Ryan Aldana

CS247

FPGA Project

Carnival Shooting Game

For my FPGA Project, I decided to try and create a video game that I remember playing during my childhood. The video game was a Carnival Arcade game. It consisted of a pistol that was used to shoot ducks, bears, and bunnies. For my project, I had to use a VGA library. Being able to display colorful shapes was the biggest hurdle. After achieving that, I was able to create different types of squares and rectangles to form the objects I needed for my project. The library allowed the exploitation of three main colors: red, blue, and green. I had to mix the three primary colors in order to get different colors. The next thing I had to understand was the use of the clock. The clock allowed me to move my objects, pistol, and bullets. The next toughest thing was the accounting. I had to account for the position of the targets as well as the position of the bullet target to determine a successful shot. I also had to keep track of bullets used, score, and game play situation (no more bullets means “game over”). This project has given me a deeper respect for game programmers as well as a deeper appreciation for hardware that runs my software.