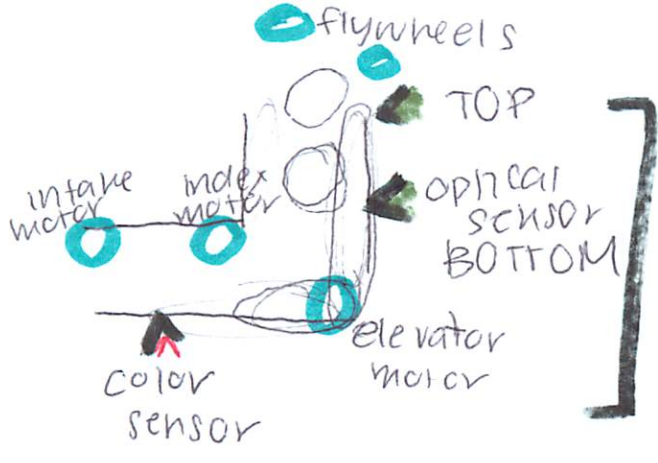


full system = 2 balls

full system → done!



- ! TOP ⇒ not sensing
- ! Bottom ⇒ not sensing

case 1: No balls in system, 1 incoming



1. Correct color, index motor forwards  
 Incorrect color, index motor backwards

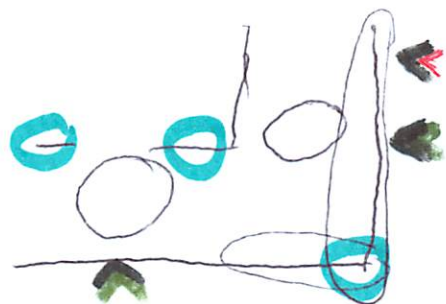
2. move elevator BOTTOM motor until TOP OR timeout  $\approx 4$  sec  
 ↑ will require tuning... to minimize gaps

2

outtake if all goes wrong



case 2: 1 ball in system, 1 incoming



sensor sees something

- 1 {
  - correct color
    - ↳ forward
  - incorrect color
    - ↳ backwards

- 2 {
  - move elevator until TOP
    - ↳ again, will require ~~turning~~ to ensure when TOP, also BOTTOM

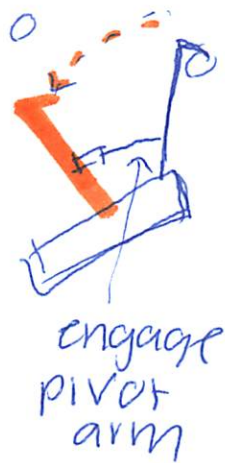
# Next rung R1 to R2

step 1)

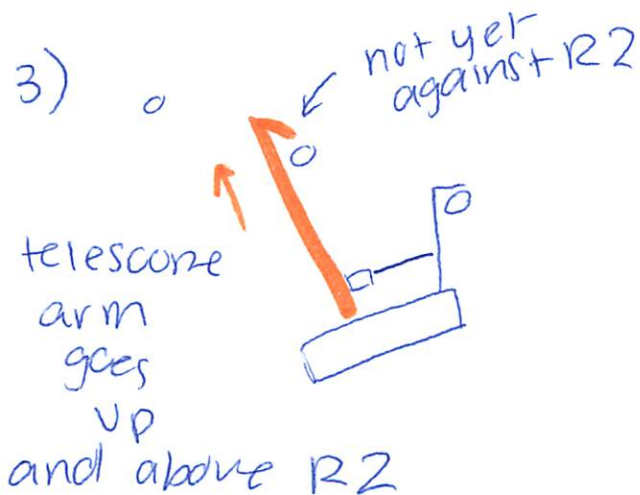


limit switches already on, can move onto step 2 already

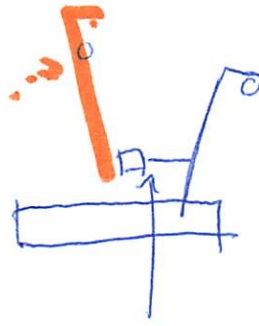
step 2)



step 3)

