

## CS 362 :: Milestone 2

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Our group would like to create an Arduino system that displays certain stats about key presses and also a solenoid key presser. The solenoid machine would press keys on the keyboard and act like an automatic rhythm game player. The KPS stat display would then display the key presses per second and the animator display would show the keystrokes animating upwards. This project is centered around rhythm games and the solenoid machine would press to the notes of some rhythm game, with the stat displays calculating the keys per second and keystrokes based on the keyboard presses.

The first Arduino is responsible for the displays (corresponding to the first and second ideas below). The second Arduino will be responsible for the solenoid machine. The solenoid machine consists of a sensor to signify when to press the keys (by pixel/light changes) which also communicates with the other Arduino dedicated to the displays. We are planning to use a 2x16 LCD to display the key/second and a Nokia 5110 LCD to display the actual keystrokes. Both of the displays will take input from the computer, which is taking input from the key-pressing machine. The communication mechanism will be via the serial cable, from the solenoid Arduino machine into the computer side and finally into the stat display Arduino. The input devices would be the keyboard and photoresistors. The output device would be the solenoids, 2x16 LCD, and the Nokia 5110 LCD.

This project is original because it's centered around the game Osu! mania. We are making use of a solenoid machine to press the keys for us and display those stats to whoever is viewing them. This project makes use of the Osu Mania file format (.osu), which we assume is an original idea considering Osu Mania is a fairly niche rhythm game. The 2D keystrokes animator display is also original because we've never seen something like that made on an Arduino display before.

**Furthur Information : :**

Grout Project Title : : VSRG-UNO-R3 : : VSRG Stats Display for Arduino.

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Group members : :

Ryan Magdaleno (rmagd2) - 11 PM Lab

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First Arduino : :

Display : : Key Presses/second display. (2x16 LCD)

Display : : Keystrokes/key display animator. (Nokia 5110 LCD)

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Second Arduino : : Key-press machine - A sensor that detects pixel changes and then communicates with a machine (solenoids and photoresistors).

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Group ideas : :

First idea - Display : : Key Presses/second display.

Second idea - Display : : Keystrokes/key display animator.

Third idea - Solenoid machine. (detects pixel changes then communicates with machine)

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External devices : :

1. Photoresistors.
2. Solenoids.
3. 2x16 LCD.
4. Nokia 5110 LCD.