

Virtual Ping Pong

Team Members:

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Project Overview:

We plan to create a ping pong game where the user waves a real paddle to hit a virtual ball back and forth, as simulated on screen. The ball will bounce back and forth in 3D, between the “back” of the screen and the “front” of the screen, where you can hit it. By using a camera to recognize the paddle, we should be able to extract information such as position relative to a screen, paddle tilt, and paddle velocity. Using ratios of pixels along the boundaries of the paddle should be sufficient to determine tilt, but we also may use a gyro if necessary. We will then use this information to calculate interactions between the paddle and the ball displayed on screen. Initially, we will simply let the ball bounce back to the user off a “solid” back and sides of the screen, but once this basic functionality is complete, we plan to duplicate the system on a second FPGA to enable a multiplayer mode.