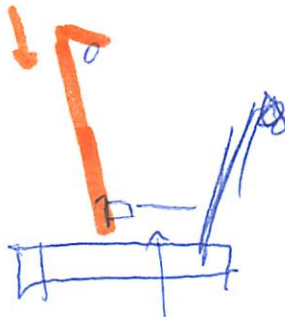


step 4)



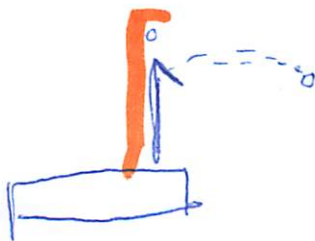
disengage piston  
(pivot arm comes  
back in),  
which stams  
telescope arm into RZ

step 5)



piston still  
disengaged  
telescope  
arm goes down

step 6)



Keep piston  
arm disengaged  
and  
continue  
lowering telescoping  
arm until  
limit switch  
no longer engaged

# Buttons

everything automated



- climbs R1
- climbs to R2
- climbs to R3

R1 up  
R1 down  
toggle



- raises or lowers telescoping arm
- toggles between up and down
- ends on static arm

next rung



- climbs to next rung
- ends ~~the~~ telescoping arm ~~static~~ arm
- on telescoping arm ONCE
- limit switch is NOT engaged

sensor board

- keep track of which rung robot is climbing to
- if climbing to 2, end on static arm
  - if climbing to

R3



end on telescoping arm

R2



end on telescoping arm

R1



end on static arm

- starts:  
if no limit switch, move up until limit switch sees something



R1 up next rung  
R1 down

R1 up

~~comp~~ manual climb  
w/ limit switches

R1 down

telescope  
arm down

NEW  
already  
on  
R1



until

~~limit switches~~

~~are~~

~~contacting R1~~

OR

telescope  
arm  
reaches  
minimum  
height

PCV that

having limit  
switches <sup>on pivots</sup> engage it

(tunable  
distance)

