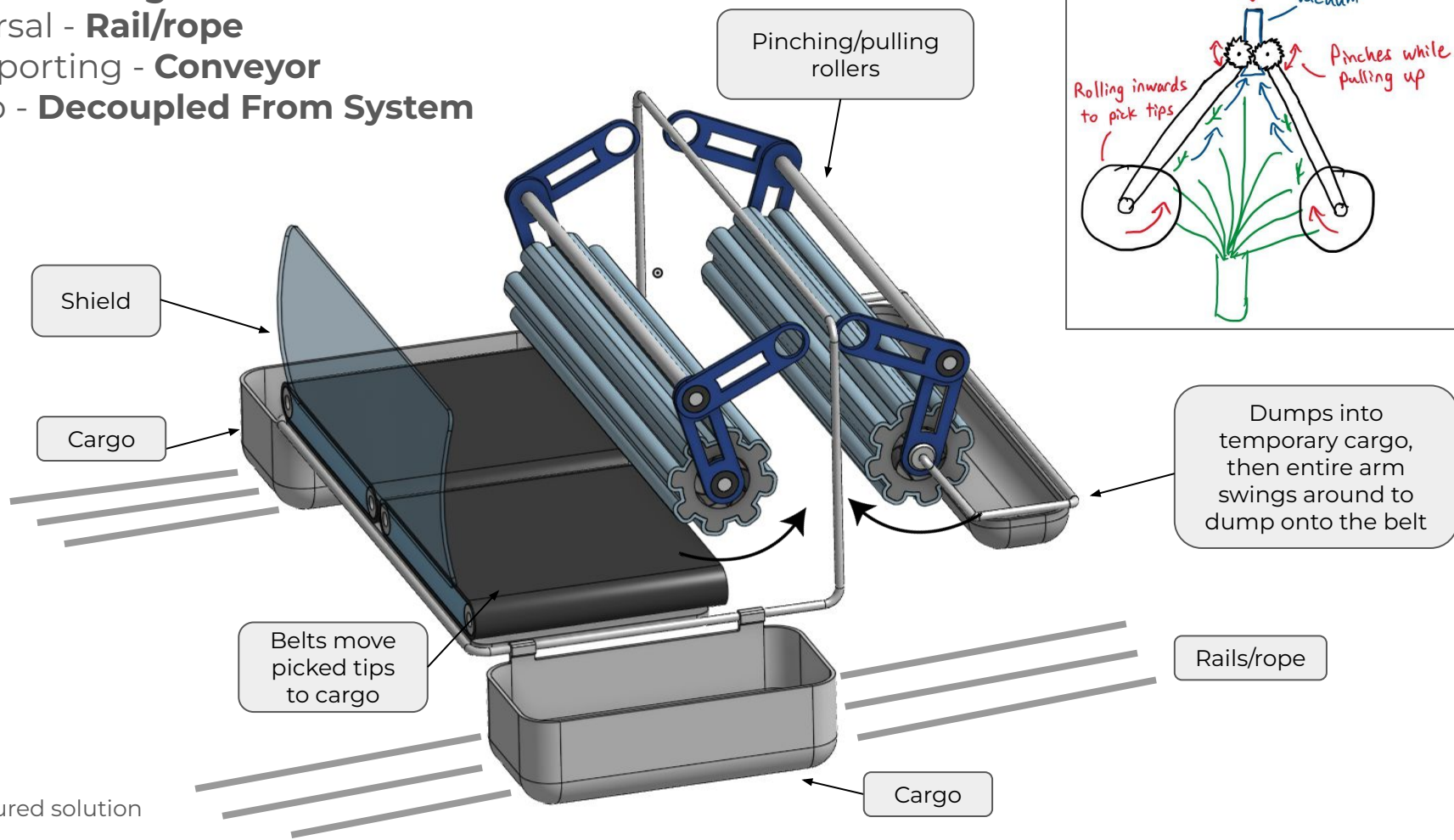
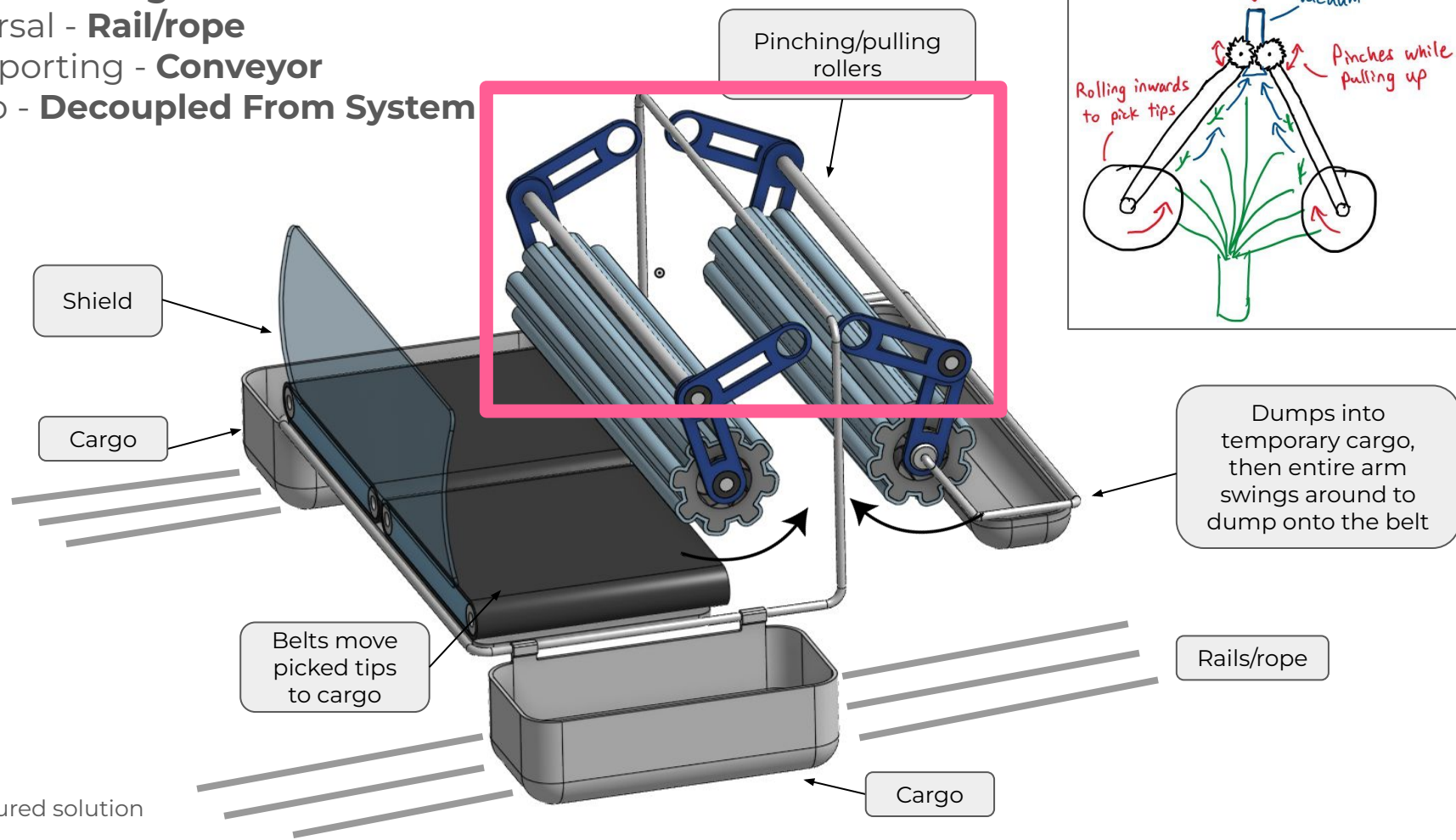
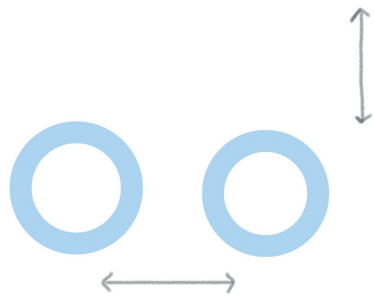


