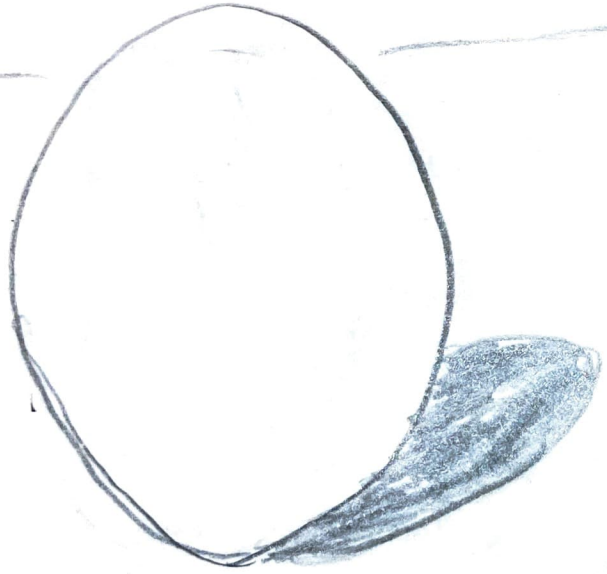
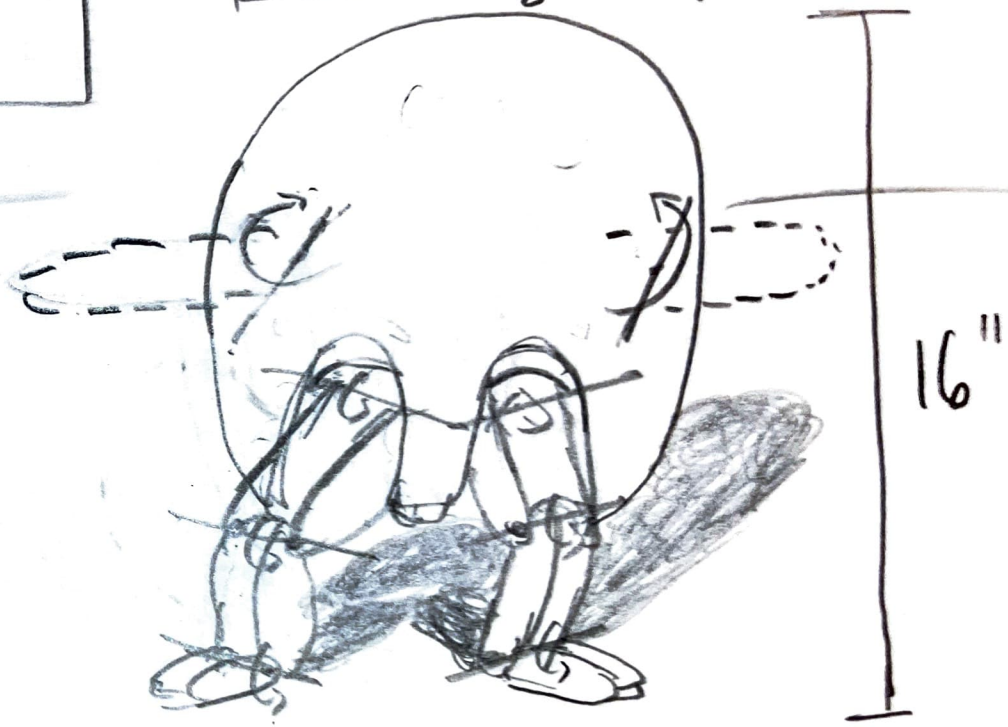
Concept: Ball / Egg Robot

