

Tea Companion

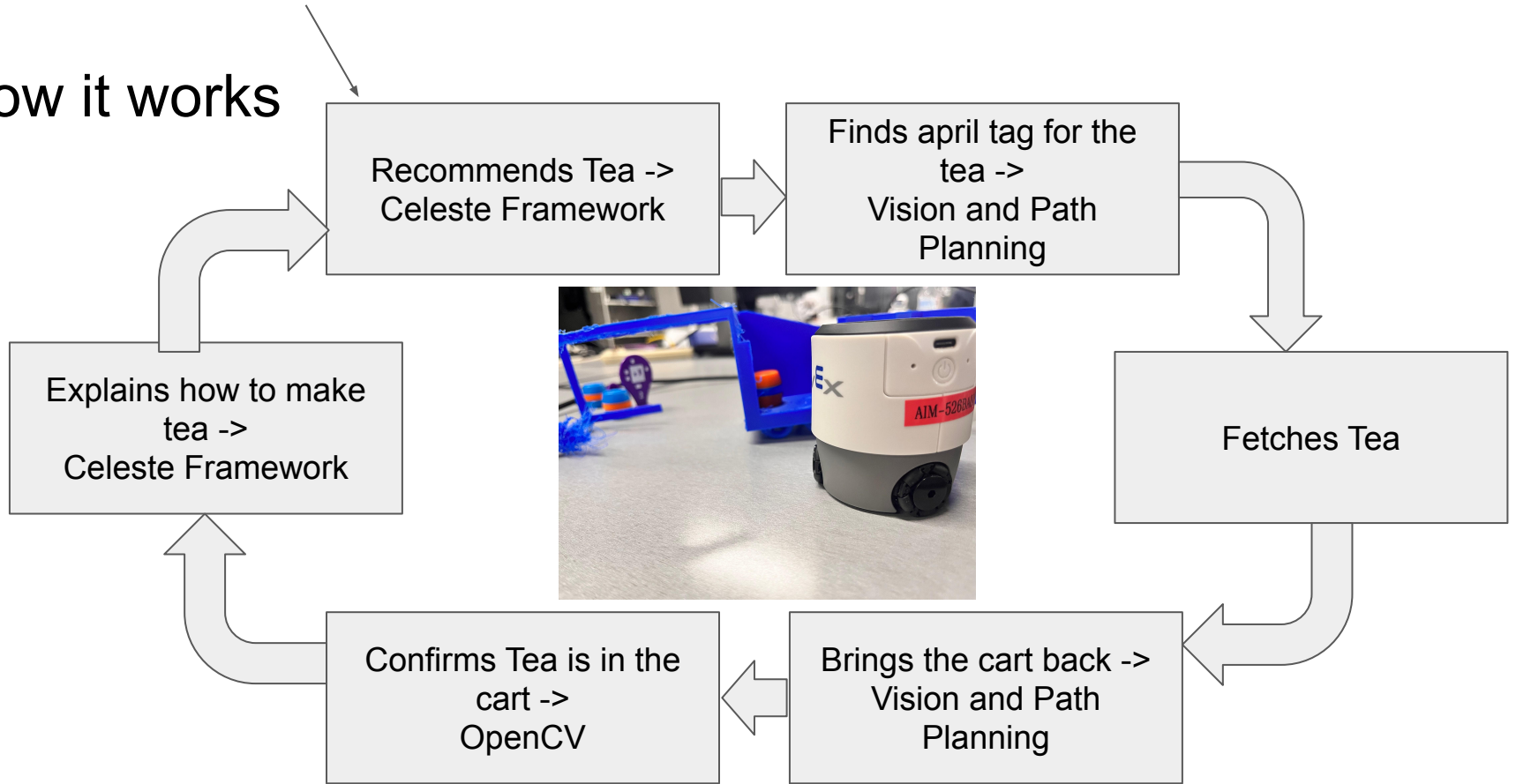
Kashvi Verma, Cindy Sun
15-494 Cognitive Robotics: The Future of Robot Toys
Spring 2026

Vex aim tea companion- Cindy Sun, Kashvi Verma

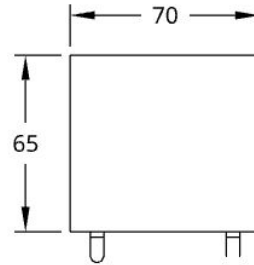
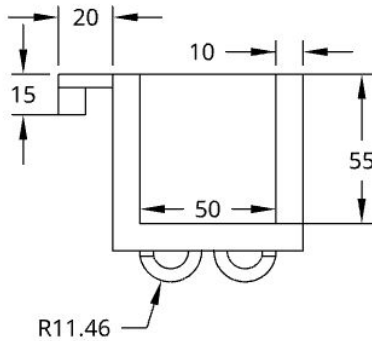
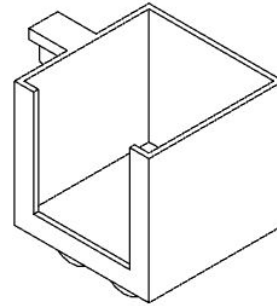
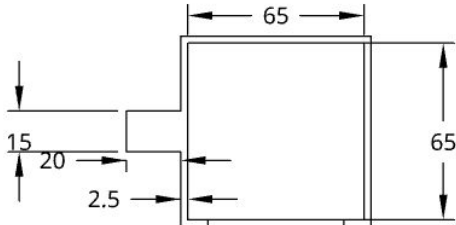
- Recommends tea depending on your condition
 - Can't sleep? Chamomile tea
 - Can't stay awake? Black tea
- Fetches tea for you
 - Store the tea in small bags with magnet attached
 - April tags indicating which tea is which
- Tells you how to best brew the tea
- Keeps you company when you drink
 - Makes small talk
 - Listen to your problems
 - Like a tea companion!



