

CODE - CREATE - CHECKMATE

**Team 1909E**  
**Evan, Parth, Rishi, Vinny, Yash**

## Brainstorming

Invite a student to lead the session, and help them stay on task by repeating the title of the sessions when they stray from the objective. Appoint a student to record all of the information on a whiteboard, large paper on the wall, on the computer, or directly into this engineering notebook. Begin with **What Not How**. Let students come up with what they want the robot to do, not how they plan to do it. The design process will follow after the strategy has been developed and agreed upon.

- An arm design to prevent the robot getting stuck, scoring more efficiently and getting touch down.
- A claw to trap the disks and push disks into the Scoring zone. Walls to prevent disks from interfering with robots omni wheels. A contraption for the purple mechanism. Swapping gears for the maximum speed.

## Game Strategy

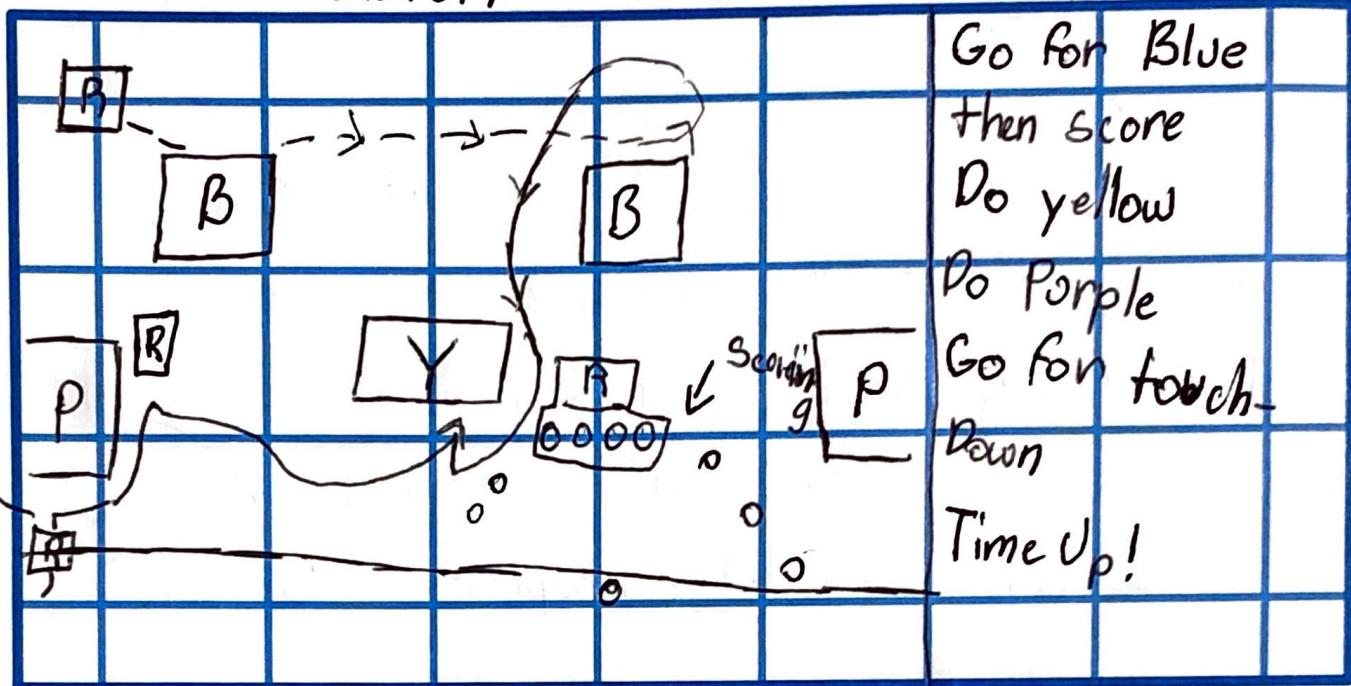
- We start off with the blue mechanism = 20 points = 20-25 sec
- Score points into the zone = 1-10 varies on how many are there = 10 sec
- Do yellow mechanism while scoring = 9-11 points = 5 sec
- The purple mechanism at the 15 sec mark =
- Try to do touch down at 8 second mark

R = Robot

O = Disks

1 B = Blue Mechanism

Field Diagram



Think .....

Do .....

Test .....

Pushbot can only score ~60 points.

- Drive better?
- Improve Robot?

Tried fixing old pushbot, unsuccessful due to improper placing of pieces. We decided to create a whole another robot and take this one down. From a youtube video we got inspiration to create a ~~flywheel~~ flywheel robot.

name .....

date .....

The flywheel robot is finished in a week!

