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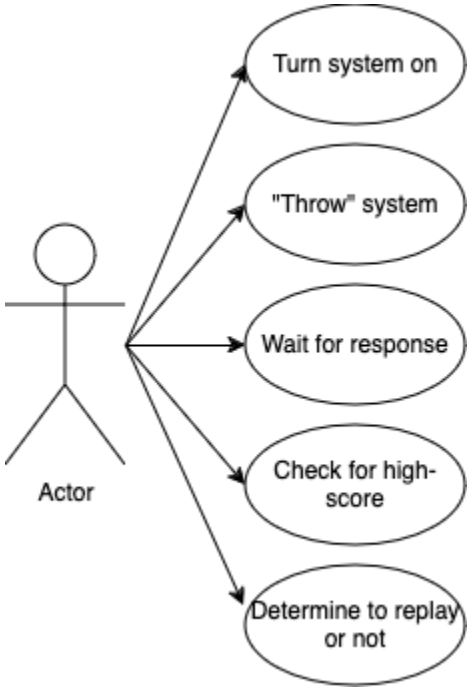
CSE 321
PrjPhase1V1

Who Has the Highest Throwing Power?

1. **Who Has the Highest Throwing Power?**

My project will focus around measuring the readings from an accelerometer to calculate the amount of force thrown by each participant. We can do this by utilizing an accelerometer, the Shillehtek MPU 6050, to read the amount of g-force on each of the three axes, x, y, and z. We will keep track of the person who has thrown with the most force, and upon a score becoming the new high score, we will have the system flash lights, play noises and potentially show the new high score on a screen. We can use this project as a fun party game, or even upon further development, use it as a sports training device for baseball pitchers or american football quarterbacks.

2. **UML**



3. CRC Cards

User

Turns device on “Throws” the device/plays game Can produce a force via a throwing motion	Device

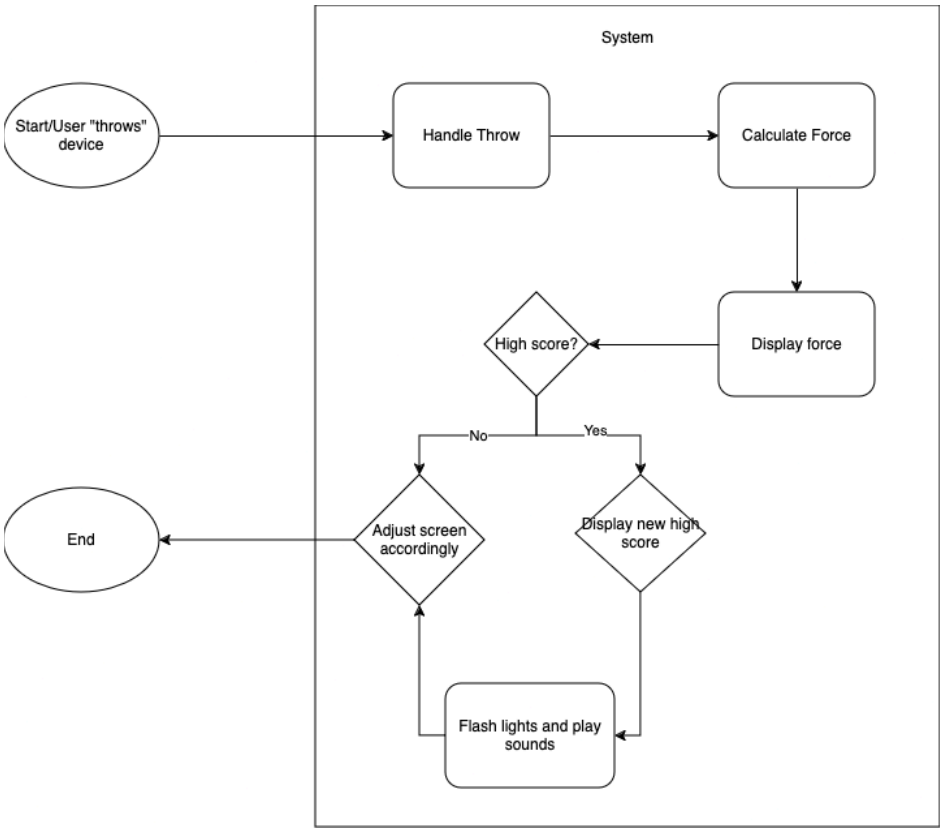
Device

Knows the current orientation of device Can measure the g-force Display score on screen Play sound Flash lights	Accelerometer Screen Speaker Lights Arduino Software

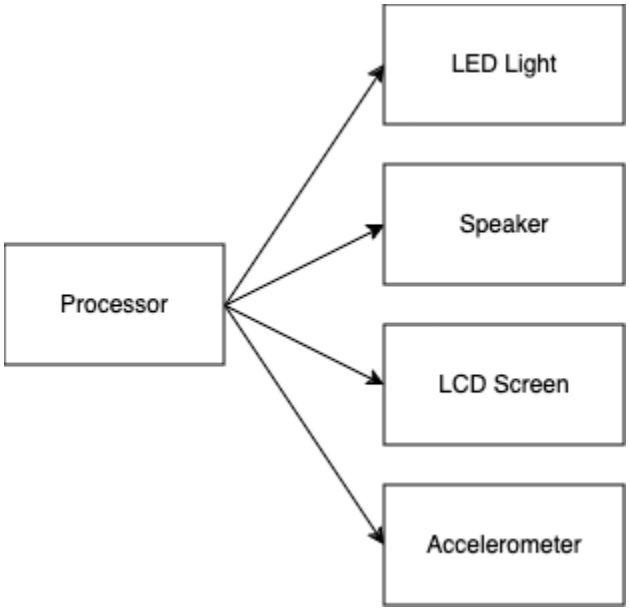
Software

Arduino conversions and analysis G-force and orientation analysis Input/output handling	The code External C libraries

4. Flow Chart/Architectural Block Diagram



Architectural Block Diagram



6. Components List

Part	**Model**	**Status**
Arduino	Uno Rev3	Ordered
Shillehtek Accelerometer	MPU 6050	Ordered
LEDs	-	On hand
Speaker by Arduino	Stereo Enclosed Speaker	Ordered
Elegoo Wires	120pc wire set	On hand
LCD Screen by Arduino	16x2 LCD display w/ I^2C interface	Ordered
Bread Board		Ordered