

## Motorized Liquid Dispenser w/ Ultrasonic Sensor and Servos

Proposal Link: <https://sites.google.com/view/ece153b-project-proposal/home>

Group: Aaron Sin & Andrew Chen

Peripherals:

- Ultrasonic Sensor
- Bluetooth Module
- Motors
- Servos
- Temperature Sensor
- LCD Panel

Protocols:

- UART: Bluetooth
- I2C: Temperature sensor
- SPI: LCD Panel
- PWM: Motors, Servos, Ultrasonic Sensor

Responsibility:

- Aaron Sin: SPI & PWM protocols
- Andrew Chen: UART & I2C protocols, will help with programming graphics onto LCD display
  - We will both design the robot structure where the components will be placed.
  - Sourcing components will come from whatever we have currently, and will purchase if needed.

Software Structure:

All interfacing protocols will be using C using Keil uVision to prototype and produce the final product. UART will be used to communicate with the robot through Bluetooth. I2C will be used to fetch temperature data from the temperature sensor that will measure the temperature of whatever fluid is being stored. SPI will be used to interface with the LED panel and whatever libraries we need to display custom images onto the display. PWM will be used to control the motors and servos to allow the robot to move and dispense the fluid.