Config 1



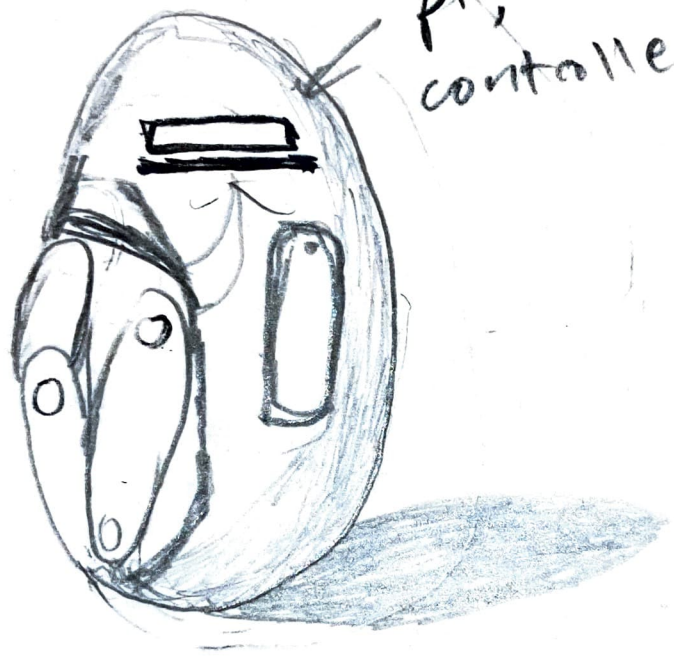
Config 2



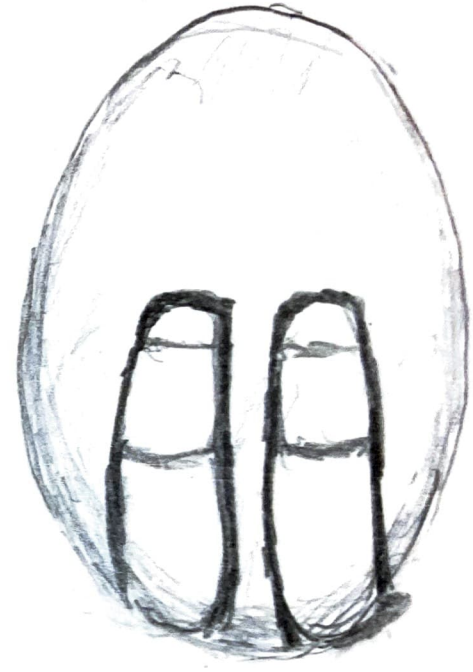
appendages, facial features TBD

Folding Mechanism

side view



front view



note: probably would not be self-righting / require manual orientation

leg deployment

s_i = state i ; all angle values estimates

s0 (side view) s1 s2

folded config

s_0

$\theta_1 = 10°$

$\theta_2 = 20°$

$\theta_3 = 110°$

enclosure escape

s_1

$\theta_1 = 10°$

$\theta_{2_{s_0}} \rightarrow \theta_2 = 75°$

$\theta_3 = 110°$

standing

$\theta = 40°$

$\theta_{2_{s_1}} \rightarrow \theta_2 = 270°$

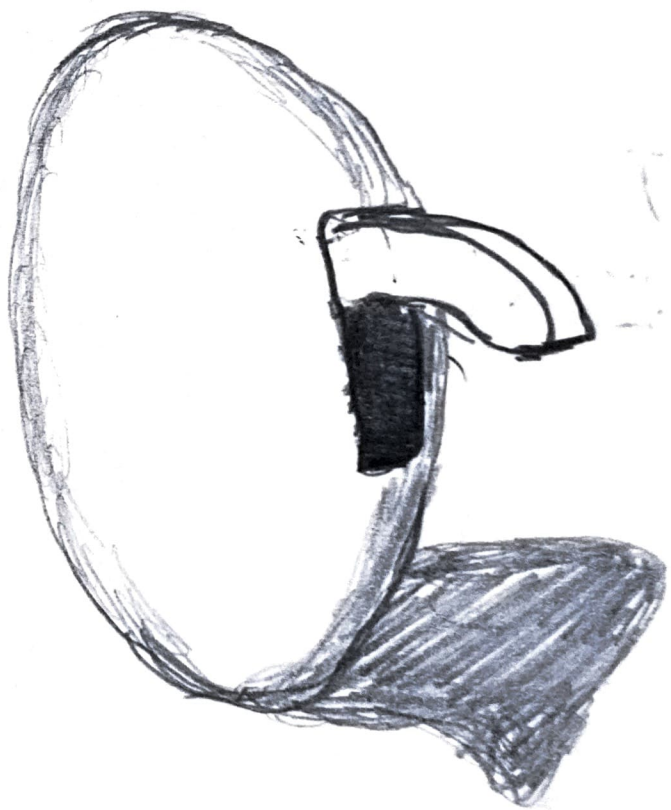
$\theta_3 = 25°$

arm deployment (much simpler)

