Seol-Yee (Jennifer) Lee, Spring 2020

Belt Tensioner

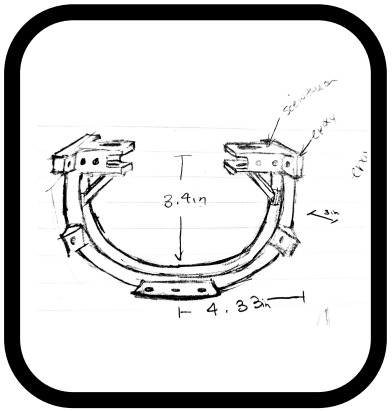
design goals

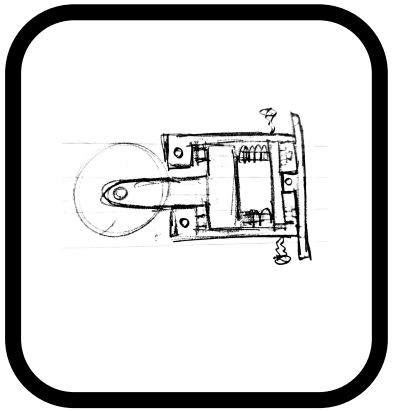
using cheap material to make part
using metal instead of 3d print material
making it durable and iterable

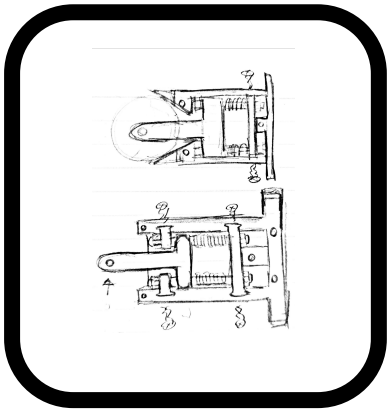
past design i

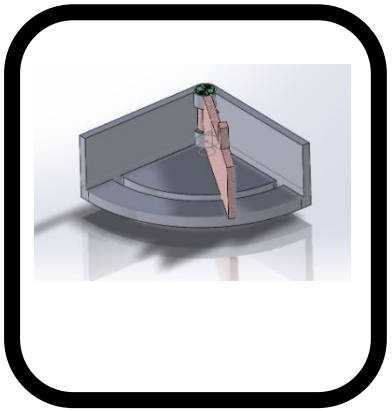
everything 3d printed
fragile, very tiny, really hard to manipulate dimensions
difficult to find appropriately sized screws and pins

past design ii









changes

more simplified
sourcing premade materials
limitations of machining

fixed

3d printed frame
now has platform

to buy

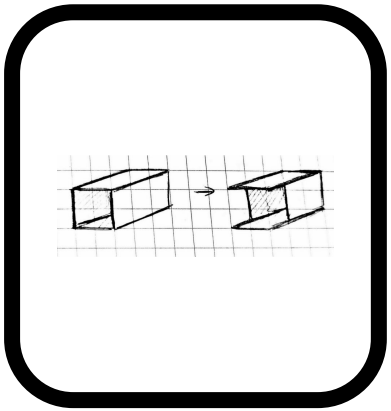
surface-mount light duty self-closing spring hinges (2)	1613A11	3.92
aluminum rectangular tube (0.5 ft)	6546K6	8.94
thrust ball bearing (4)	6655K24	40.24

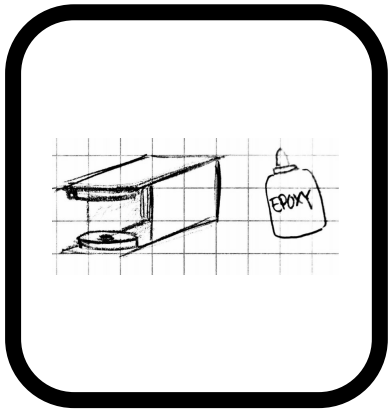
to buy

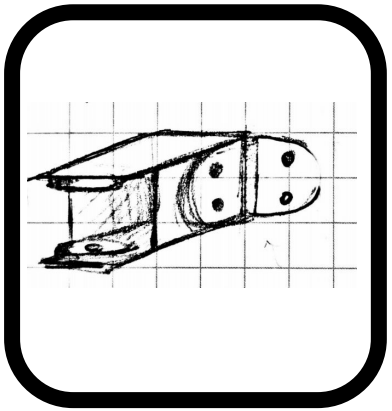
procedure i

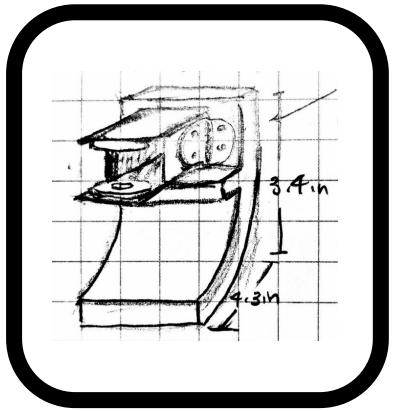
machine aluminum rectangular tube
epoxy thrust ball bearings
epoxy hinge
epoxy onto frame

procedure ii









back up plan

torsion springs from last semester
aluminum stock to create crude hinge
machine removable-pin door hinge in half

future steps

ordering and manufacturing
testing with each of the parts
reordering and manufacturing