5 Guys and a Box Robotics

Robot #2 Software Development Documentation

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This documentation explains the ideas and methods used in the programming and design of Robot #2 for 5 Guys and a Box Robotics. The robot in question contains 3 Teensy 3.2 microcontrollers and multiple sensors. To learn more on the sensors used please refer to Hardware development documentation for Robot #2. Each Teensy is in charge of controlling certain sensors. The three Teensies communicate via SPI (Serial Peripheral Interface) to communicate.

Teensy 1:

Teensy one contains the lowest load during running with minimal tasks. Its primary task includes controlling the Serial Clock for the SPI communication, therefore it being the master in the SPI loop as well as communicating with the pixy and interfacing with the touch capacitive display.

Teensy 1 Software Design: