6.111 Final Project
2-Player 3D Air Hockey

Team Members: Alex Chen, Abraham Shin, Yuqing Zhang

Our team will build a 2-player air hockey game with a 3D graphical interface. Two player-held objects (gloves) will control the mallets used to hit the puck. We will use a camera module to track the positions of the gloves, storing state to calculate velocity and other potential attributes.

Game graphics will be rendered onto a monitor. The monitor will be split in half, with each half producing an image of all game objects from the perspective of the respective player, whose point of view is at a height above the table, looking down at an angle.

The physics of the game will focus mostly on collision detection and calculating the proper post-collision velocity vectors. We will incorporate both the momentum and the shapes of the moving objects (pucks and mallets).

We anticipate dividing the work into three major components: object recognition (Yuqing), physics (Abraham), and graphics (Alex). Object recognition and physics might be closely tied, since the physics engine is limited by what we store through object recognition.