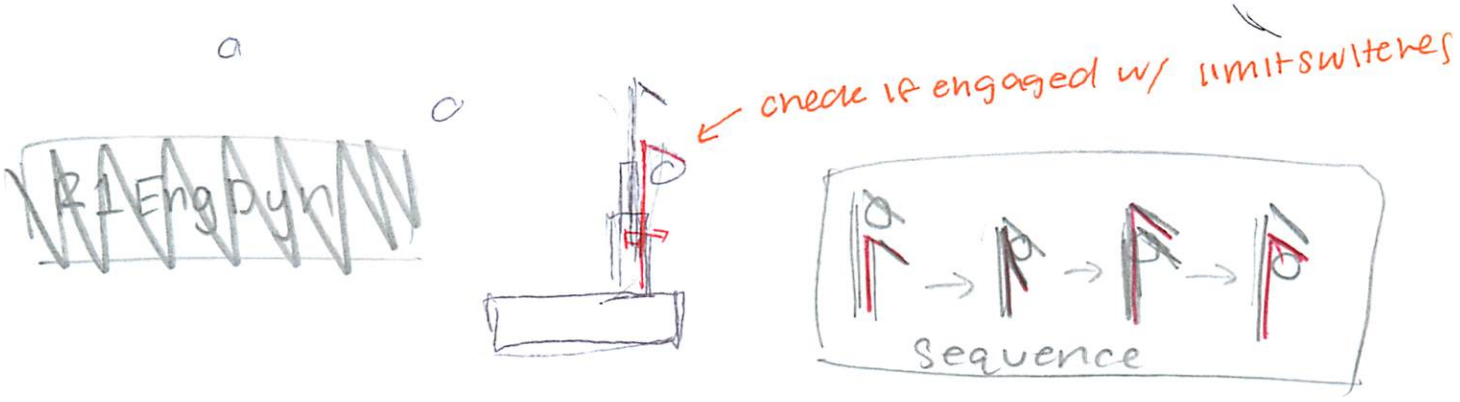


new  
contacting

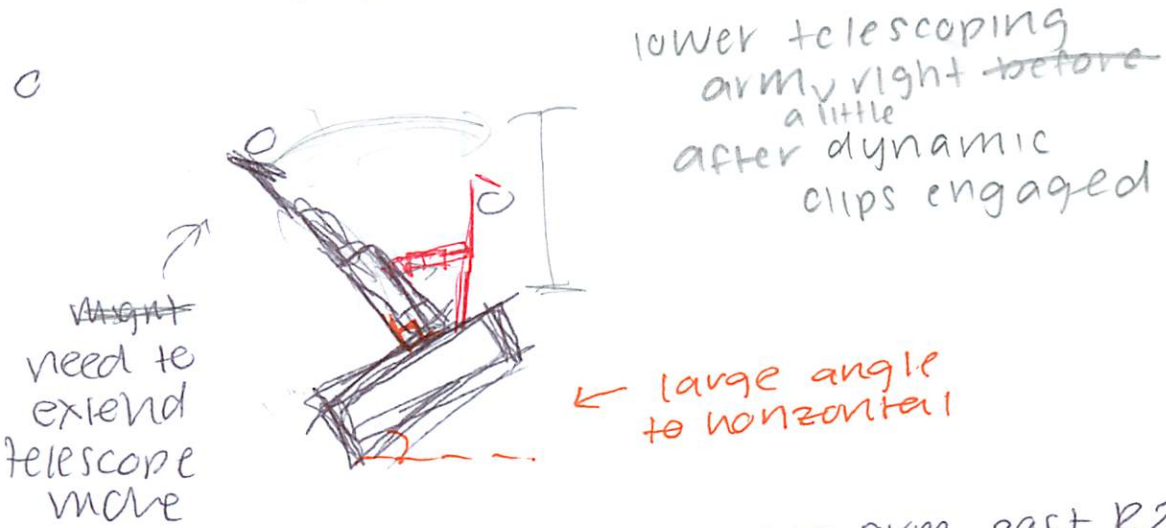
telescope  
arm up  
until above  
R1

(tunable  
distance)

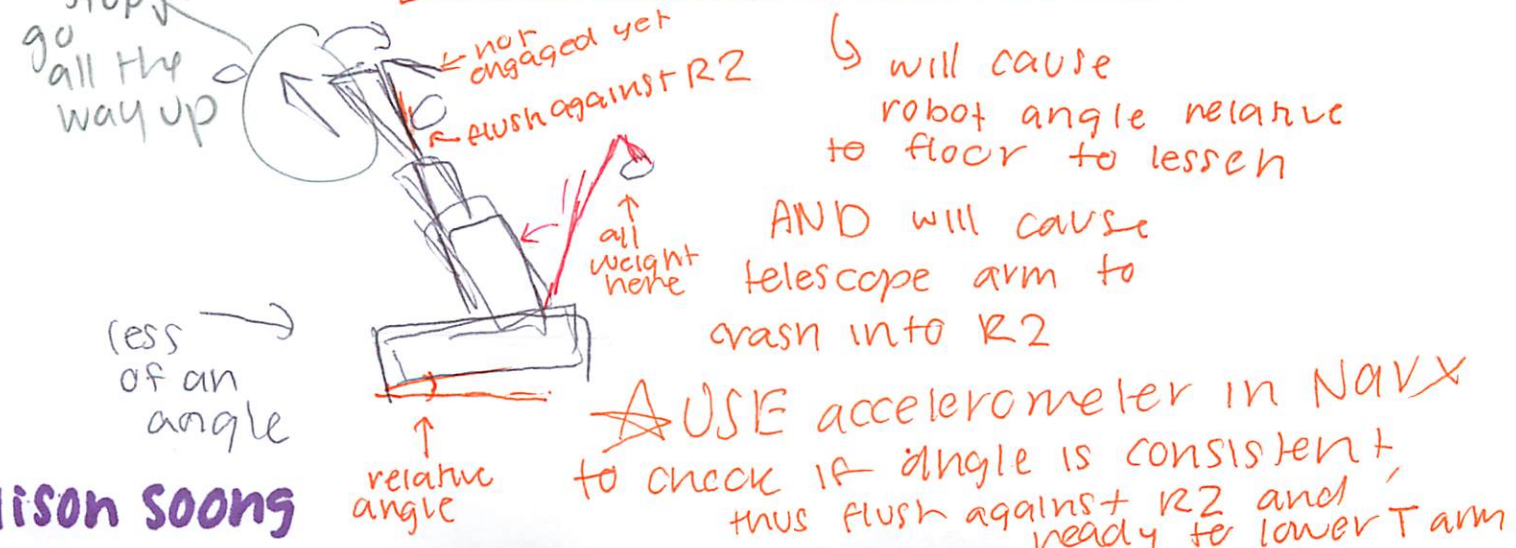
STEP 4: dynamic arms clips pass R1 and then telescope goes down