Problems

- Small purple spinner
- lacks Blue dispensing mechanism
- Wheels Skip Chains and are slow
- Seesaw Constantly coming off
- Not properly coded yet.
- Hard to get yellow dispenser
- inaccurate for shooting (yet)

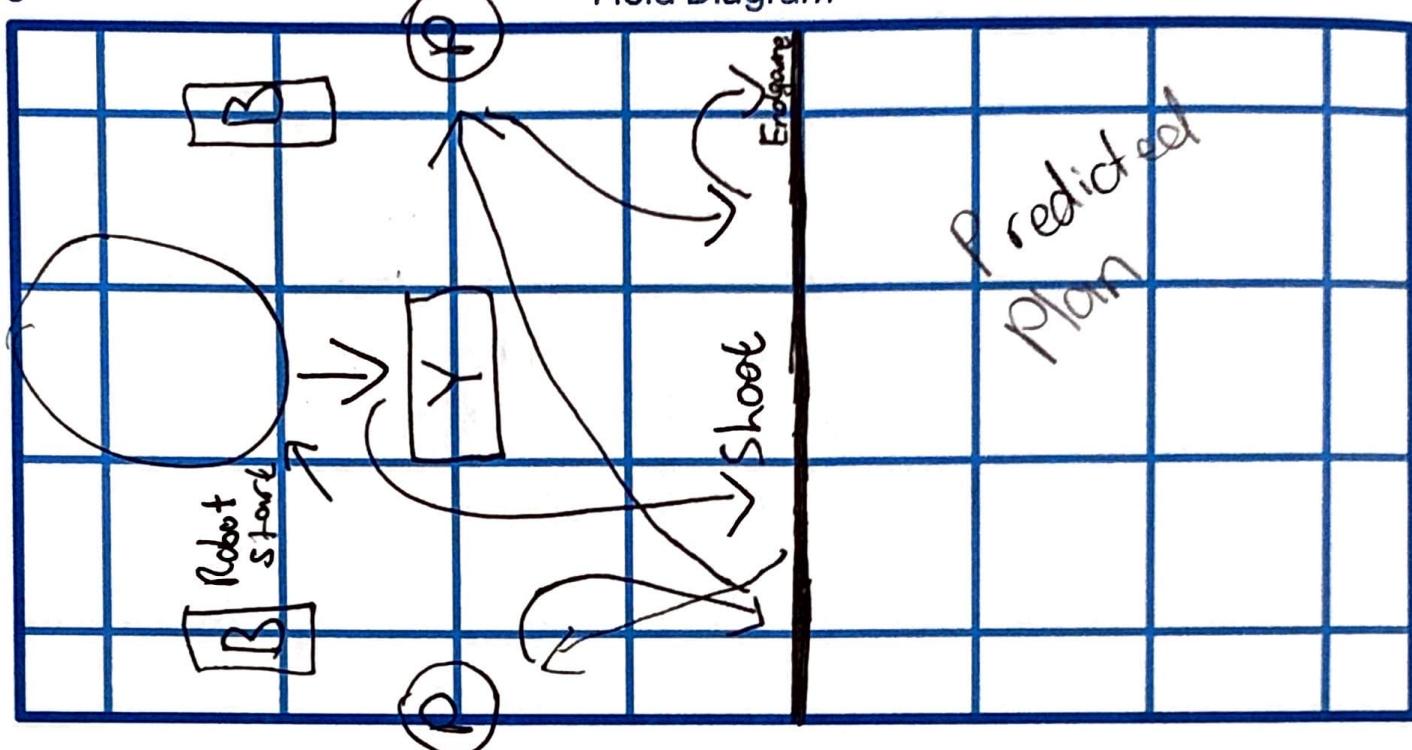
Good things/abilities

- can get yellow
- touchdown up to 4 point zone
- potentially accurate?
- can get purple (fast enough?)

name .....

