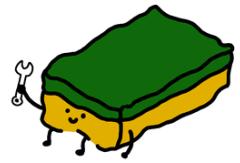


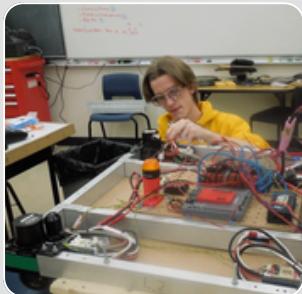
SPONGEBOTICS UPDATE

EARL OF MARCH - 7476

January 27, 2026



Kickoff @ Carleton



Contents

- Strategy
- Hardware
- Controls
- Business+



Game Explanation

Autonomous

During Autonomous, our robot operates using only pre-written code without human control. The robot collects fuel (yellow balls) and launches them into the hub (large goal with a vertical opening). Each alliance's hub is active during autonomous for 20 seconds. Robots can also climb a ladder-like tower to receive more points.



Tele-op

In this phase, drivers/operators control the robot manually. There are 4 shifts where only one alliance's hub is active, and the active hub switches back and forth. Here teams can try to gather or score, fuel or defend.

End Game

In end game, robots rush back to their alliance zone to finish scoring fuel and climb their tower on either the 1st, 2nd, or 3rd level to gain extra points.

Strategy



Rough Robot Design

We've decided to use a swerve drive train to provide more maneuverability. We've also chosen to make a short robot that can drive through the trench to improve our driving lines. We are also creating a funnel system for collecting fuel as quickly as possible.



Scouting Preparation

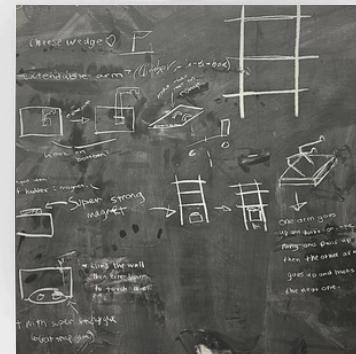
We have been discussing what to look for in other teams and how to organize data points. We have also been working on increasing efficiency by digitizing the method of gathering data. This includes deciding between watching matches live or by video and noting information by paper or using an app.



Hardware

Climber

Members working on the climber have been brainstorming possible ideas and their pros/cons. We decided to build two extendable arms from kits we have previously bought.



Indexer

After considering several options for the indexer (a system that moves the fuel to the launcher), we decided to use a hopper system (temporarily stores fuel from the intake before launching). We finished building a cardboard prototype and are currently working on the fit/size of a plywood prototype.



Mecanum Wheels

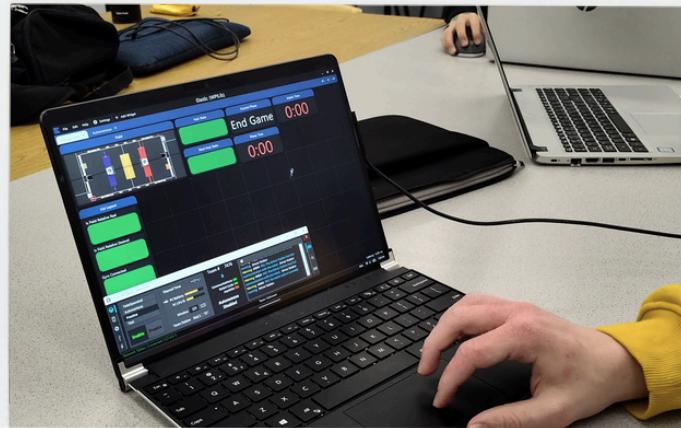
Intake

We looked at different types of wheels that would suit our criteria of flexibility and low-budget. Between mecanum wheels, star wheels and pipes with elastic bands, we ultimately chose to experiment with a “hungry hippo” design that uses mecanum wheels to direct balls into the indexer.

Controls

General

We have begun to explore different camera positions using Onshape. They're hoping to have three cameras positioned on the robot to provide maximum visibility of April Tags. We're continuing to work on improving the integration of vision with the gyroscope to enhance accuracy of the robot's concept of position in on the field.



April Tags permits the robot to "know" where it is on the field.

Field Set-Up

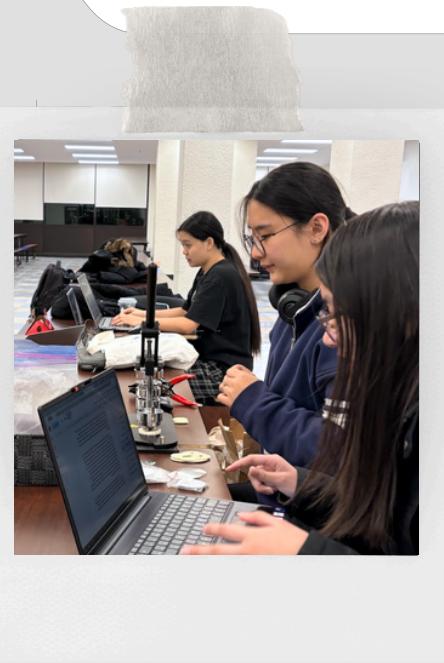
We ordered hockey style boards to enclose the practice field in the basement. We have finished setting up the controls/code and are ready to start practicing driving skills.