Picker - **Rolling Grabber**  
Traversal - **Rail/rope**  
Transporting - **Conveyor**  
Cargo - **Decoupled From System**

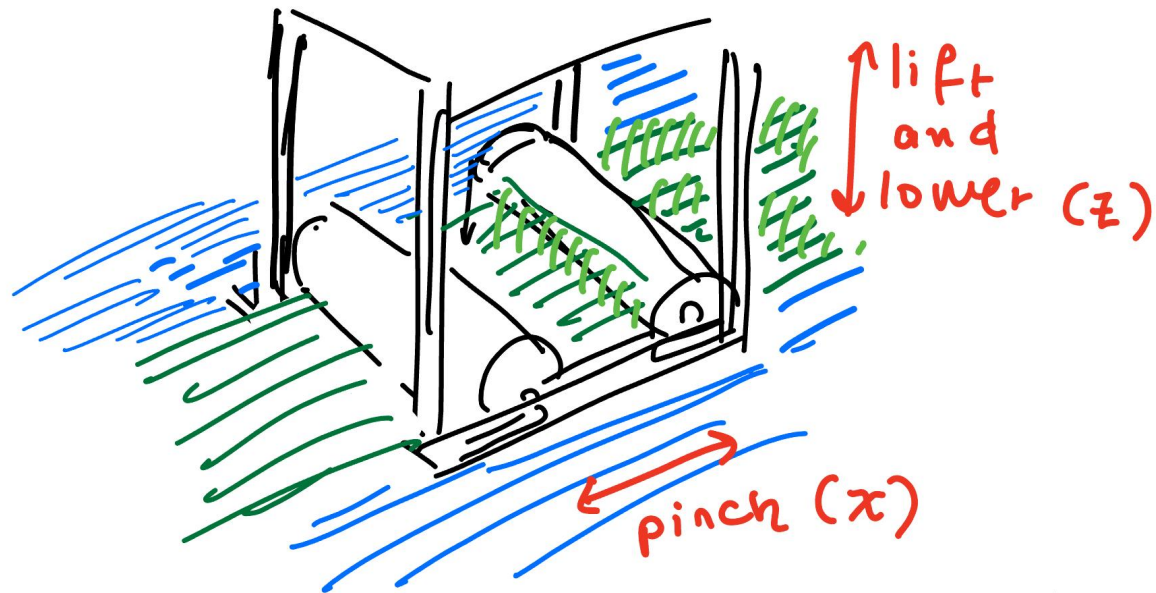


Picker - **Rolling Grabber**  
Traversal - **Rail/rope**  
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Cargo - **Decoupled From System**