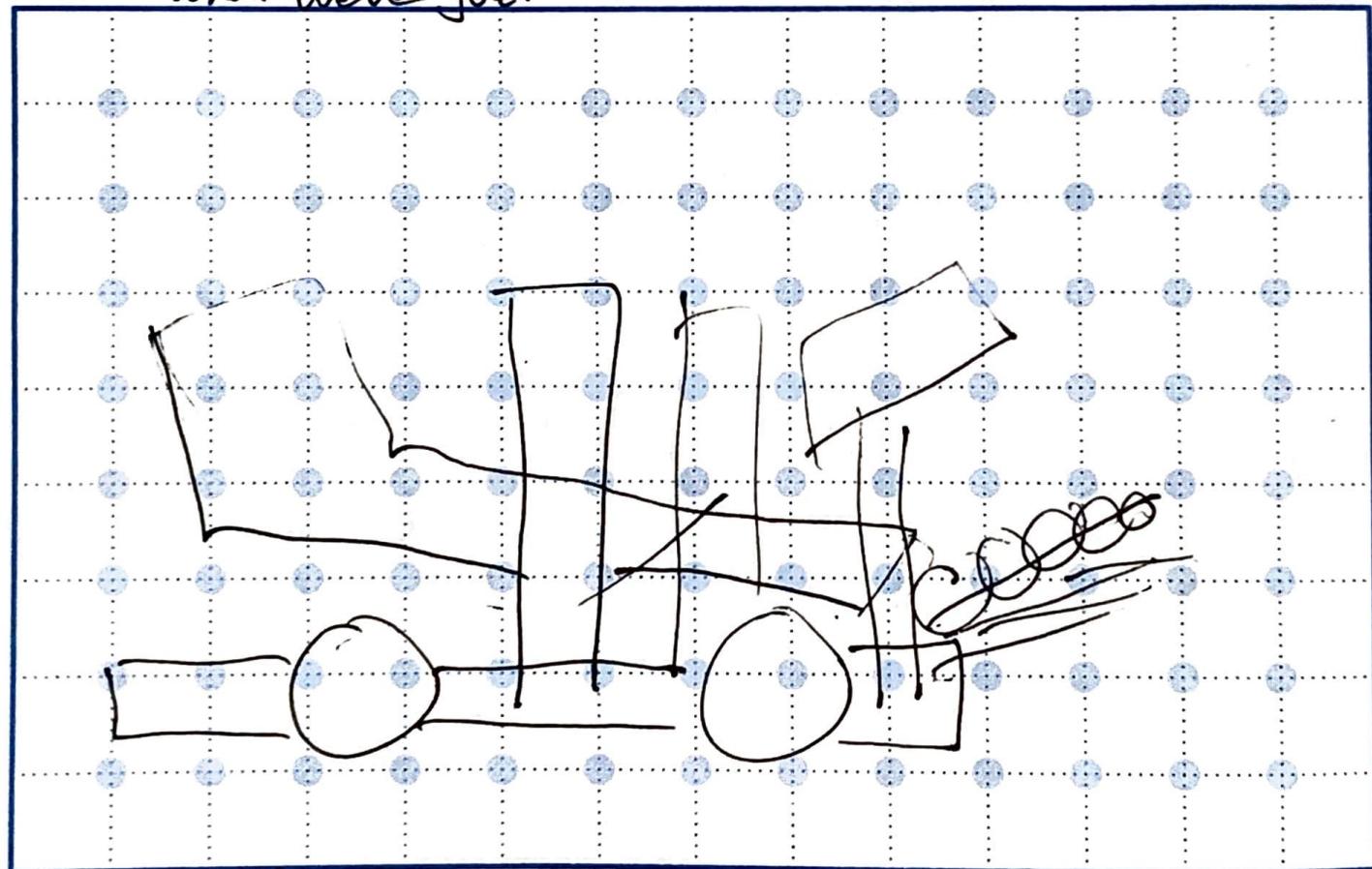
date .....

## Field Diagram



- Think
- Do
- Test

Our robot is unable to get the disks in the blue mechanism, so we are going to try our best with what we've got.



name Evan Lang,  
date 12/10/22



Keep your parts organized. It will save time when you are building!

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## December competition summary

- didn't do well enough for state qualifier
- Robot problems influenced outcomes
- WHY DID WE FIX SEESAW BREAKING ISSUE  
~~DURING AWARD CEREMONY, AND NOT EARLIER!?~~
- \*disappointment\*
- Driving Skills need great improvement
  - didn't have Blue Mechanism during competition
  - didn't have coding part of skills.

We ~~had~~ had a competition this morning;  
When we got the yellow mechanism once,  
the seesaw broke - mid competition!  
- Problem is Fixed. Now build Blue Mechanism  
\*competition

