

# September 17, 2022

## building

### *focus:*

Brainstorming/Researching

### *summary:*

As an entire subteam, we discussed the building brainstorm ideas that we discussed the night before. We started which ideas we liked the most and then researched them. We also created a design matrix that showed our priorities and their weights. We then made a slideshow on our favorite researched building ideas.

### *challenges:*

Narrowing down research questions and finding suitable resources, as well as documenting ideas completely

### *next steps:*

prioritize what should be done first and start prototyping

## coding

### *focus:*

Odometry and Controllers!

### *summary:*

We compared closed feedback loops and open feedback loops, and decided that closed feedback loops were better. We researched bang bang controllers, proportional controllers, and PID controllers.

### *challenges:*

The bang bang controllers, while easier to code, are not as effective as the PID controllers. On the other hand, the PID controllers are very effective but are a lot more time and math intensive.

### *next steps:*

Our next steps are to code the bang bang controllers as well as the tolerance code. We would have to test that. If that works successfully, then consider PID controllers as a long-term project

### *focus:*

Color sensors + OpenCV research

### *summary:*

We researched multiple libraries (OpenCV, Vuforia, and TensorFlow) to see which ones would work best with our proposed color sensor. We did some research into each and compared them to each other (including whether or not they were compatible with each other). We decided to test OpenCV first, because it was the easiest and we already had base code.

### *challenges:*

Vuforia and TensorFlow are harder and more time intensive than OpenCV, and we don't have as much code to base it off of. It's also challenging to incorporate Vuforia image recognition into OpenCV.

**next steps:**

Start doing more research on OpenCV and figure out how we will use it with the Power Play challenge. We should also refresh ourselves on how we used OpenCV last season (what worked well and what didn't)

**focus:**

Brainstorming For a Whole Year Timeline

**summary:**

We split our tasks into seasons and brainstormed a lot of new approaches to past tasks. We've brainstormed a lot of outreach events, sponsors, and ways to solidify each team's personality

**challenges:**

We want to run a 5k but audrey says no

**next steps:**

Move tasks to deadlines task list, research sponsors, begin making PR packet