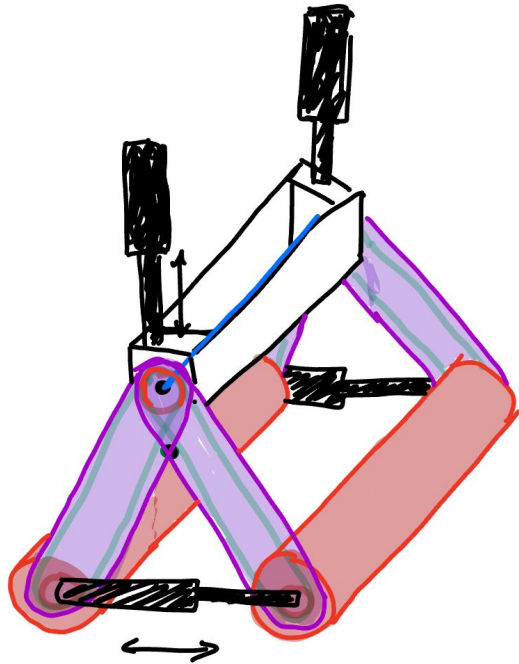


1. Lower ( $z$ )
2. close ( $x$ ) ← compliant
3. Lift ( $z$ )
4. open ( $x$ )

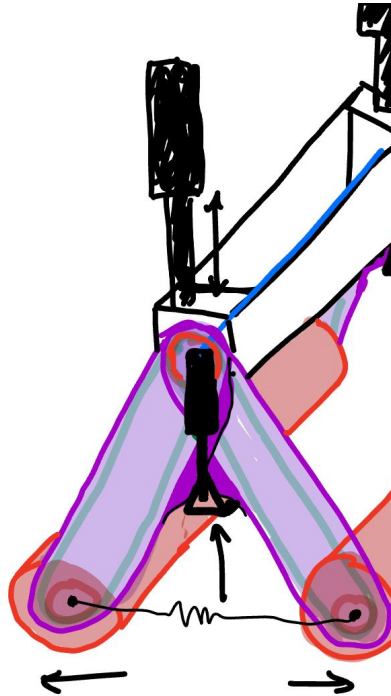


## X Movement

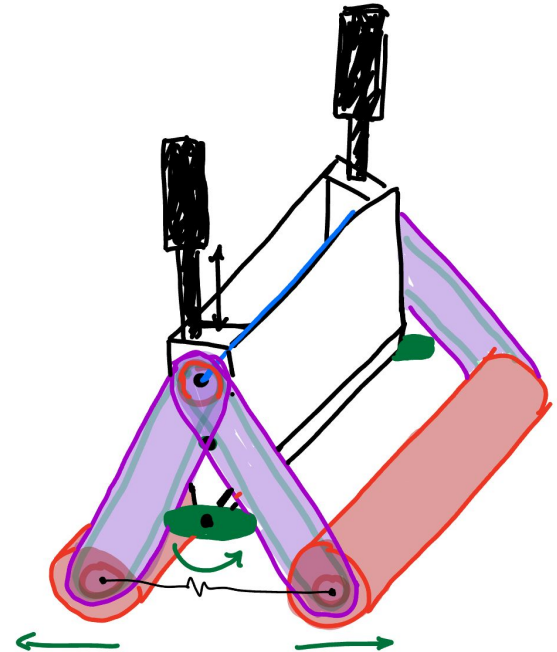
Piston



Wedge

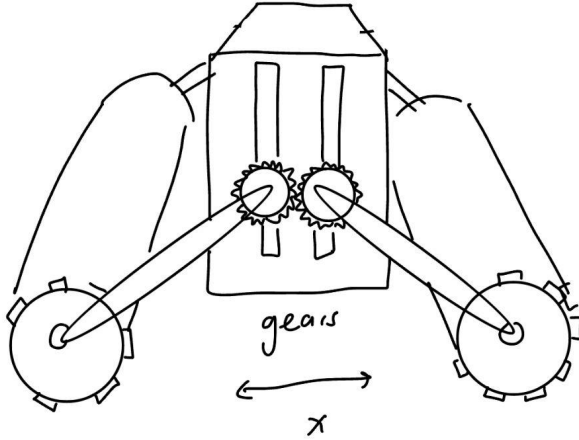


Cam

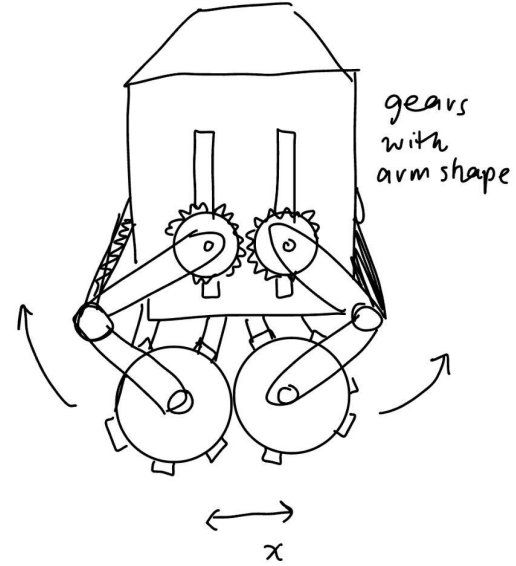


## X Movement

Gears



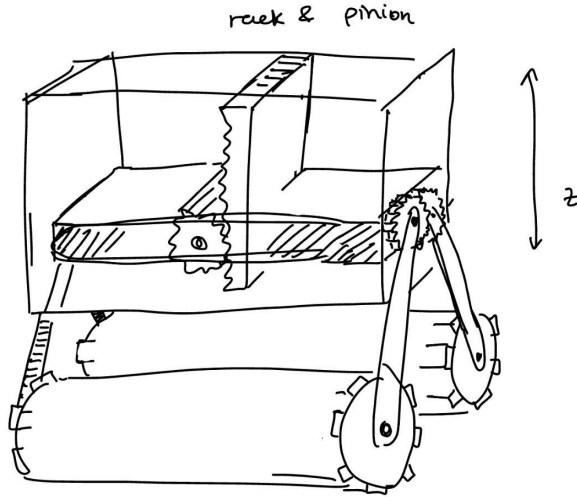
Gears - 2 Joint



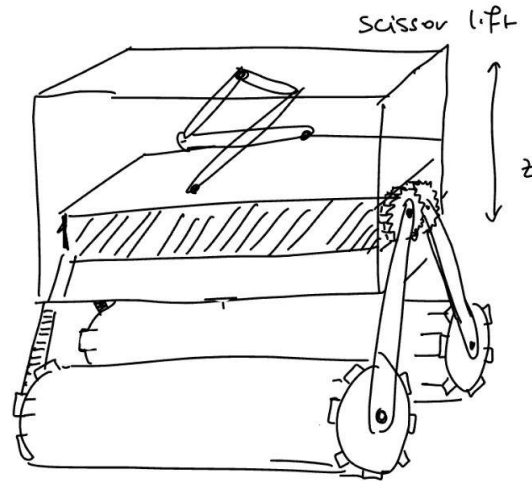


## Z Movement

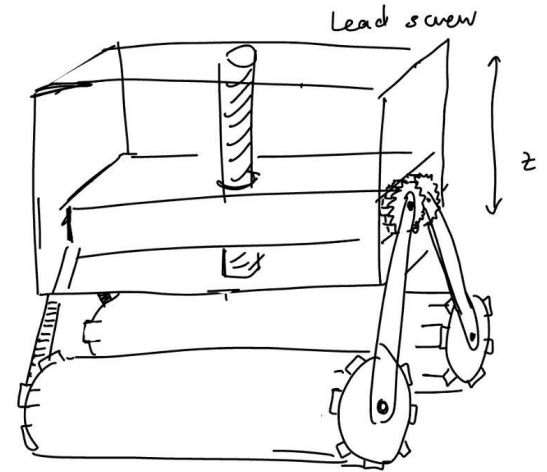
Rack and Pinion



Scissor

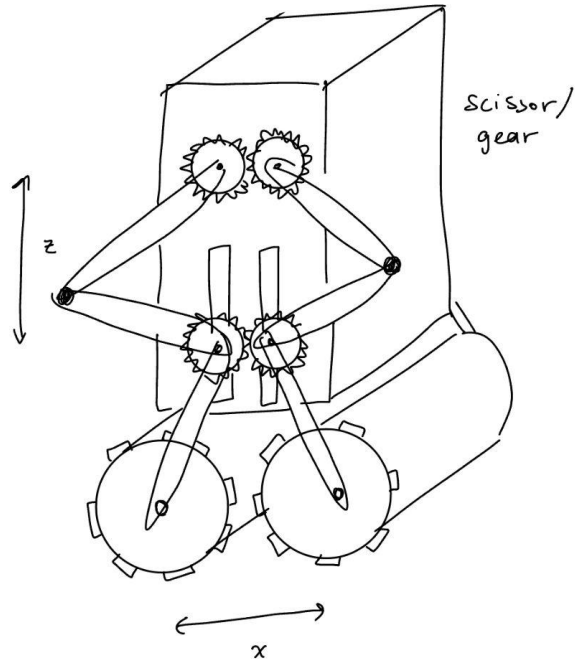


