Ball Car, BB8's Brother

BY TREVOR CRAIG

Controls and Electronics

- Arduino
- Official Arduino Motor Shield R3
- XBEE -> Serial Control
- Motors (300 RPM 12V) .6A no load
  - RPM LIMITED!!!
- Standard Servo (5.5 kg-cm)/76 oz-in
- Joystick Controlled

BOM

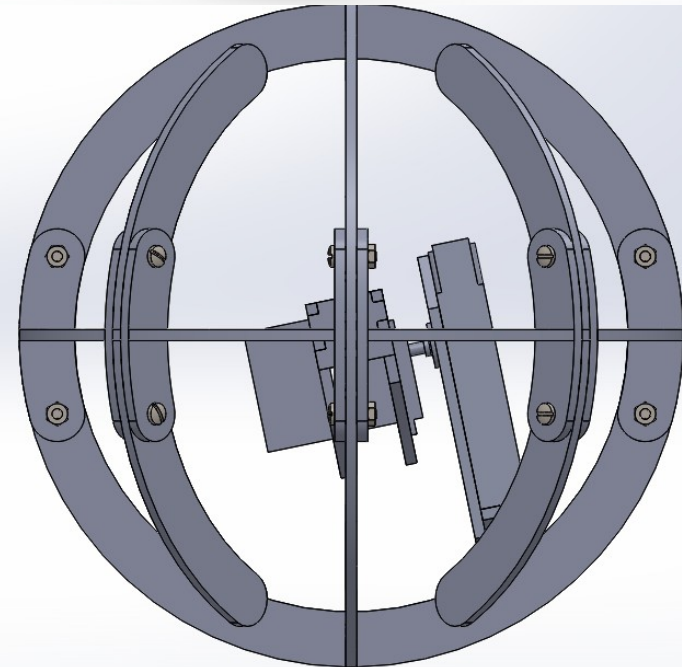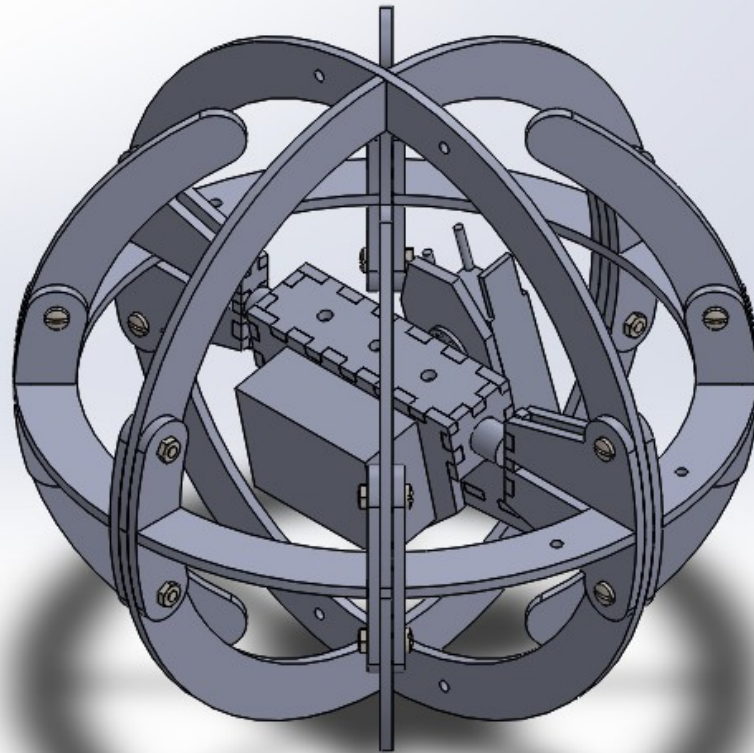