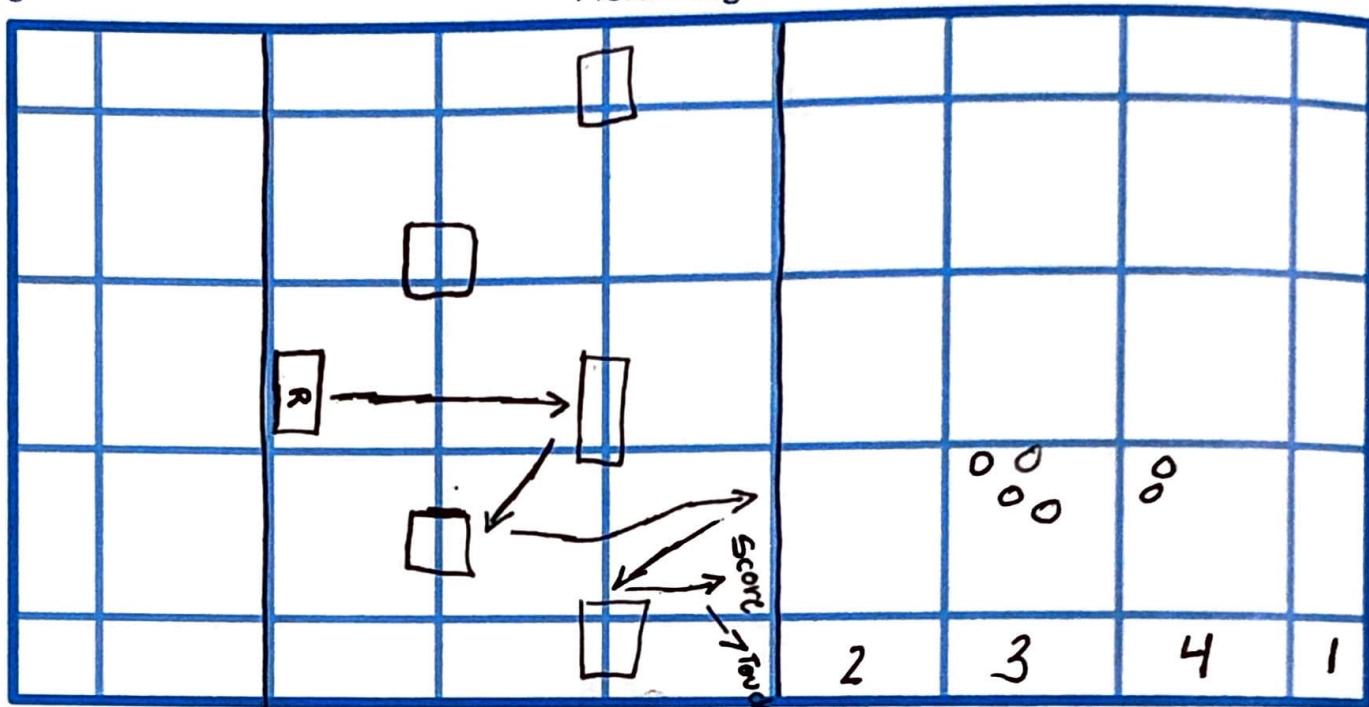
name \_\_\_\_\_

date \_\_\_\_\_

# Patch Notes of 12/18/22

5

Field Diagram



Think .....

Do .....

Test .....

- Added Blue Mechanism function and bucket.
- Made Central Seesaw axle smaller
- Fixed minor issues
- Made shooting mechanism/Flywheel easier for teammates using purple dispenser.
- Moved brain placement

name .....

date .....