[Click for example](#)

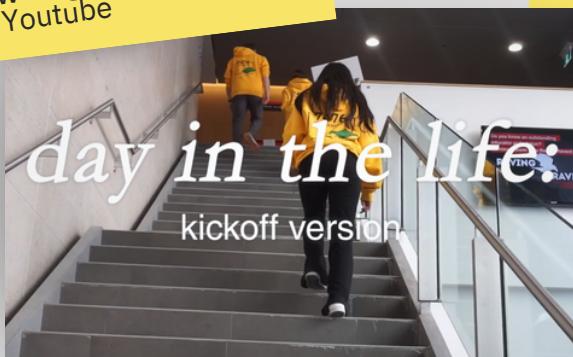
Business +

Awards

We submitted nominations for two of our team members for the Dean's List Award, honouring exceptional grade 10/11 students for leadership and dedication in FIRST. We are also finalizing a nomination for the Woodie Flowers award recognizing mentors who best inspire students through effective communication in STEM. Finally, we are completing our submission for the Impact Award, recognizing the FRC teams that best embody the mission of FIRST.

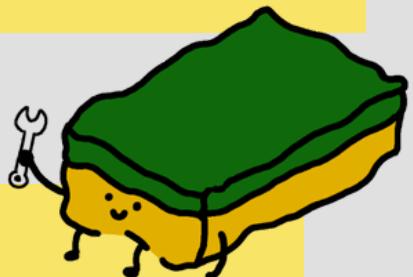


New vlog @ Spongebotics
on Youtube



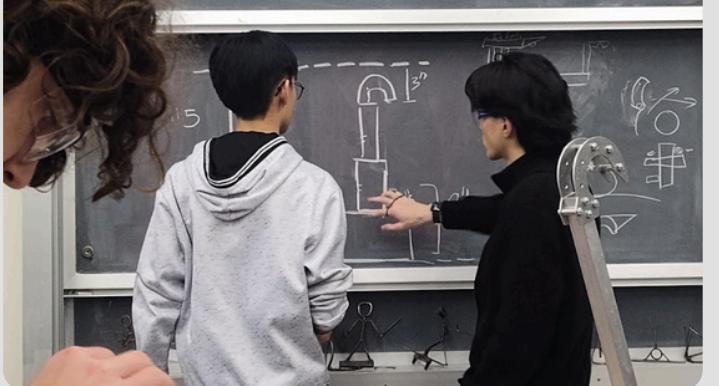
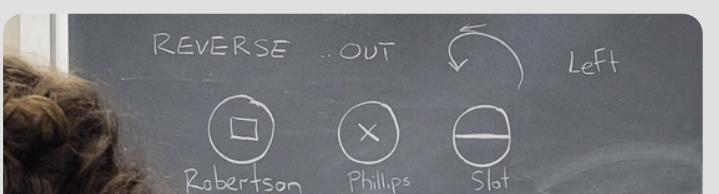
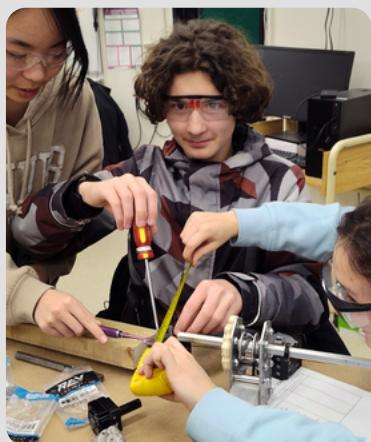
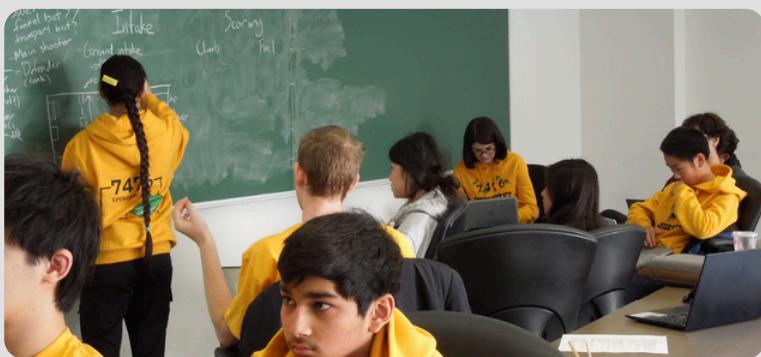
Rebranding

We've rebranded our team's media presence across our YouTube, Instagram, and Facebook accounts as well as creating a LinkedIn account. Our new mascot, Spawn, can be seen throughout these platforms. Check them out!



Social Media

Since kickoff, we have posted two vlogs on our Instagram and Youtube accounts featuring Merge Robotics and Sparkling H20!



HAPPY GROUNDHOG DAY!



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