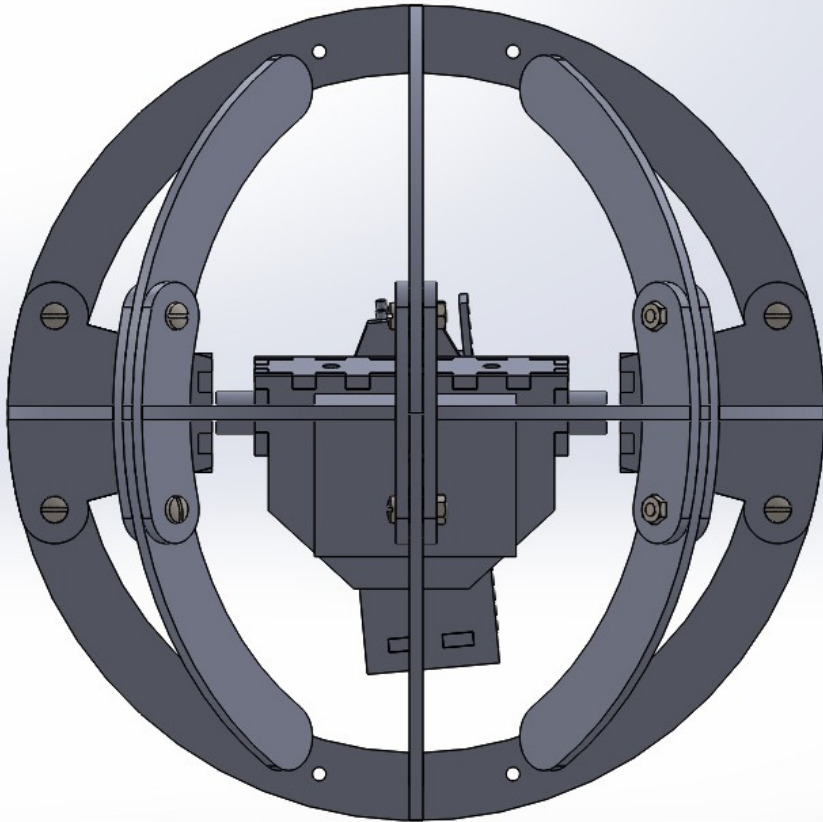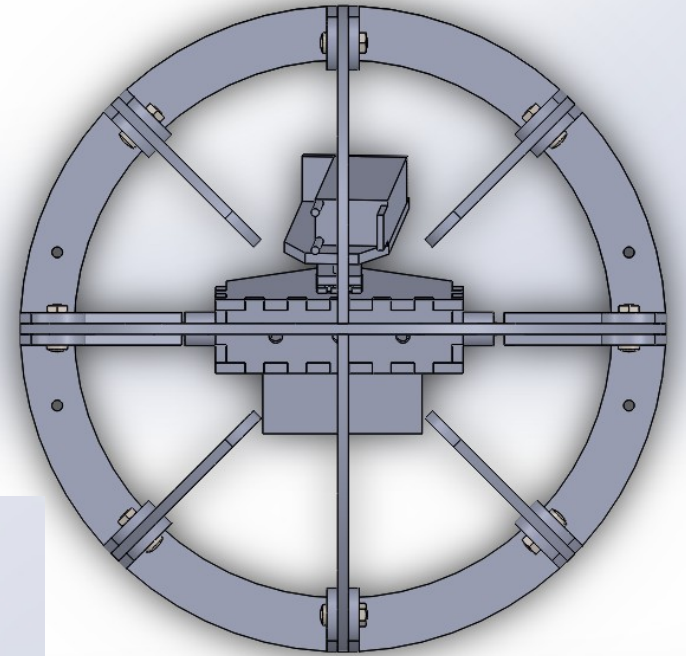| Part	Price	Quanity	Total
Joystick	5.95	1	5.95
Servo	12	1	12
Motors	12.76	2	25.52
Arduino	24.95	1	24.95
Arduino Pro Mini	9.95	1	9.95
Power Boost	19.95	1	19.95
Lithium Ion	14.95	1	14.95
Lithium Polymer	27.99	1	27.99
		Total Cost	$141.26