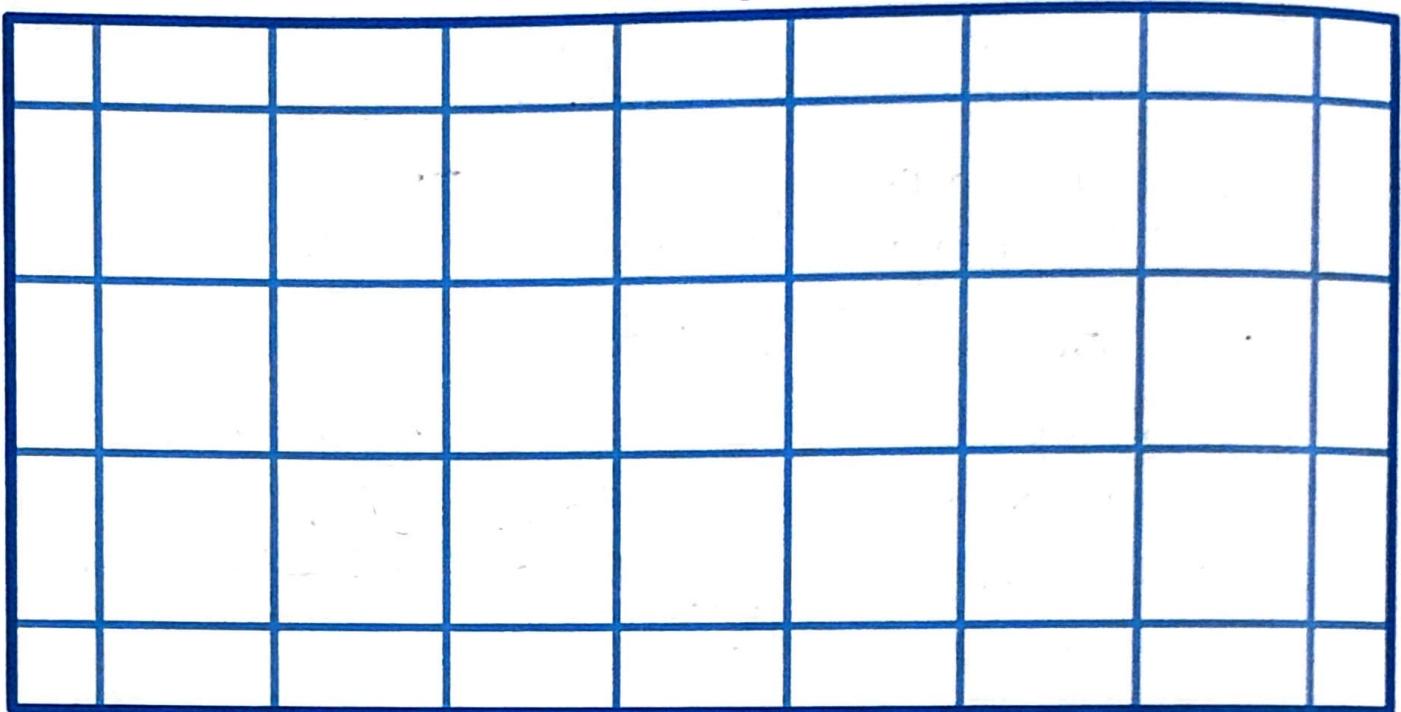
## Patch Notes of 12/21/22

- Reinforced Blue Mechanism bucket.
- Moved Anti-Cbg Stand-Offs
- Added space on Seesaw, so the bucket won't interfere with Seesaw.
- Added side Stepper so discs don't fall out when released from bucket

name .....

date .....

## Field Diagram

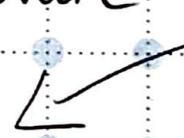
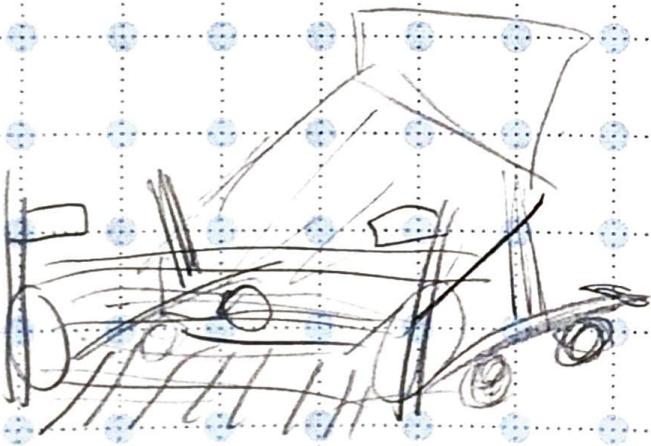


- Think .....  
 Do .....  
 Test .....

Problems

1/8

- Stoppers on the side make it hard to get yellow
- Still didn't fix gear skipping on drivetrain
- How to make shooter more accurate



Z motor flywheel?  
Remove motor  
from endgame?

name .....

date .....

## January Competition Results

1/15

- Robot did good
- For some reason, our skills driving was bad
- Coding didn't work at all
- Got Teamwork Champion

