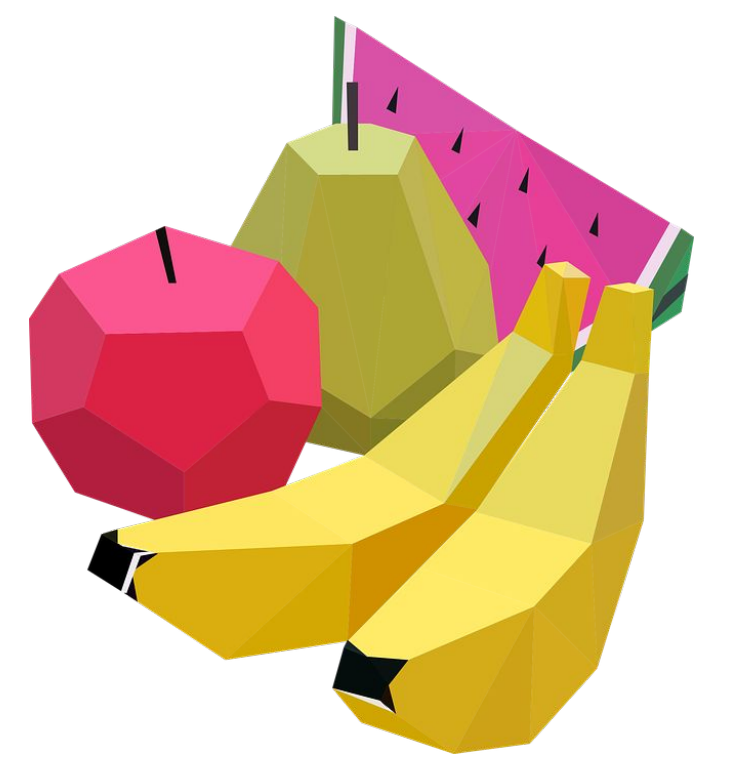


FRUIT SMASH

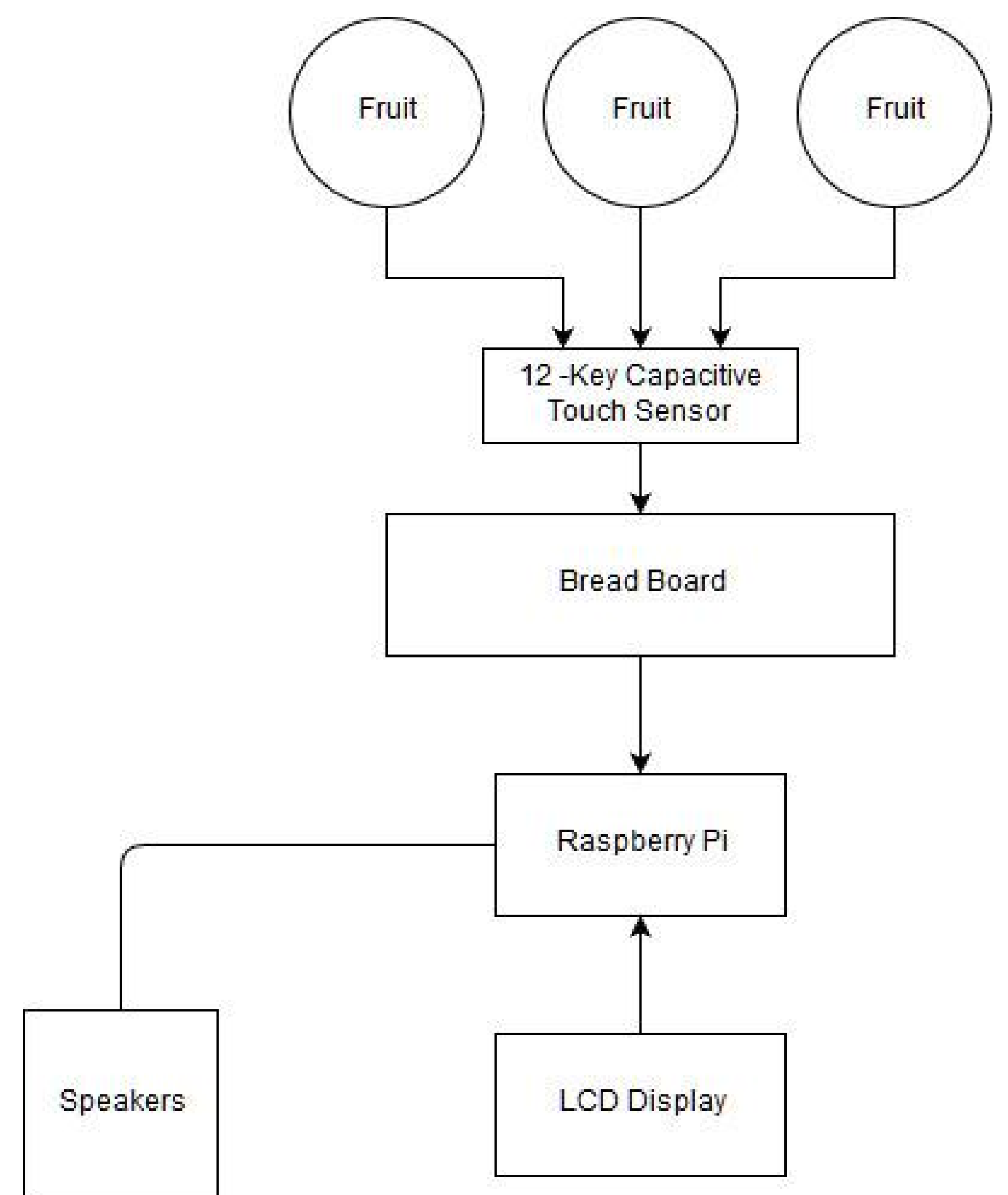