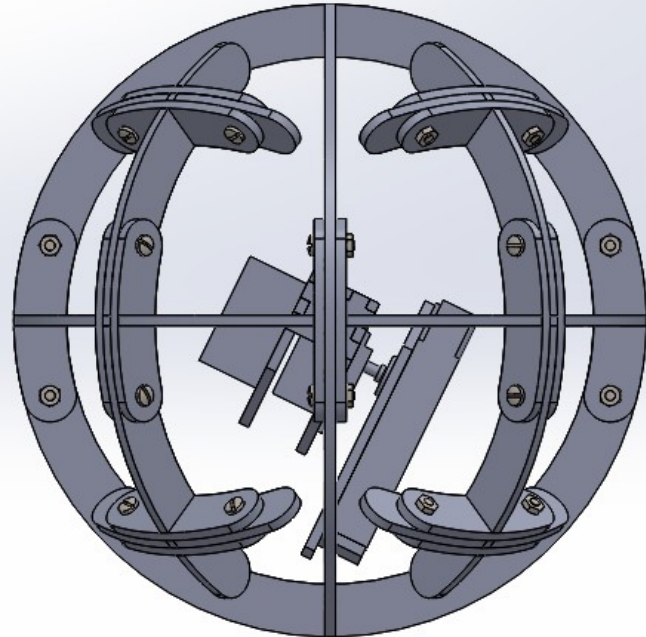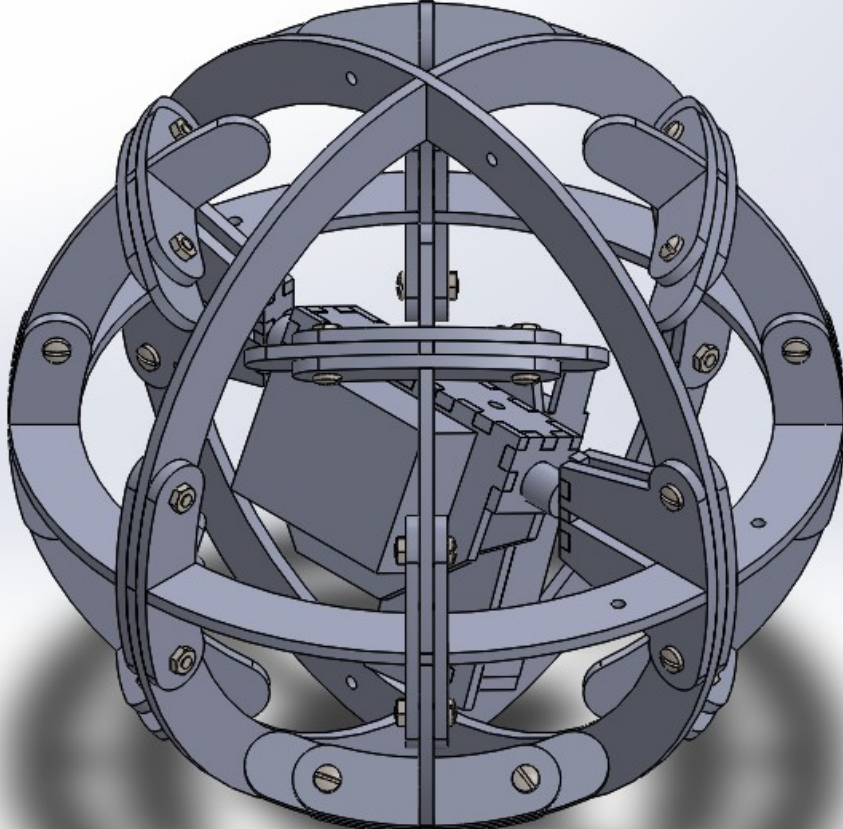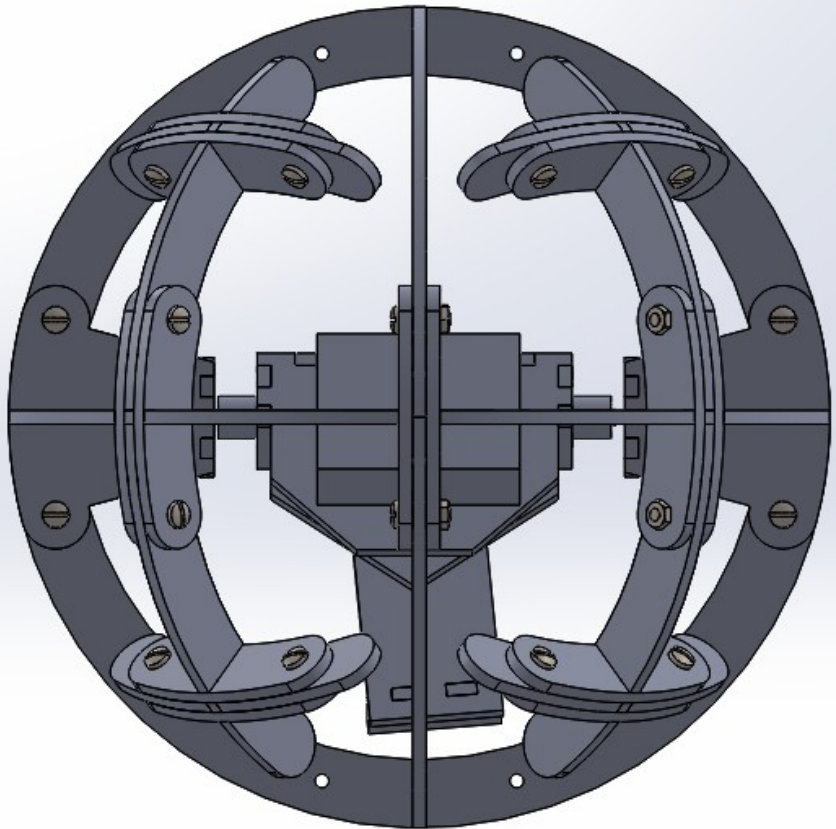