Final Project: Pong

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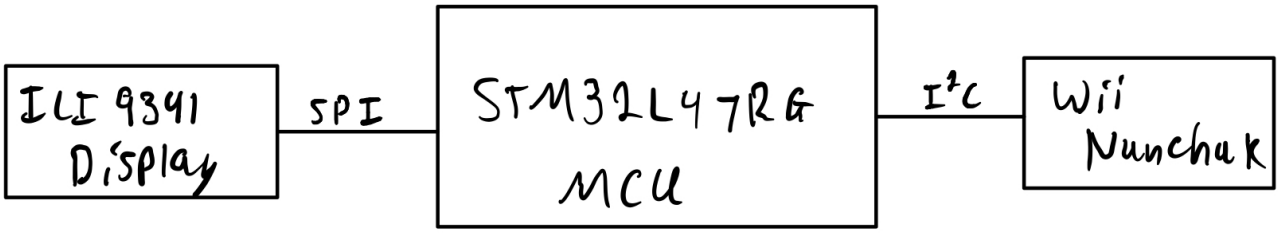
[**Overview**] This project aims to implement the classic single-player game *Pong* on the STM32 nucleo board using a Wii nunchuk and LCD display. The player will be able to move their paddle up or down using the joystick on the nuchuk, and the game will be shown on the LCD screen. The user will also be able to select a difficulty and reset/pause the game via a menu interface which can be brought up by pressing the 'c' button on the nunchuk.

[**Peripherals and Protocols**]

- ILI9341 TFT LCD display (connected via SPI)
- Wii Nunchuk (connected via I^2C)

[**Software Structure**] The system is implemented using a finite state machine which transitions between paused, playing, and main menu states. The state machine receives signals from a FIFO queue loaded by the various interrupt handlers. The nunchuk is connected via I^2C, and input is handled by software via interrupts, one of which triggers on a rising edge of the input and begins moving the paddle, and another which triggers on a falling edge and halts the paddle's motion.

[**Block Diagram**]



[**Project Website**]
`https://rawenger.github.io/ECE153B-Final-Project-Homepage/`