in the homework description. I was able to have the game run on the FPGA board with no issues. I was able to use the given files and create the **pos\_shifter.v, pow\_position.v,** and **top.v** files to simulate the game on the FPGA board.

Process of Completion

The **pos\_shifter** file basically shifted the position of the player to the right or left depending on if the player pressed either right or left. The **pow\_position** file saved the positions of the POWs after they are generated at the beginning of each game. The **top.v** file brings in the modules I created and the files given to simulate the game. The file first starts setting up the LED lights to be all turned off. It then uses the given **pulser.v** modules to make the LED light that the player is currently on to flash. From there it continuously checks at every positive edge of the clock cycle to see if any button is pressed. It also checks to see if any of the POWs are saved so that they can be turned off. If all the POWs are saved then the RGB light turns green to signal that the player has won.