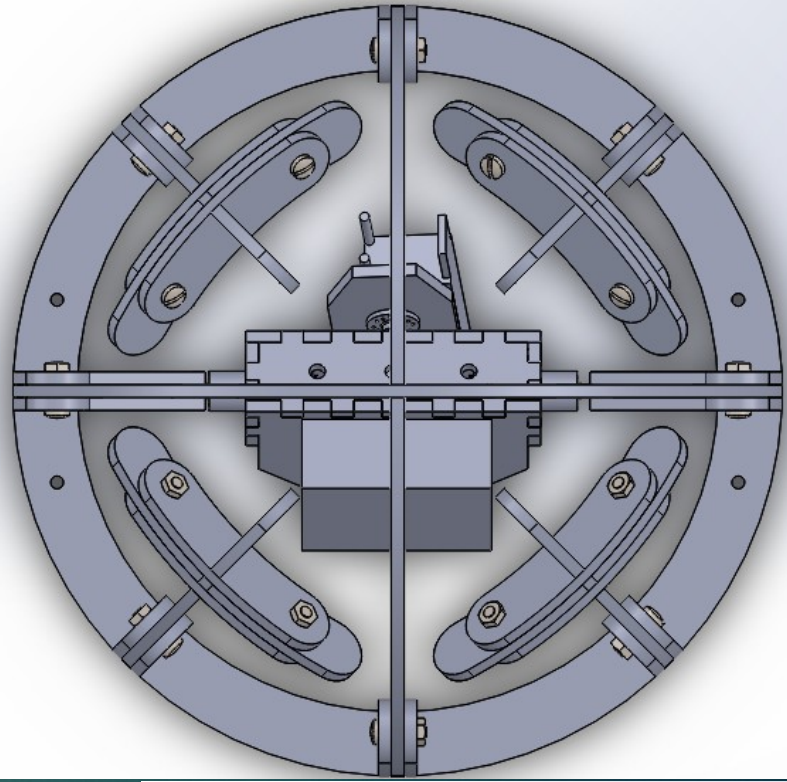| Part	Price	Quanity	Total
Wood	6.15	1	6.15
Nuts	0.08	16	1.28
Bolts	0.08	16	1.28
		Total Cost	$8.71