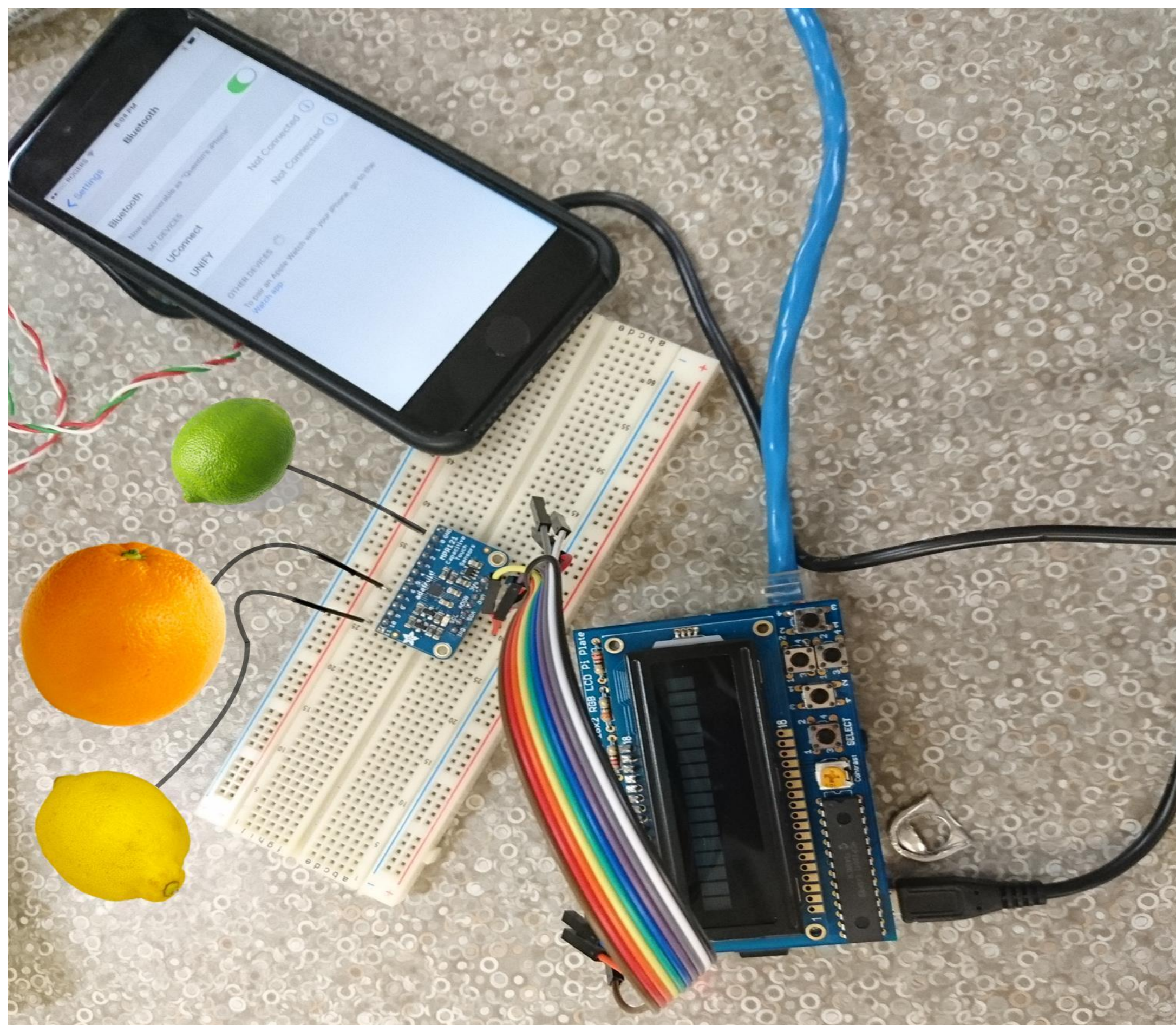


A reaction based game similar to Whack a Mole, but with fruits instead!

