

# LED Drawings using a Wii Nunchuk

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153B Project Proposal

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## **Overview**

Our goal is to use a Wii Nunchuk with a USB adapter as a drawing tool to light up specific LEDs in order to display an image, which will be done by connecting a Wii Nunchuk to the LPC-4088 using a USB adapter. The user will maneuver the Nunchuk's joystick to design their image on the 8x8 LED Display screen. We will incorporate additional functionality into a button on the LPC-4088 to change the lighting schemes. We will also send coordinates of the 'ON' LED lights to the UART.

## **Peripherals**

- Wii Nunchuck
- 1 LPC-4088 Button (GPIO)
- 8x8 RGB LED Display

## **Software Design**

We will need to code a file to be able to accept the Wii Nunchuck as a peripheral. Then we will need code for the LED Board to act as a screen for the Wii Nunchuck. We will also need to code the LPC-4088 Button to change the settings of the light on the LED board. We will send the coordinates of the LED lights that are on to the UART.

## **Goals**

- Button controls the mode of LED: On, Blinking, Off.
- Wii Nunchuk joystick as a cursor on LED display.
- Wii Nunchuk buttons to draw and change LED colors.
- Printing real time position of the Nunchuk cursor to UART

## **Group Responsibilities**

Sarita will focus on digitizing the Nunchuk's analog signals and its functions. Lekha will implement functionality to convert the digital signal to LED output. And Crystal will code the button-presses to set the different lighting modes to the LED output as well as send the data to the UART. As we implement our project we will be helping in each of the different tasks.