TOTAL COST=$149.97

Sphero BB8
$150.00

Design 1

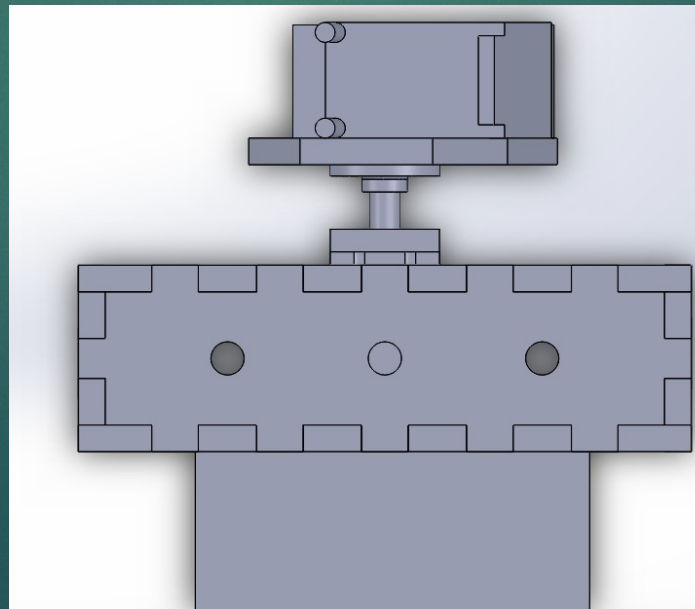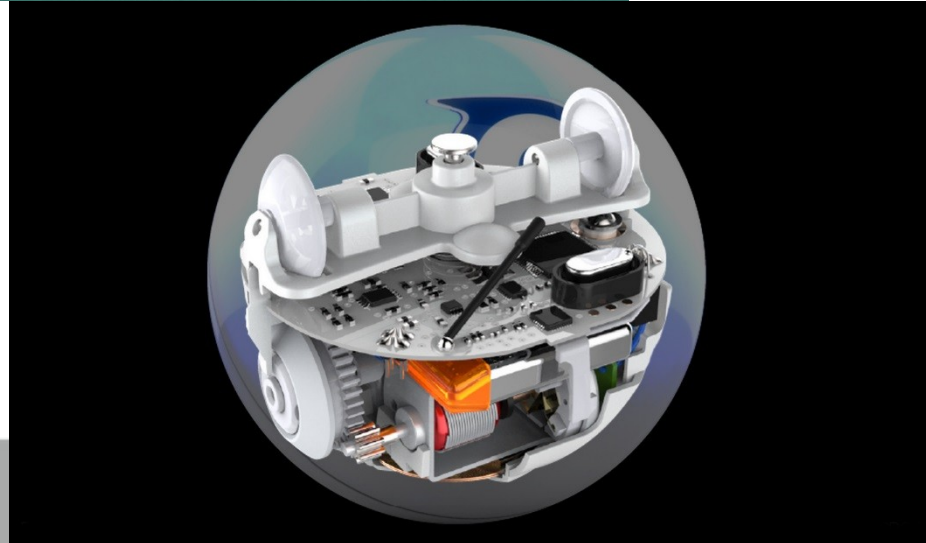Design 2

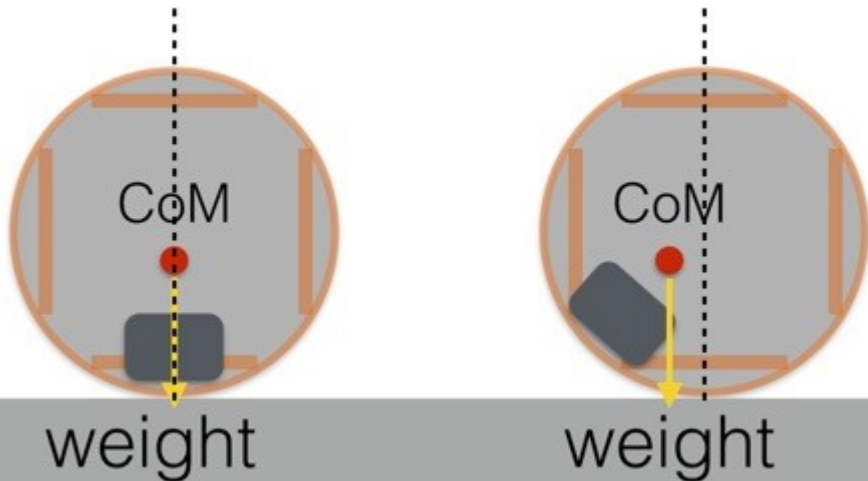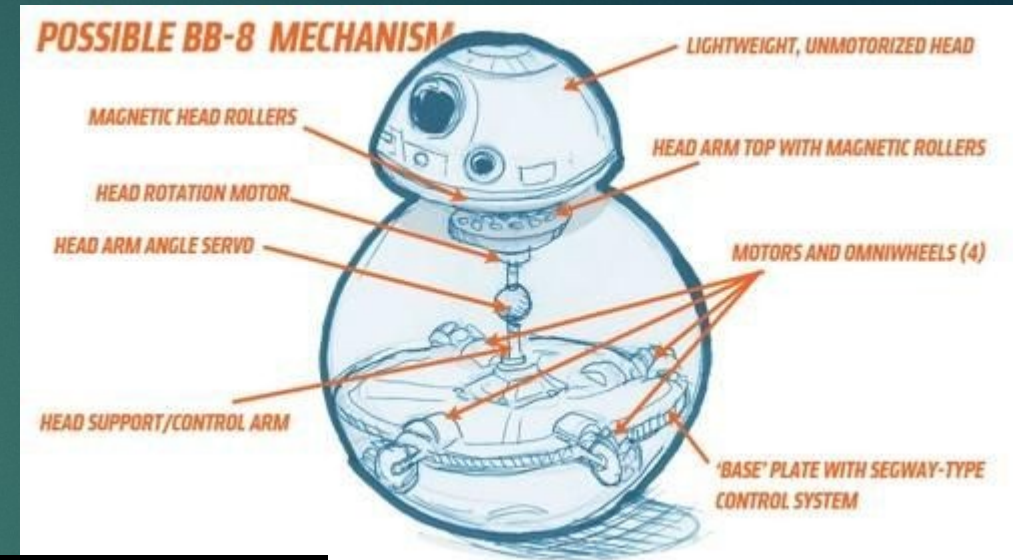# Carriage Advantage

