Medford High Robotics Team - 19-0547

New England Regional Tournament

PERIOD ONE PROJECT PLAN

Goals and Tasks for Botball 2019:

Game Goals and Tasks

Game Strategies Goals and Tasks

1) **Jan. 31 - Learn Botball rules and new gameboard.**
   a) Jan. 28 - Review information gained from the workshop.
   b) Jan. 28 - Review 2019 Botball rules, and documents.
   c) Jan. 31 - Review 2019 Botball game board.

2) **Feb. 02 - Build game board.**
   a) Jan. 24 - Recruit parents.
   b) Jan. 31 - Cut all game board pieces.
   c) Feb. 02 - Put together game board.

3) **Feb. 04 - Develop game strategy and divide tasks.**
   a) Jan. 31 - Devise three strategies.
   b) Feb. 04 - Revise the strategies and vote for the best one to be used in the competition and review documentation.
   c) Feb. 04 - Divide programming and mechanics tasks.

Robot Building Goals and Tasks

1) **Feb 14 - Prepare and plan designs for constructing the robots.**
   a) Feb. 04 - Explore various possible designs to find the most efficient way of doing various tasks on the board.
   b) Feb. 14 - Finalize the designs for each module/function on each robot.
   c) Feb. 14 - Gather materials for each robot and divide into Create and Wallaby teams.

2) **Mar. 4 - Complete Wallaby hardware.**
   a) Feb. 14 - Lay out Wallaby design and its mechanical functions.

b) Feb. 25 - Construct and test the Wallaby's pinwheel, any lifting/grabbing mechanisms, and other motor functions.

c) Mar. 4 - Refine Wallaby designs based on test results and get Wallaby Botball-ready.

3) **Mar. 4 - Complete Create hardware.**

a) Feb. 14 - Lay out Create design and its mechanical functions.

b) Feb. 25 - Construct and test Create's grasping, lifting and other mechanisms and abilities.

c) Mar. 4 - Refine Create designs based on test results and get Create Botball-ready.

Programming Goals and Tasks

1) **Feb. 11 - Prepare programming team.**

a) Feb. 7 - Teach the locally-built library to new programmers.

b) Feb. 11 - Identify and assign global variable names for all variables.

c) Feb. 11 - Assign functions to different programmers.

2) **Apr. 8 - Program Create.**

a) Mar. 14 - Get Create to detect and move towards a non-burning skyscraper.

b) Mar. 28 - Get Create to move either Botguy or the Mayor to the starting box.

c) Apr. 8 - Get Create to move both Botguy and the Mayor to the starting box.

3) **Apr. 11 - Program separate robot.**

a) Feb. 28 - Get smaller robot to push the yellow block to the fire station.

b) Mar. 18 - Get smaller robot to sweep the firefighters out of the tube using the pinwheel.

c) Apr. 11 - Get smaller robot to collect water poms, put them in the water collection container, and move the container to the utility zone.

Documentation Goals and Tasks

1) **Feb. 4 - Submit Period One Document.**

a) Jan. 28 - Write outline of the period one document.

b) Jan. 31 - Complete the first draft.

c) Feb. 4 - Edit and review final draft.

2) Mar. 11 - Submit Period Two Documents.
   a) Feb. 28 - Write outline for the period two documents.
   b) Mar. 7 - Complete first draft.
   c) Mar. 11 - Edit and review final draft.

3) Apr. 22 - Submit Period Three Document and Survey.
   a) Apr. 4 - Write outline for the period three document.
   b) Apr. 11 - Complete first draft.
   c) Apr. 18 - Edit and review final draft.
   d) Apr. 22 - Fill out survey.

Schedule Conflicts

1) Athletics (crew, track, etc.)
2) National Honors Society (Wednesdays until 3pm)
3) SAT Prep (Thursdays starting at 5:30)
4) School breaks (travel, Puerto Rico Service Trip, etc.)
5) Various club activities (~2:20-3pm: Chess Club, Interact Club, Science Team, etc.)
6) Science Fair (early March (regional), early May (state fair))
7) Snow days
8) Work

Team Organization

Schedule

	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Pre-Botball Jan.20– Jan.26	20	21	22	23	24	25 Botball Workshop	26 Botball Workshop
Week 1: Jan.27-Feb.2	27	28 Team Meeting	29	30	31 Team Meeting	1	2 Table Build P.1
Week 2: Feb.3-Feb.9	3	4 Team Meeting	5	6 Due: Period 1 Doc.	7 Team Meeting	8	9
Week 3: Feb.10-Feb.16	10	11 Team Meeting	12	13	14 Team Meeting	15	16

Week 4: Feb.17-Feb.23	17	18 *February Break*	19 *February Break*	20 *February Break*	21 *February Break*	22 *February Break*	23
Week 5: Feb.24-Mar.2	24	25 Team Meeting	26	27	28 Team Meeting	1	2
Week 6: Mar.3-Mar.9	3	4 Team Meeting	5	6	7 Team Meeting	8	9
Week 7: Mar.10-Mar. 16	10	11 Team Meeting	12	13 Due: Period 2 Doc.	14 Team Meeting	15	16
Week 8: Mar.17-Mar.23	17	18 Team Meeting	19	20	21 Team Meeting	22	23
Week 9: Mar.24-Mar.30	24	25 Team Meeting	26	27	28 Team Meeting	29	30
Week 10: Mar.31-Apr.6	31	1 Team Meeting	2	3	4 Team Meeting	5	6
Week 11: Apr.7-Apr.13	7	8 Team Meeting	9	10	11 Team Meeting	12	13
Week 12: Apr.14-Apr.20	14	15 *Spring Break*	16 Team Meeting	17 Team Meeting	18 *Spring Break*	19 *Good Friday*	20
Week 13: Apr.21-Apr.27	21	22 Team Meeting	23 Team Meeting	24 Due: Period 3 Doc	25 Team Meeting	26 Team Meeting	27 **Tournament**

*Meetings over February or Spring Break subject to change

Adult Team Moderator
- Ms. Chyen

Team Captains:
- Darwin
- Emily

Secretaries/Documentation Sub-Team
- Maggie

Programming Sub-Team
- Captain:
    - Charlie
- Create Division
    - Darwin, Julia, Katie
- Wallaby Division
    - Emily, Maggie, Kekoa, Lauren, Erin

Mechanics Sub-Team
- Captain:
    - Danielle
- Members
    - Emmanuel, Gabe, Linus, Marcello, Arune

Conflict Resolution

Active participation is encouraged in all team activities. Any suggestions regarding mechanics, programming, team meetings, and any other discussions related to our robotics team will be dealt with as needed. If any disagreements arise:
- They will first attempt to resolve the issue themselves.
- If an agreement cannot be reached, the members should refer to the sub-team leaders (mechanical or programming).
- If the issue persists, the members should consult the adult advisor for a final decision.