The LCD display and audio will prompt the user to touch one of three fruits within a certain time limit. A sound will play which reflects on the user's success.

FINAL PROJECT

BLOCK DIAGRAM



I2C INTERFACE WAVEFORM DIAGRAM

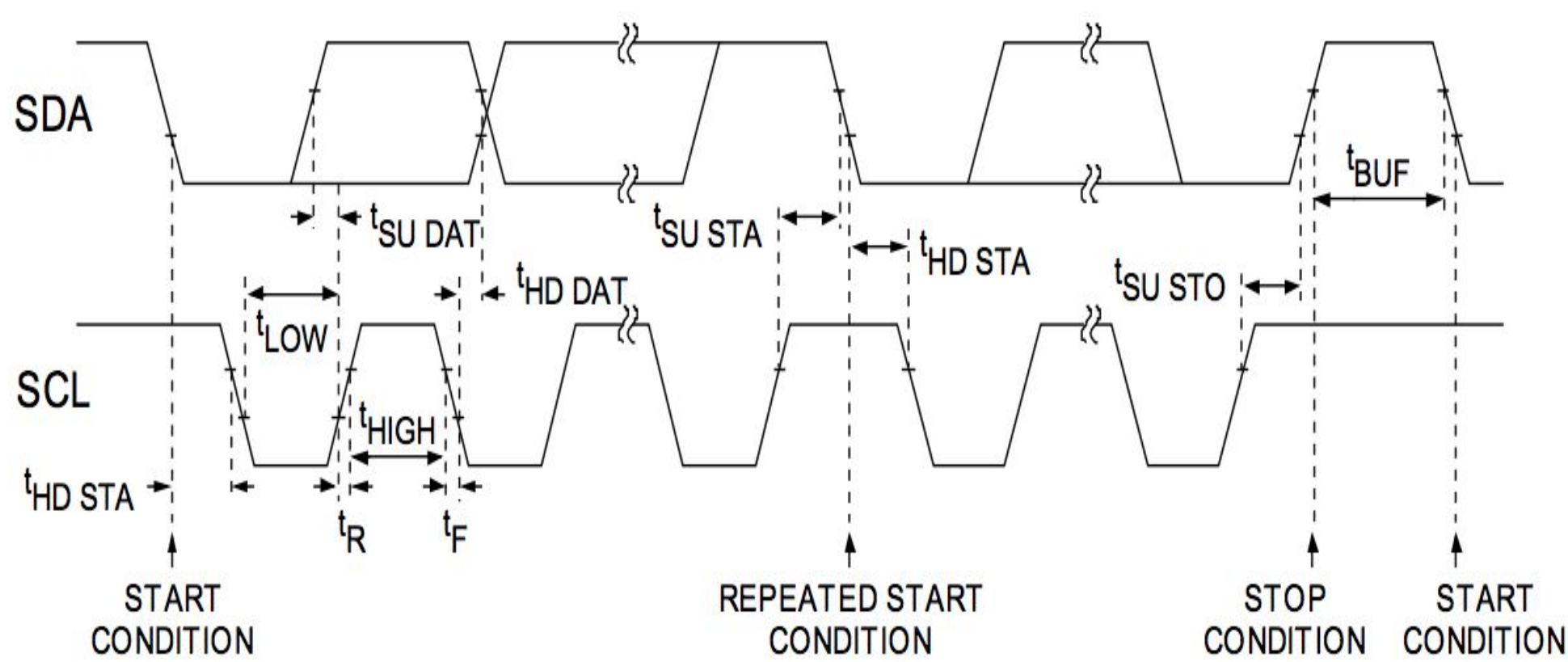


Figure 3. Two-Wire Serial Interface Timing Details

Data is transferred between the sensor and the host computer by the I2C interface. From the waveform diagram, the Serial Data Line (SDA) and Serial Clock Line (SCL) is used for communication. The computer will initiate a data transfer to and from the sensor, where the SCL synchronizes the data transfer.

DISPLAY INTERFACE

The LCD display is connected onto the Raspberry Pi by its' 16-pins to the Pi's GPIO head. The data is transferred through these pins and the use of python code.

SOFTWARE

The software implemented was written in Python, with the aid of the MPR121 python library for the capacitive touch sensor, the Python package pyttsx for text-to-speech communication, and the Adafruit character LCD plate in relation to its' pins for Display.