

OBJECTIVE

The objective of this project is to develop technology that measures a pitcher's dynamic fingertip forces on a baseball.

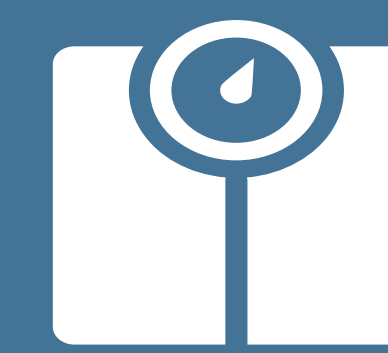
SPECIFICATIONS



Official Baseball
Size & Weight



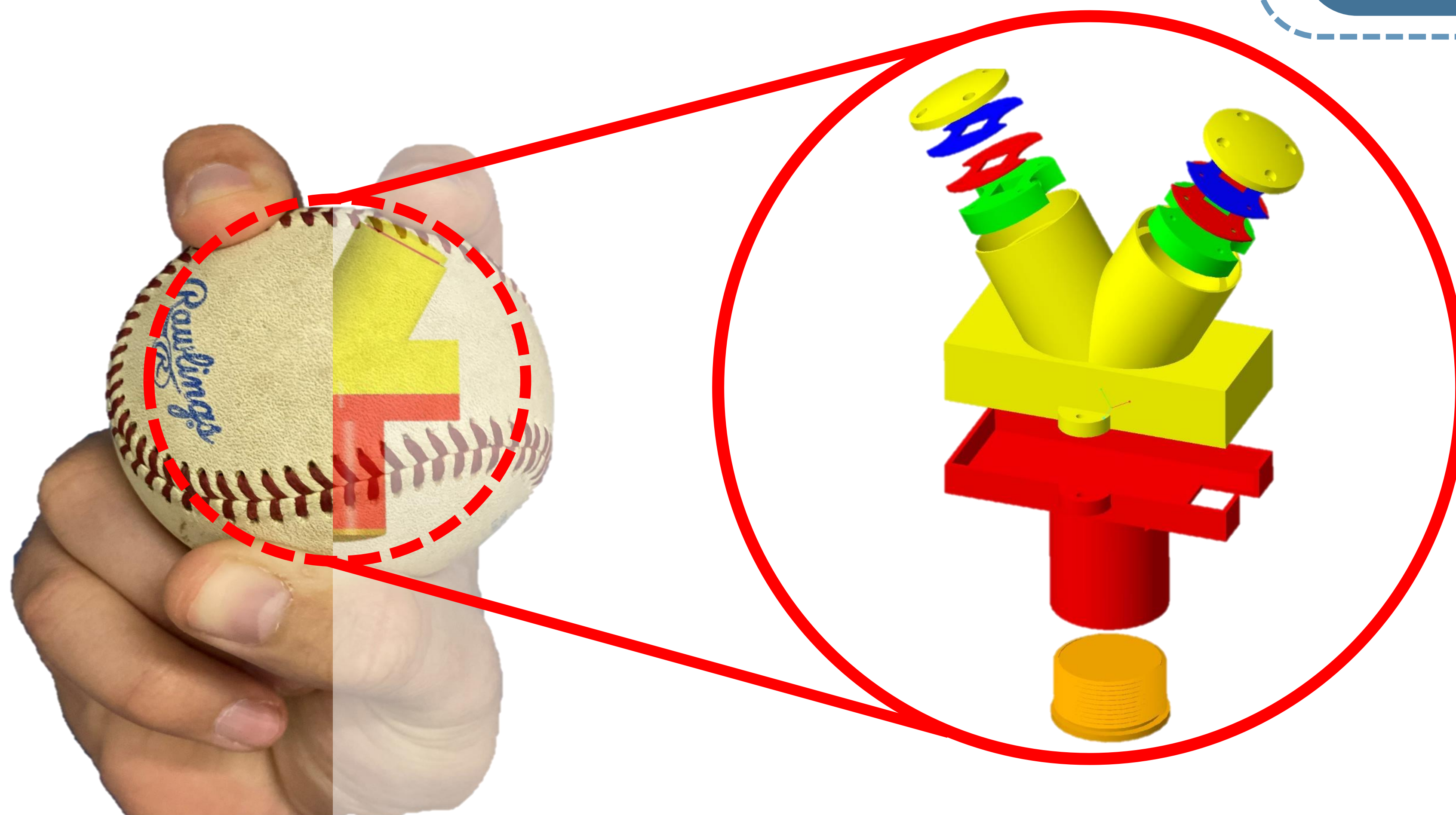
Data Gathering
For 2 Seconds



Force Range
0 – 200 N



Bluetooth
Communication



SENSOR STACK

Tri-Axial Force
Gathering



Shear X

Shear Y

Pressure Z

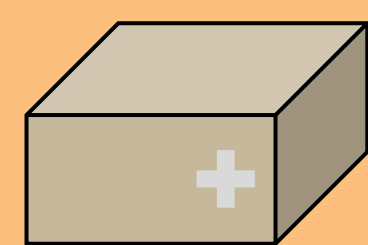
Bolt Preloading



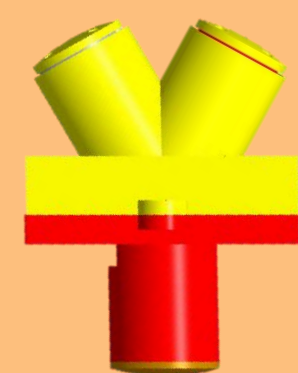
Piezo Stack Operation:

- Converts mechanical effect (such as pressure) into an electrical signal.

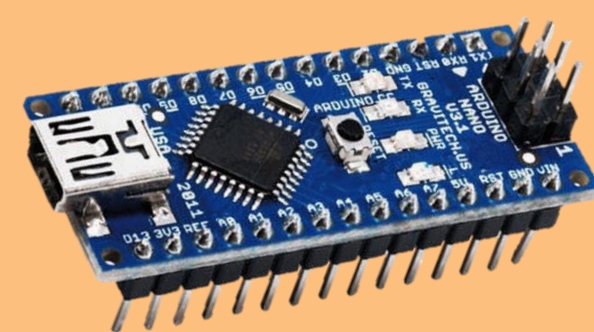
KEY COMPONENTS



Piezoelectric
Sensors



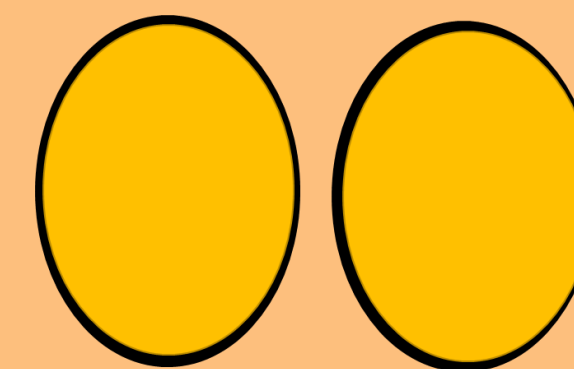
3D Printed
Housing



Arduino
Bluetooth Nano



Lithium-Ion
Batteries



Finger
Indicators