DC/Virginia
Explorer Post 1010
Team #160

2024 P1 Project Plan - Team 160

Organization and Planning

Calendar

i) Period 1 Documentation Deadline: 3/8/24

ii) Period 2 Documentation Deadline: 3/29/24

iii) Period 3 Documentation Deadline 4/19/24

iv) Regionals: April 27th

v) Global Conference on Educational Robotics (GCER): 7/26-31/24

vi) General Meeting days:

- Wednesdays: 7-9PM
- Saturdays: 10AM-1PM, meeting time flexible depending on what tasks need to be completed.

Team Organization

1. Division of Labor

The whole team will collaborate on both robots, so we will not split our team into two to work on each separately.

- Captain: Dami and Jacob
- Builders: Jacob, Abigail, Isabella, Mateo
- Coders: Jacob, Abigail, Evie, Mason
- Documentation: Abigail, Evie, Kingston, Dami
- Adult Mentor: Bob Ekman

Mateo and his dad attended the Botball Workshop at Great Mills HS. This helped with another coder. We are also making plans to attend GCER 2024 in North Carolina.

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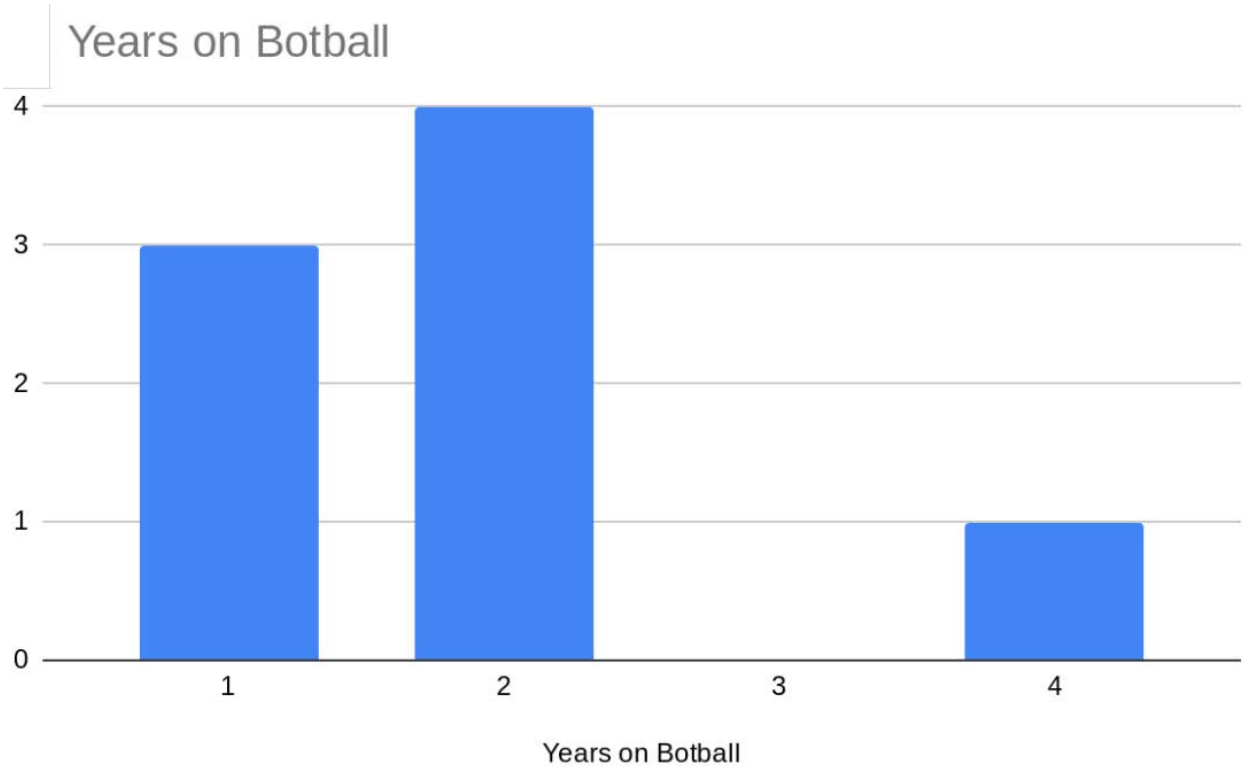
2. Team Demographic