top right perspective

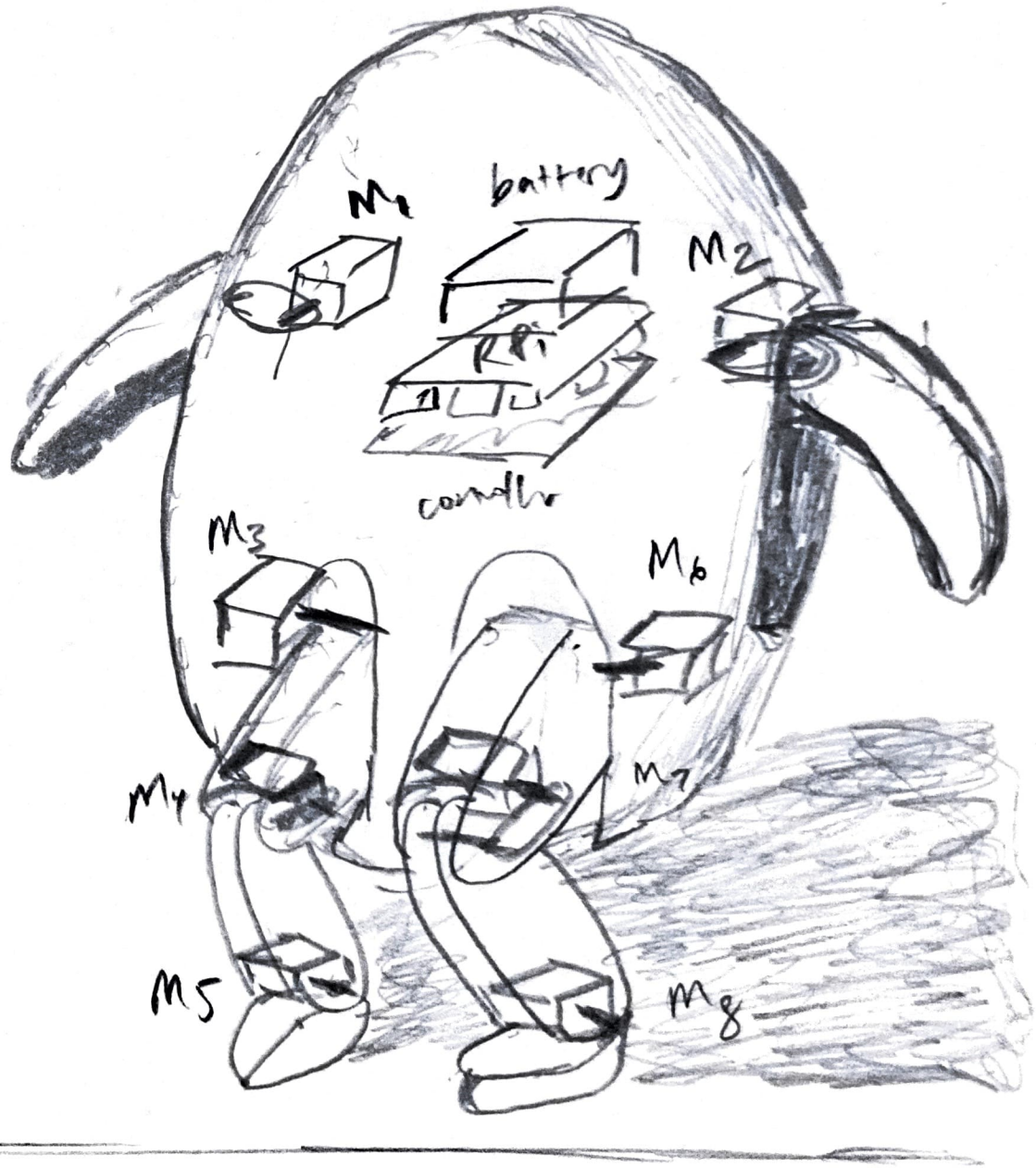
folded

unfolded

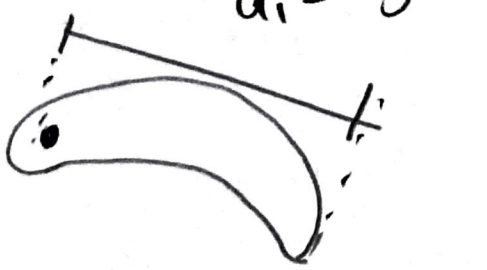


top view

component view



arm



leg → very similar to cat leg, except l_3 (p_1 for the cat) is powered, not driven by l_2's motor

Power transfer