XTreme Tennis - ECE 153B Project Proposal

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WEBSITE: HTTPS://SITES.GOOGLE.COM/VIEW/XTREMETENNIS/HOME

Overview

We plan to create a two-player tennis game using the STM32 and an external LCD display, as well as two controllers to control movement and hit the ball. The goal is to emulate a real-time game of tennis or pong. The LCD will display a tennis court with each player at either end of the display, and the users will be able to control the movements of the players. The users will have a time window in which to hit the ball, and the closer they are to hitting the ball, the faster the ball will travel to the other side. If the ball is hit too early, it will hit the net and the player who hit it loses. The game ends when one player either misses the ball or the ball hits the net. We will use Wii nunchucks to control the players and the racket, and the LCD will display the state of the field and the court.

Peripherals

1. STM32-TFT LCD display
2. Two controllers (probably nunchucks)
3. Joystick

Software Design

At start, game logic will randomly decide which player gets the ball. Direction control will curve the ball around the court. Hitting the ball using a button will fire an interrupt that tells the game to animate the LCD and apply movement the ball.

Goals

1. Interface with the LCD and create a game field
2. Use the controller to interface with the game through interrupts

Responsibilities

Sid will be responsible for the LCD and Leena will be responsible for the peripherals. Both team members will be responsible for updating the website weekly.

Nunchuck   Nunchuck

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Interrupt
Handler

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Game logic

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LCD