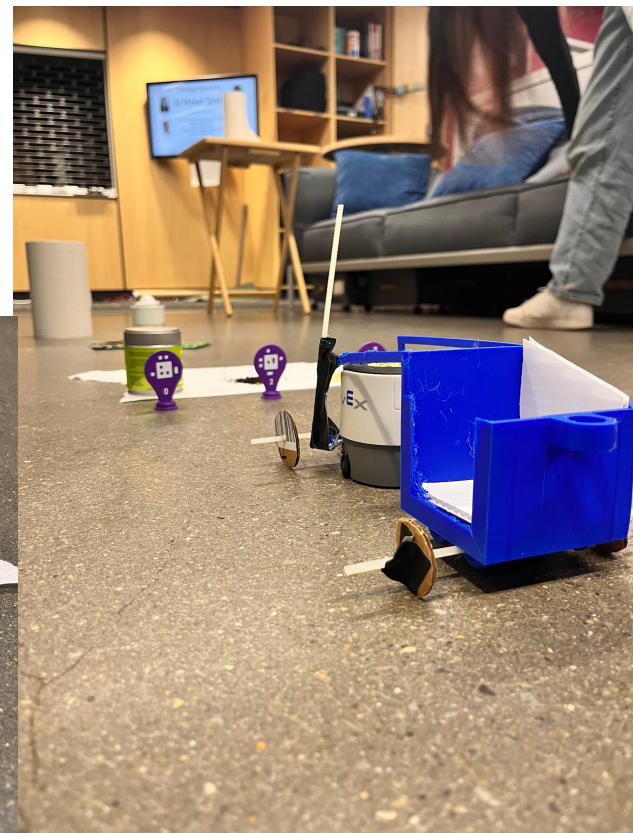
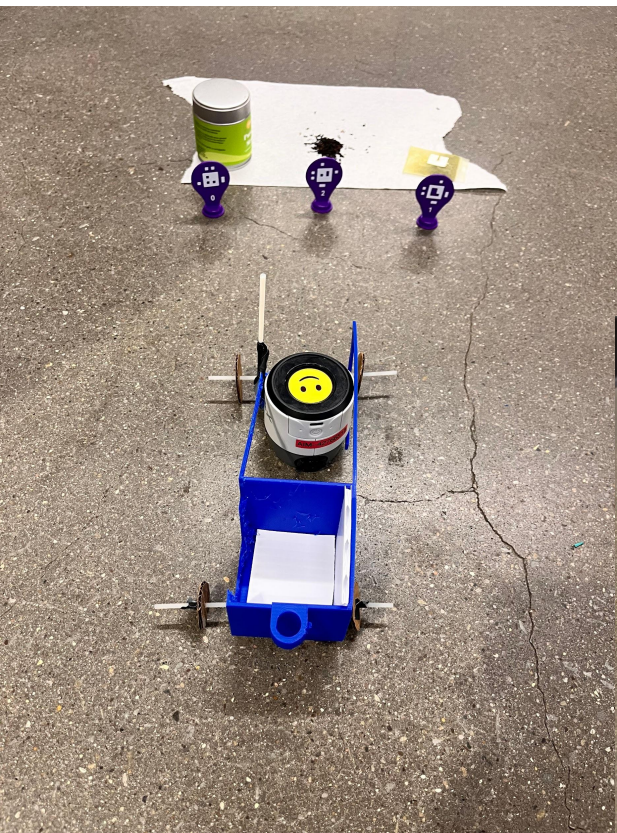
How it works



Carriage Design - Back Cart



Initial Setup



Demo video



What's interesting?

April tag visibility and distance detection is subpar

Barrel detection with dark background is subpar

Chat knows a lot more about tea than we thought

The robot can't carry that much weight

Results

The robot does manage to navigate to barrels really well and does perform the intended tasks.

We had to test the carriage a bunch of times with different designs to make sure the robot could actually check if the teabag loaded or not.

The robot also struggled with the “sashay” while carrying the carriage so we had to adapt both the carriage and the function so that we could avoid the struggle.

Future Improvements

- Improve distance detection using just markers
- Standardize light colored carriage.
- Improve openCV detection capabilities
- Design a better kicker
- Make the carriage center of mass further back
- Add actual wheels
- Make it lighter
- Improve teabag detection and robot navigation

