

7/9/2015

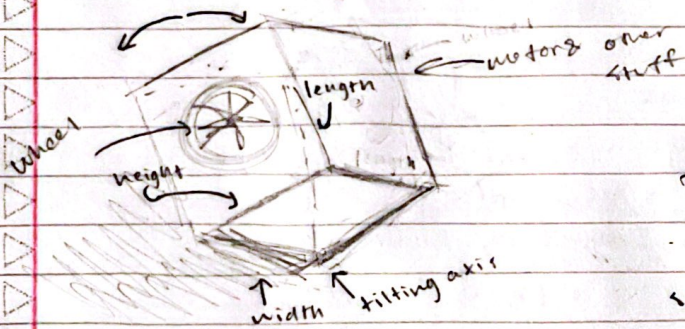
Reaction Wheel - initial designs

one-axis (z-axis)

3 things to keep note of

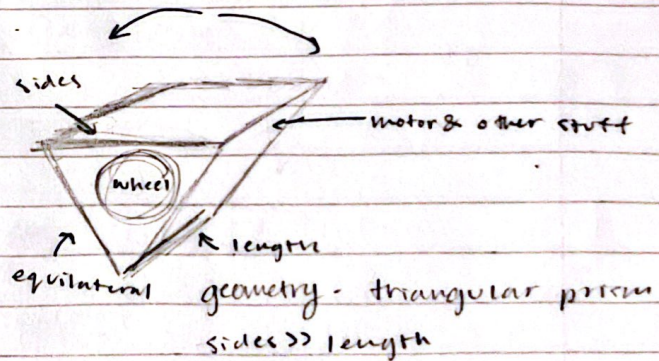
- keep the shape simple geometry
- symmetry will make finding the c.o.m easier
- 1 wheel
- mounted so that it is stable on y-axis & x-axis
- only focus on stabilization (rotation is too complex)
- 3D (more precise)

Sketch 1 - cube shape on one edge



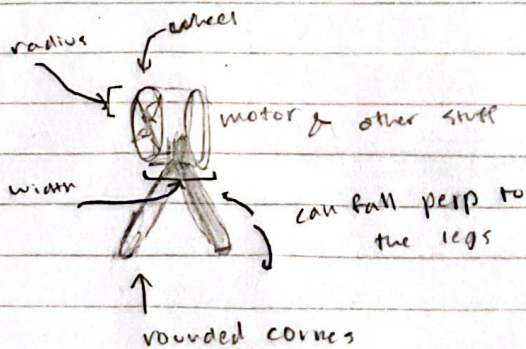
geometry - rectangular prism
height = length \gg width

Sketch 2 - triangular prism



sides \gg length

Sketch 3 - balance beam



geometry - cylinder

radius $>$ width

\rightarrow doesn't matter as much here