

## **Table Tennis Video Game**

*Angel Carvajal and Sarah Leu*

This project will be a hardware implementation of the popular singles table tennis sport. It will behave as a two-player game, splitting the screen in two vertical halves. Each player will handle a certain colored paddle that, through image recognition and analysis, will be distinguished by a camera connected to the computer. Utilizing gyroscopic sensors and accelerometers, one can imitate hitting the ball on screen and can control the speed, angle, and route of its trajectory. A crosshair will be displayed on the screen so to ease usability. The trajectory of the ball will be controlled through VGA signals and will have functions which include approaching toward the player, returning to the other player, bouncing on the board, bouncing out of bounds will all be implemented and displayed. A scoreboard will be shown, and winner and loser are declared by the end of the game. Sounds will be emitted for objects that tap each other such as the paddle & ball, and the ball & board.