## States, Here we come!

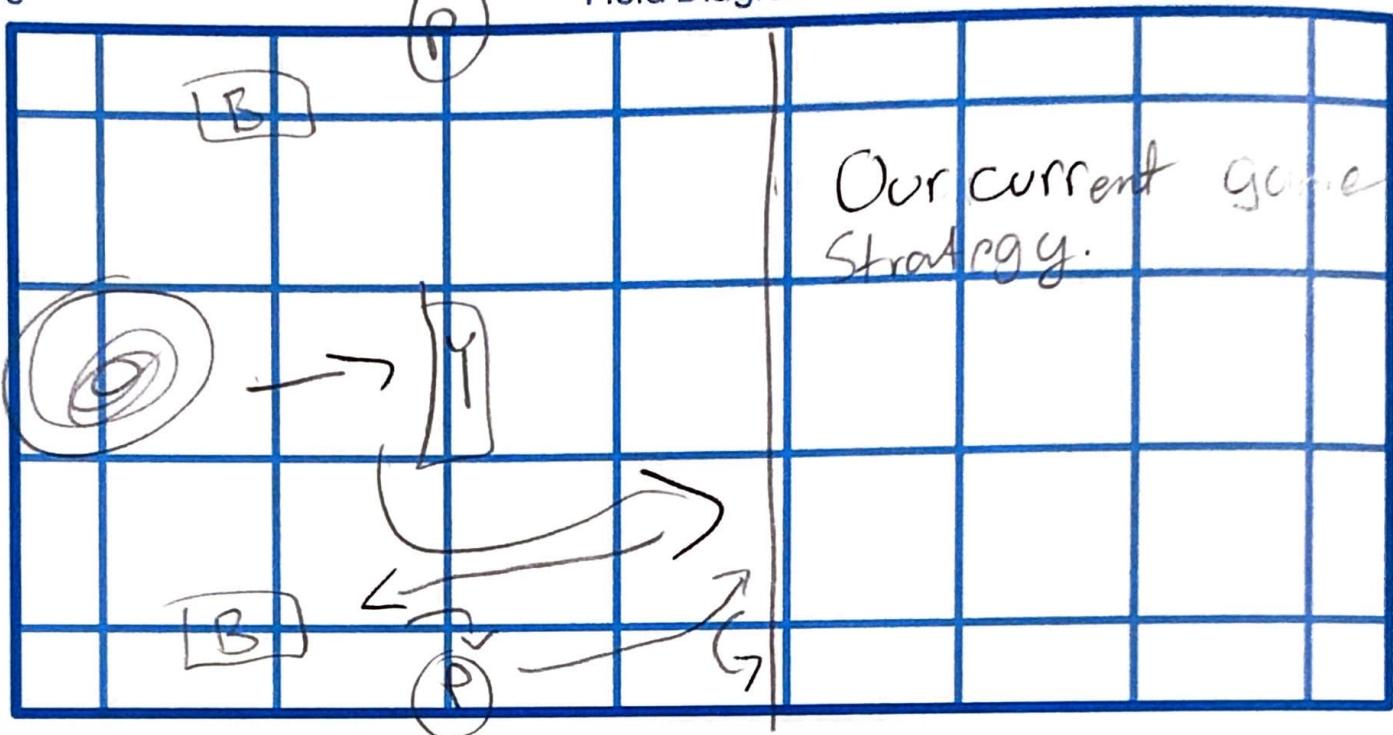
\* Made great friends with O'well teams that qualified \*

name .....

date .....



## Field Diagram



- Think .....  
 Do .....  
 Test .....

game strat might change if driving greatly improves.

→ Practice a lot of driving for state qualifiers, not much robot improvement

name .....

date .....



## States Summary 1/29

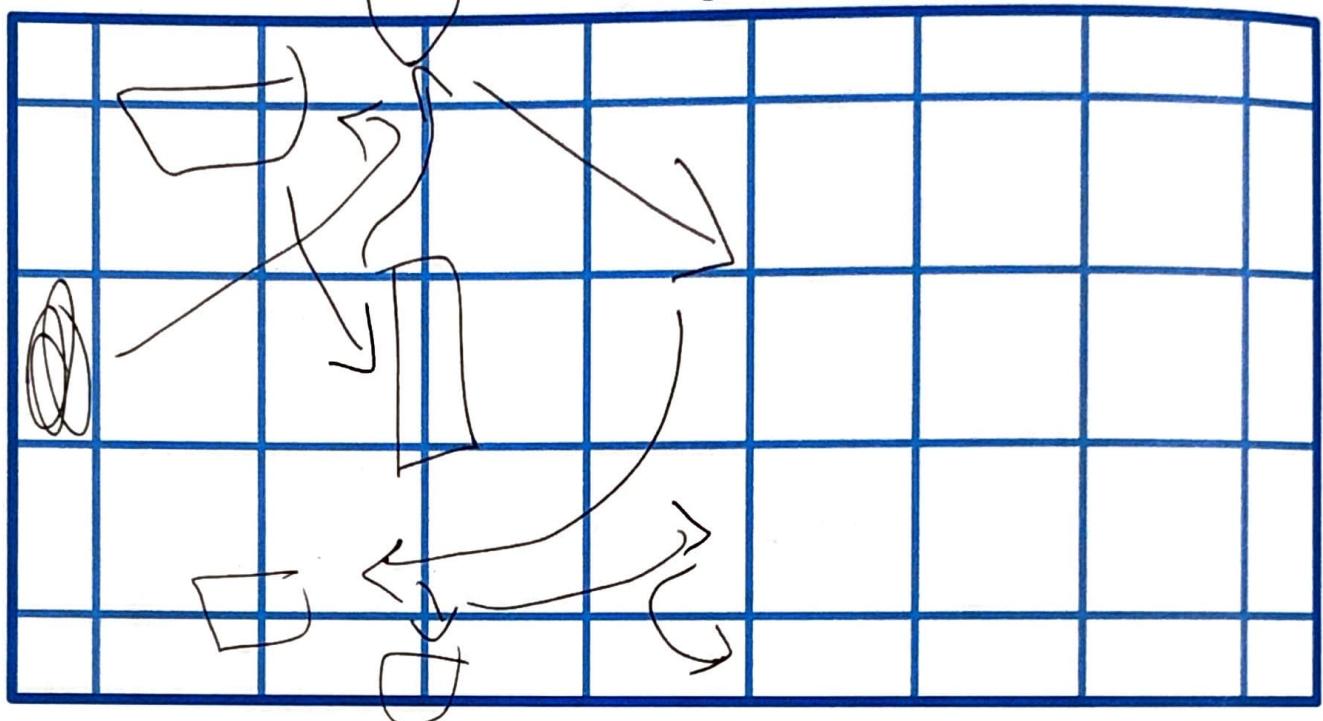
- Wow! So luxury!
- We made it into teamwork finals, but got a low, low score because the other team got disqualified, but they didn't care because they are already in Worlds.
- Our Skills was horrible
- lost all hope ...
- ... we won the AMAZE award