STEP 5: engage piston — inevitably hits robot



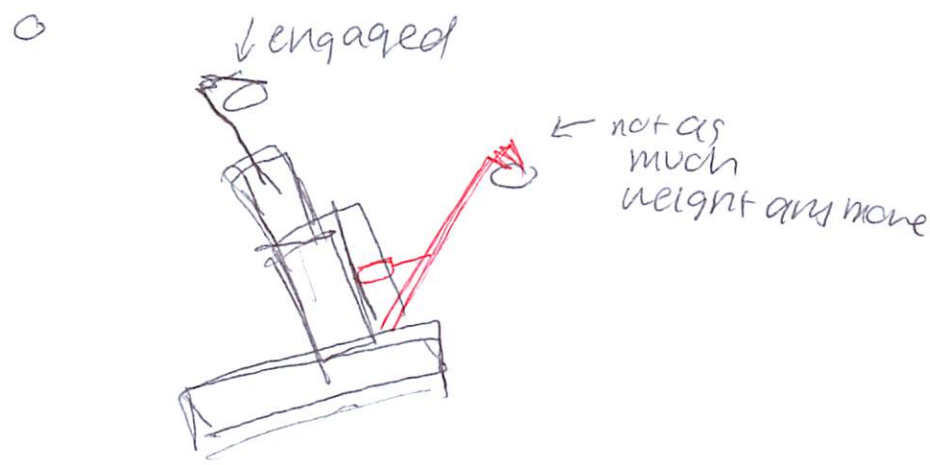
STEP 6: extend telescope and then disengage dynamic arm piston



6

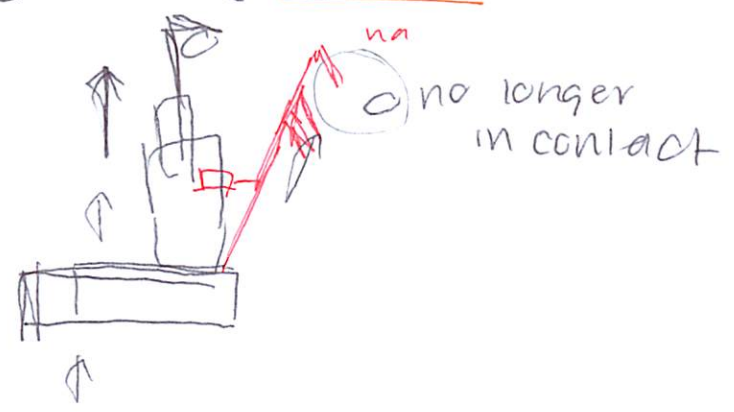
STEP 7: lower telescope arm, engage w/ R2, check if fully engaged.

~~R1 R2~~  
~~stage is done once~~  
~~piston is disengaged~~



STEP 8: lower telescope arm further until dynamic arm no longer contacts R1

← swinging a bit I think



STEP 9: disengage piston



DONE w/  
R1 - R2  
process/climb

FOR R3 cmd:  
engage break for winch  
pneumatics