3. Conflict Resolution

a) If a conflict arises, it will be resolved in one of the following manners:

i) If there is a dispute over different possible coding or building solutions, members will quickly make prototypes of each. The team will then agree on whichever functions in the most efficient manner.

ii) If a solution cannot be made in that short timeframe, the team will vote on whichever side they believe is better. In general, the majority choice will be the one the team goes with, however, there should be clear reasoning for the idea chosen.

iii) If we cannot determine which course we should take action on, the captains will have the final say in the matter.

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Game Goals and Tasks

1) **Tasks to Complete in the First 15 Seconds**
    a) Knock Botguy onto our side of the board (2 - Medium).
    i) Create a claw that is strong enough but not too heavy that it will reduce the efficiency that will be able to grab Botguy. Should take us about 2 weeks. (2 - Medium)
    ii) Code the robot to go forward and then turn left so that it hits the Moon Base to be on target to get Botguy. Should take us one meeting session. (1 - Easy).
    b) Pick up a wooden person and be well on our way to putting it in the Flag-raising station (3 - Hard).
    i) Bring down the robot's claw and have it go forward to pick up a wooden person. Should take one meeting session. (1 - Easy).
    ii) Code to ensure the robot does not bump into any surrounding objects while putting the wooden person in the Flag Raising Station. Should take three weeks. (4 - Expert).

2. What We Will Do if a Task Takes Us Too Long to Complete

a) Get together as a group and re-visit our options.
    i) If other people have different ideas as to new missions we can attempt we can take some time to make a sketch and discuss it as a team.
    ii) The most likely solution is getting together to find another solution or modification to the same task, and using everyones ideas we can find a more efficient solution.
b) Go over the way to score points again to ensure we are using the whole board to the maximum.
    i) Check how many points each proposed task will get us as opposed to our previous design that was taing us too long to complete.

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Documentation Goals

1. Documentation Plans

a) Complete the first-period documentation; 3/6/24

i) Have a short meeting at the beginning of our work session to make sure we are all on the same page with the pace we're moving at; 2/7/24

ii) Have multiple mentors check our plan to make sure we will be fully prepared by the time the competitions approach; 2/7/24

iii) Have adult mentor review the final documentation for first period; 2/29/24

b) Complete the second-period documentation; 3/29/24

i) Select our most developed mechanism on one of our robots to use for the video. Create a group of people on the team to work sure that information is being recorded as we go; 3/6/24

ii) Teach new members how to use GitHub by reading documents provided and/or consulting with members that already use GitHub, and apply it to code; 3/6/24

iii) Have the whole team and adult members review project 2 documentation prior to our submission; 3/22/24

c) Complete the third-period documentation; 4/19/24

i) Go over lessons learned throughout the season thus far with the team members, and what we would have done differently. Use these reflections to finish the lessons learned part of the documentation; 3/27/24

ii) Have everyone decide on a time outside of the meeting for the team to finish the online survey providing feedback, so that we do not interfere with potential work time that we would have during the meeting; 3/28/24

2. Passing Knowledge onto Future Teams

a) Create a Post1010 Google Drive Folder

i) Add images of our designs in progress as we continue to develop our ideas to this online folder to inspire future teams and also show them how much designs can change over the course of a few months.

ii) Upload our brainstorming sketches next to the completed prototype to demonstrate how a design should be planned out.

b) Create a virtual note sheet

i) Use this to take note of what building/coding techniques have worked vs. what has not.

ii) We will write down what we would have done differently if we had to do it over again, therefore helping future Botball teams.

Social Media and Outreach

1. Continue posting on our team's Instagram

a) Create posts of us working hard on our robots, displaying all the parts and supplies we have available to encourage others to participate in Botball.

b) Provide information on how to join the team or come to an open house.

2. Participate in Rockville Science Day

a) Have functioning, well-coded robots running by Sunday, April 21st when we will show what we have done to young children who may be interested in Botball in the future.

b) Show other kids that robotics is fun, through our enthusiasm and participation in this event.