Goals and Tasks For Botball 2017

Game Goals and Tasks

1. Decide the most efficient way to score points from the furrows *1/28/17*
    a. Decide whether we should dedicate both robots to gathering all the poms. This strategy has the most points, but it has the problem of being very vulnerable to being blocked in DE *1/28/17*
    b. Decide whether we should only have one robot go for the pink and green pom groups and have the other robot do something else. While this plan doesn't quite score as many points, it is much easier to implement *1/28/17*
2. Decide on the objective of another point scoring robot assuming we goth with path "b" from the previous question. *1/28/17*
    a. Consider how we would go about building a robot that stacks hay and brings it to the furrows. We have never as a team stacked anything, so this would prove a new challenge. *1/28/17*
    b. Alternatively, consider how we could go about building a robot that goes around the board collecting botguy, the blue cows, and then brings them to the terrace. This could be potentially difficult, as none of these game pieces would be allowed to touch the black line on the terrace. *1/28/17*
3. Build the gameboard *2/18/17*
    a. We would have to make a list of all the parts required to build the board minus those that we already have. From here we would need to decide on which of the parts remaining would be obtainable and which would require an alternative. *2/4/17*
    b. Because we have limited space to build the board, we need to come up with a smaller version of it that uses all of the parts. Or we could consider to simply go with half of the board *2/4/17*

Robot Building Goals and Tasks

1. Build the bot that will collect poms and sort them in the furrows based upon color. *2/18/17*
    a. Create a claw that is able to collect poms straight from the ground, but also straight from a bin. *2/4/17*
    b. After finishing the claw, create a funnel which sorts one pom at a time based on color *2/15/17*
    c. Build an igus chain arm that transfers poms from the funnel to the furrows *2/15/17*
2. Build a second bot which goes around the board collecting botguy, both cows, and brings them up to the terrace *2/15/17*

    a. Create a mechanism which allows the robot to go over pvc, enabling it to get around the board faster *2/13/17*
    b. Attach an arm to the collection mechanism which can be used to move Botguy off of the black line. *2/4/17*
3. Create a third robot for double elimination in case the furrow bot may be blocked. *3/4/17*
    a. Mount an arm that can grab poms from the terrace and place them in the upper planter. *2/25/17*
    b. Make sure that the robot is properly balanced and has a tophat sensor so that it can make it up the ramp. *3/4/17*

Programming Goals and tasks

1. Create a library of functions for both the create and the chassis to make the later programming process faster. *2/18/17*
    a. Find a way to convert the mav() and msleep() functions to create movement functions in which inches or degrees are the parameters. *2/15/17*
    b. Create functions for using the more difficult sensors such as the black line or camera to make overall navigating the board easier. *2/18/17*
2. Write the code for the bot that goes around the board collecting the cows and botguy. *2/25/17*
    a. To code the navigation, use the camera sensor to point the robot towards the blue cows. *2/18/17*
    b. To further improve turns, code the robot to back up and straighten against walls, thus making perfect 90 degree turns. *2/20/17*
3. Write the code for the create that sorts the furrows *3/4/17*
    a. Set up two channels, one for each color pom, and create a piece of code which can differentiate between these two color groups based on the channels. *2/13/17*
    b. Use the create's built in top hat sensors and bumpers to navigate the board. *2/25/17*
    c. Write the code that uses the arm to move poms from our funnel to the furrows. While doing so make sure to be very precise with the distances of the igus chain as not to accidentally go over to the other side. 3/4/17

Documentation Goals and Tasks

1. Complete the first period documentation *2/4/17*

    a. Make sure to create an efficient system for setting up a plan by the time the board is installed. *2/4/17*
    b. Have the programmers work on this period of documentation, as there are no robots to program yet. *2/4/17*
2. Complete the second period of documentation *3/1/17*
    a. Take photos and notes of the robot building process to make writing the second period of documentation. *2/28/17*
    b. Make sure to get lots of input from builders during the second documentation period as they know very specifically what different parts of the robots are designed to do. *3/1/17*
3. Complete the third period documentation *3/22/17*
    a. Record any issues or mishaps as they happen, that way when we reach the third documentation, we'll know exactly what mistakes we made. *3/20/17*
    b. Make sure everybody takes the botball survey. *3/22/17*

Schedule Conflicts

1. President's Day - The holiday falls on our monday practice session, and the place where we meet will be closed. *2/20/17*
2. ACT Test - Many of our team members will be taking the ACT on this day and won't be able to attend practice. *3/8/17*
3. SAT Test - Many of our team members will be taking the SAT on this day and won't be able to attend practice. *3/11/17*

Team Organization

Regional Workshop - February 4th and 5th
Regionals - April 1st

While not all the team members may come to each meet, we will generally meet on these days/hours

Monday	Wednesday	Saturday
6-9pm	6-9pm	10am-4pm

Key: =meeting day =most members will be absent

January

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4 **Workshop**
5 **Workshop**	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Division of labor:

Adult team leaders:

Bob Ekman and Keith Frost

Sorter bot:

Builder: Anne-Michelle Lieberson

Programmer: Jacob Barats

Board runner bot:

Builder: Hayley Goddard

Programmers: Aine Kenwood and Devin Frost

Blocker bot:

Builder: Hayley Goddard

Programmers: Aine Kenwood and Devin Frost

Documentation:

Jacob Barats

Conflict Resolution:

While our team typically runs in a smooth fashion, occasionally a dispute will occur. These are the steps we then go through.

1. Have both parties create a prototype of their idea. Whatever works better is the one that we go with. If the idea is too difficult to prototype, go to step two.
2. Do a vote. If an agreement can't be made, glorious leader Anne-Michelle decides.