## Worlds, Here We Come!

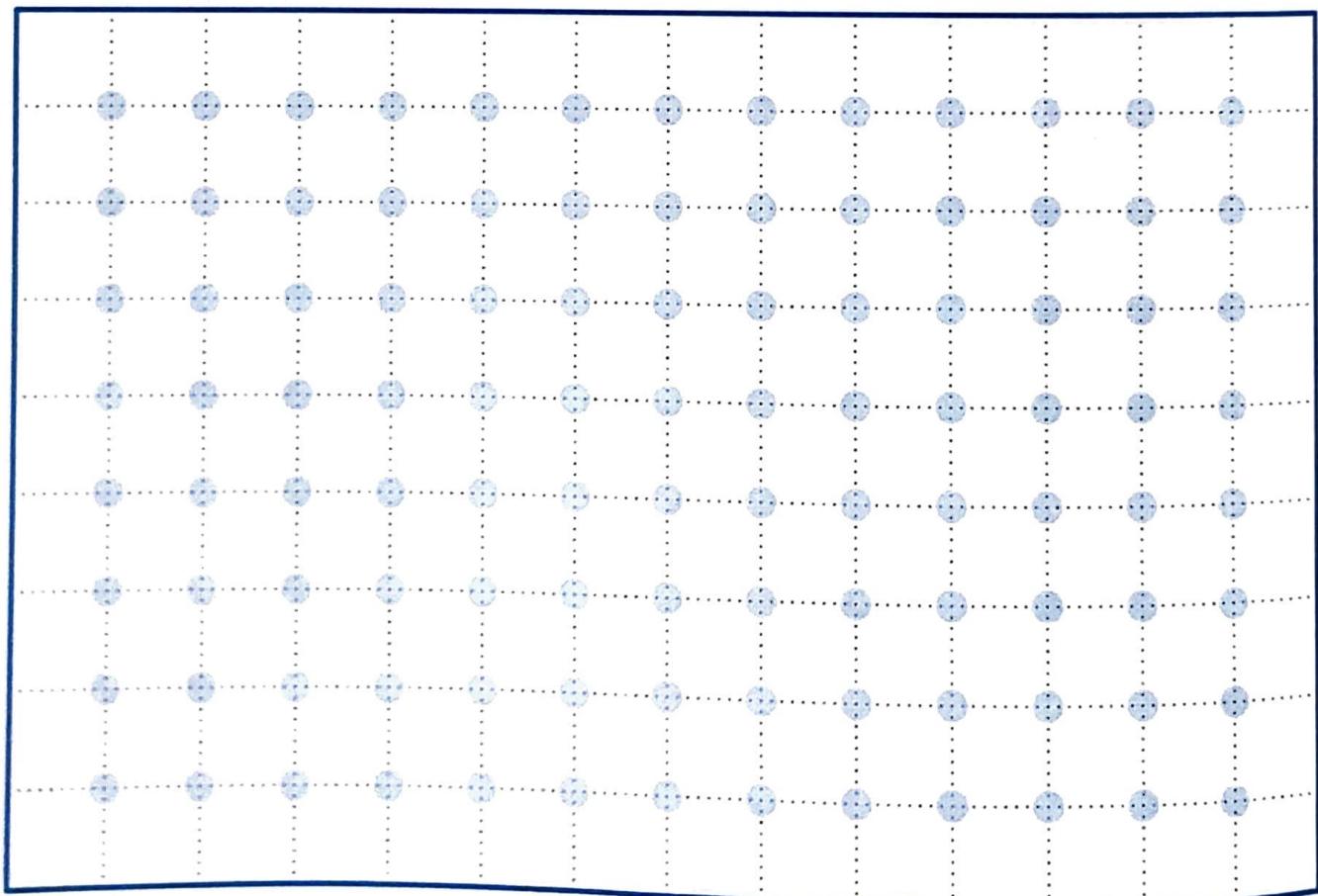
- \* We wanted the otwell teams to score lower points so that they can be paired with us in finals, but they were paired with others\*



## Field Diagram



- Think .....  
 Do .....  
 Test .....



name .....

date .....

