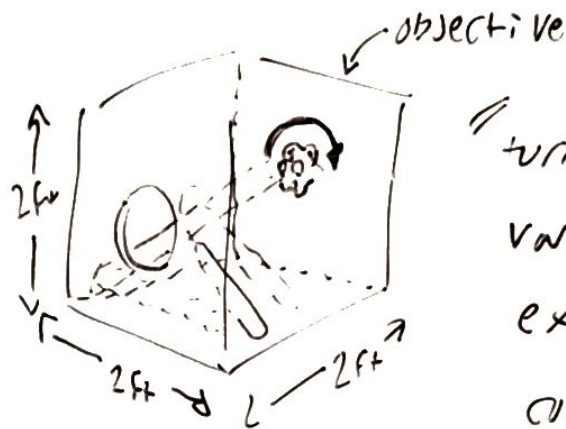
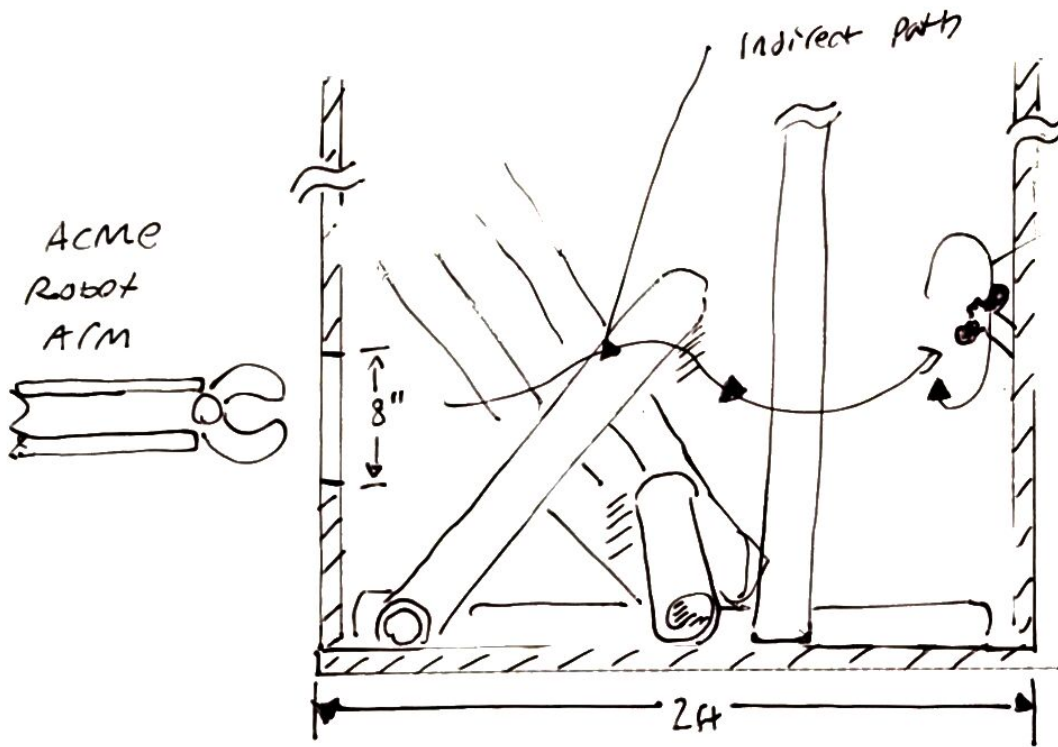


ARM IDEAS

COMPLEX
Array



Turn a standard size
valve located on the
exit side of the
complex array "



Requirements

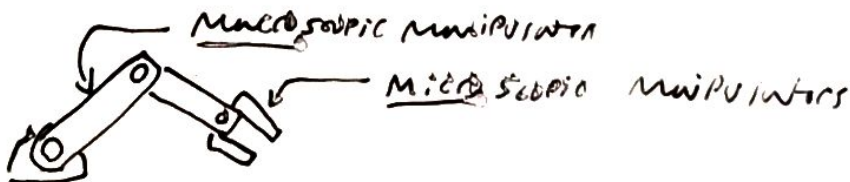
- not contact CA
- dexterity to manipulate arbitrary shaped objects
- raise valve

Team Imposed Requirements

- modular design (can introduce repeatable segments)
- scalable (can be implemented for larger robots)
- minimized self weight of arm
- use pneumatic or powerscrew actuation.

In short, the design should be
① strong, ② agile and ③ capable of
handling arbitrary objects.

There are two Big Picture
approaches to [↑]Microscopic - Manipulators
(i.e. Robustarm Strategies)



Approach 1 : "Discrete"

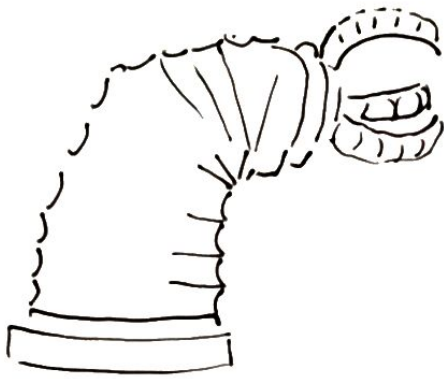


Features

- capable of fairly heavy loads
Example (FANUC PWlet Robot)
- well-defined range of motion
- depends: grippers / "microscopic manipulators"
can vary. Often have pre-defined geometry
in mind

Approach 2

"continuous"



- capable of growth strength-to-weight

ratio

(Example: "Fluid-driven origami inspired artificial muscle" MIT-Harvard collaborated robot)

- increased flexibility in viable arm paths

- capable of tentacle/trunk/bio-inspired

object manipulation in excess of

the 2- β minimum