Team Guns of Patriots

Assignment 2 - Final Report

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Challenges

There was a challenge in making the ball feel like it was bouncing like a pingpong ball. We added an impulse the the ball's collision with the paddle to help remedy this issue. The player is still able to swing their paddle to create more force onto the ball.

There was a challenge on creating the game over condition. While we had the idea on how game overs would occur in our initial design, it was difficult to detect some using Bullet. A problem specifically is detecting the the ball rolling on the table to be out of play. We could detect a double bounce, but when a ball rolled on the table it was trickier to detecting such happening. Instead, we allowed the user to reset their game, saving their hi-score by clicking the score GUI element.

What Went Good

We were able to incorporate the Bullet and CEGUI libraries very quickly. Creating each game object was done fairly quickly too. We kept playtesting to get a game that seemed playable and ended up with a complete game loop.

We added many helpful functions into our game objects like the ability to resize and get certain useful protected elements. We have many classes representing important elements of our game like game objects, physics simulations, audio, and game state.

What Could Be Better

There was issues trying to implement SDL_mixer at first. Eventually after trying various Ubuntu commands to find the flags we needed for the make and configure files, we were able to implement it.

The scope of our game seemed small, but we thought certain things were easier than they really were. These things include transforming the paddle to swing, game over conditions, and adjusting the ball to bounce correctly. We did not have time to implement changing the angle of the paddle depending on if it was left or right of the screen due to the complexity of understanding how to manipulate quaternions.

Another thing that could have been improved was understanding how what was happening in Bullet differed from Ogre. Sometimes we had collision boxes misaligned and it was hard to see that issue at first.

We decided not to incorporate music because we did not have time to create a GUI to allow you to change the volume or mute music independent of sound effects.

Our code probably could have been organized more. Some chunks of code could have been put into their own functions.