## Patch Notes of 2/5/2023

- Removed Motor from endgame/touchdown
- Added motor to flywheel for accuracy and speed and power
- Reworked touchdown mechanism
- Made SeeSaw steeper for dispensing efficiency
- Added Extension to purple mechanism disk catcher
- 

Game plan change possibility

2/12/22

~~Changed~~ Changed Drive train system to gears  
(from chain)

- Made ~~touchdown~~ touchdown more friendly.
- Changed drive motor angle

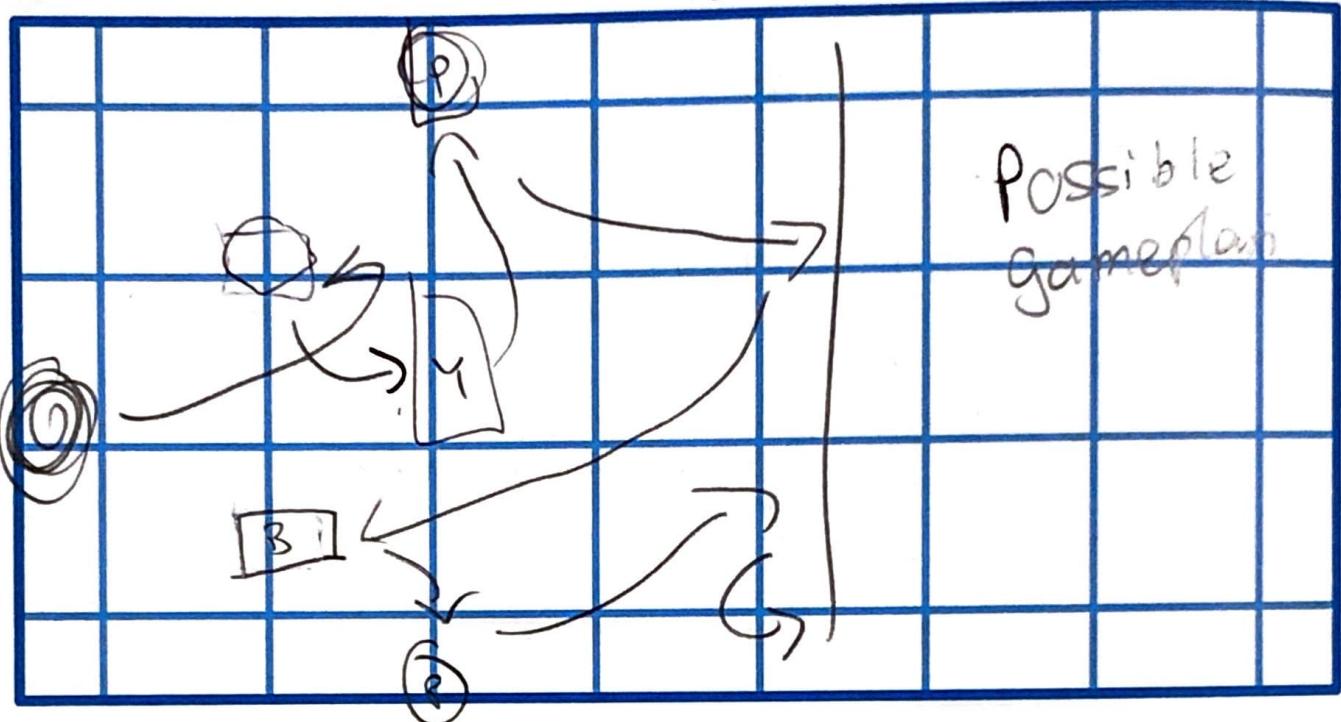
Still looking for more improvements!

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7/19/23

15

Field Diagram



Think

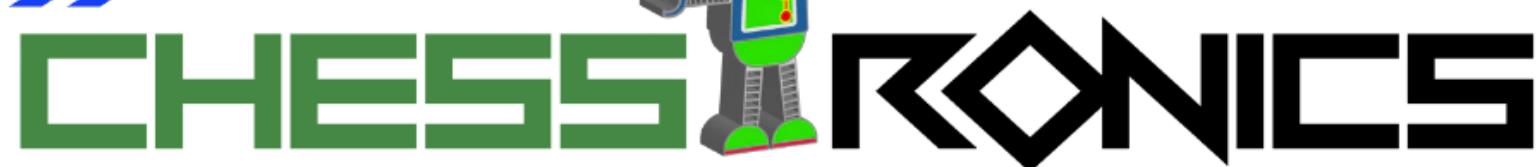
Do

Test

- Worked on Coding, a basic outline. Specific values can be edited later.
- Had group discussion on world, transportation, etc.
- Worked on driving skills and brainstormed possible game plans

name \_\_\_\_\_

date \_\_\_\_\_



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**Go Team 1909E !**