Lead Screw

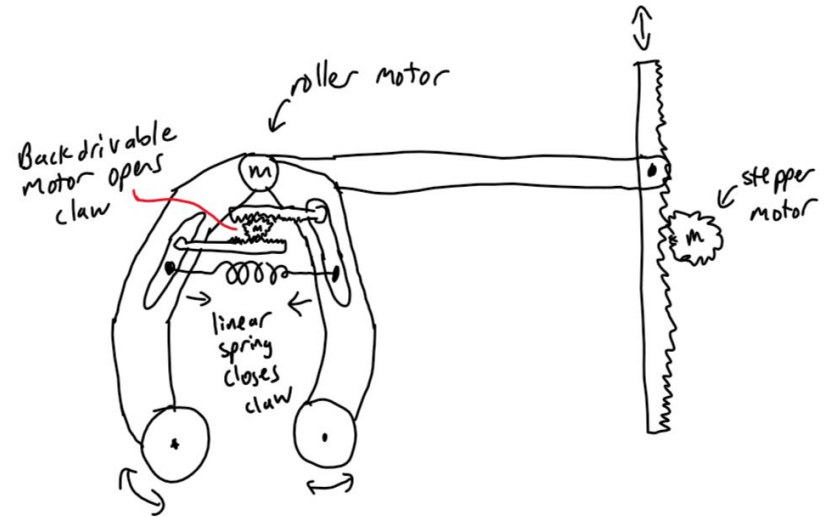


## X & Z Movement

Gears with Scissor Z movement



Rack-tuation





# Questions

- What is your opinion on adding pneumatics? We are hesitant but curious.
- What do you think about the actuation ideas from a realistic point of view?
- Is there any space in the SDC that we could build and leave our stuff instead of bringing it home, especially as stuff keeps getting heavier?
- Do you know anybody that might want to get rid of old hardware?
- Any companies that would be interested in sponsoring?