- Modular Components
  - Easy Replacement
  - Easy Iterations
  - Could be placed in different sized Balls
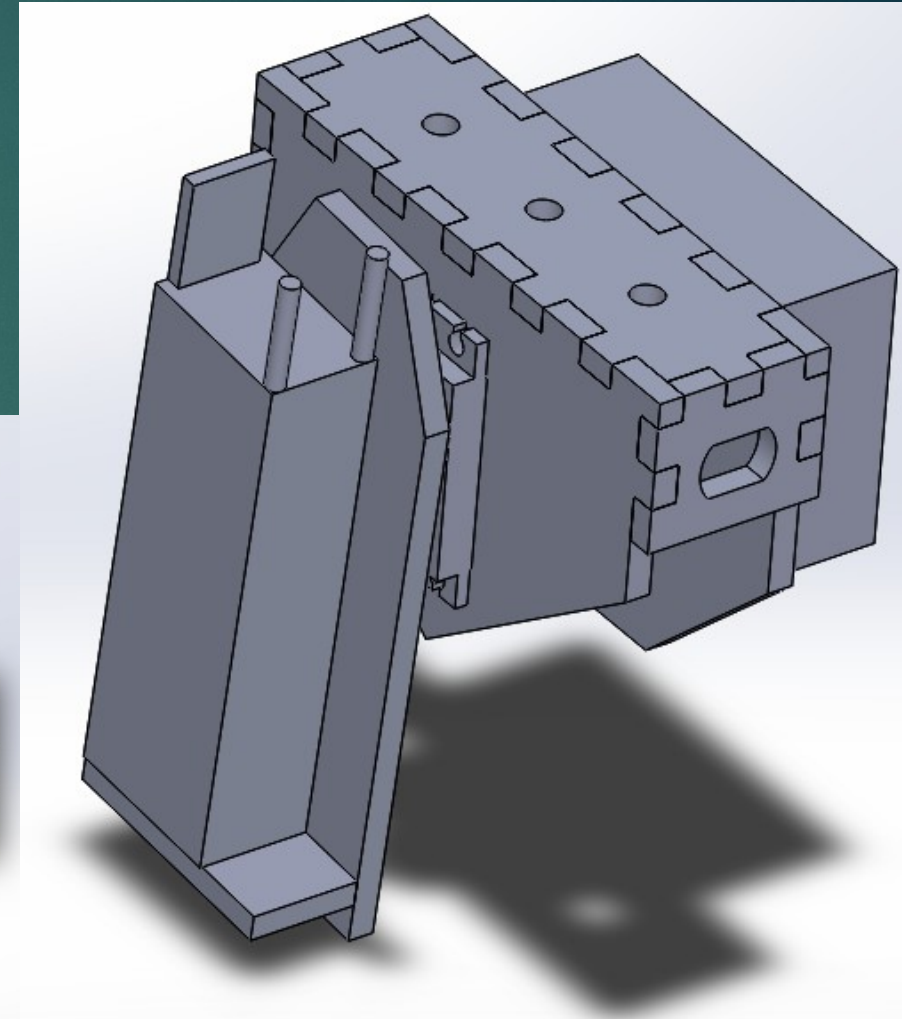
What does Sphero and BB8 do?

- ▶ Remote control car in a ball
- ▶ I did weight shifting to move the Center of Mass
- ▶ Which is more interesting?

Future Work

- Make Large Frame
- Add accelerometers and a gyroscope
- Limit servo jitters
- Add a small speaker to give it some attitude!
- Also needs a Name