

## Goals and Tasks for Botball 2016

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### I. Game Goals and Tasks:

- A. Prepare all team members for the challenges of a rigorous robotics competition by teaching all members necessary skills, organizing members by skill and offering a discussion period among groups (i.e., builders, programmers and documenters) so that they may work more coherently. *(By February 27<sup>th</sup>)*
  1. From the first meeting have senior members give lessons to newer builders so that they may be able to contribute to the team and expand their knowledge through the competition. *(By February 22<sup>nd</sup>)*
  2. To organize team members into their respective skills: one group for builders, one group for programmers and one group for documentation (who are also members of the aforementioned groups). *(By February 24<sup>th</sup>)*
  3. Have a team discussion to discuss basic techniques of builders vs basic techniques of programmers. This ensures that each group may understand the challenges/limitations of the other group. *(By February 27<sup>th</sup>)*
- B. Organize modes of communication to make communication regular and more convenient for all members. *(By March 5<sup>th</sup>)*
  1. Discuss with the team preferred methods of communication. Options would include email, text, Facebook, and Google Hangouts. Other ideas could be suggested at this time. *(By February 27<sup>th</sup>)*
  2. Collect contact information for each member on the platform of choice. *(By March 2<sup>nd</sup>)*
  3. Send out first communication (on platform of choice) as a test to make sure that all issues in this field are resolved before it can become an issue. *(By March 5<sup>th</sup>)*
- C. Create practice board so that prototypes can be tested *(By March 12<sup>th</sup>)*
  1. Arrange to have building material transported to new building location. *(By March 5<sup>th</sup>)*
  2. Arrange a time that a majority of members can meet to start building the game board. At least half should be completed. *(By March 12<sup>th</sup>)*

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### II. Robot Building Goals and Tasks

- A. Have a team brainstorming day so that all team members can put forth design ideas. *(By February 27<sup>th</sup>)*
  1. Print out all game board pages, bring extra paper and pull up large game board on screen to be viewed. *(By February 22<sup>nd</sup>)*
  2. Make sure that all team members get the opportunity to speak. Prompt shyer members to contribute ideas. *(By February 24<sup>th</sup>)*
- B. Decide on final strategy and have builders give programmers set tasks so that they can contribute even though the prototype is not done. *(By March 5<sup>th</sup>)*
  1. Discuss goal by goal what requirements (e.g., attachments and servo positions) this means building-wise. *(By February 27<sup>th</sup>)*
  2. Sketch final design to ensure that the planned design is not forgotten if disassembly is necessary *(By March 2<sup>nd</sup>)*
  3. Give programmers a set of tasks for better time management. *(By March 5<sup>th</sup>)*
- C. Build and test the first prototype. *(By April 6<sup>th</sup>)*

1. Build the prototype following the sketched design. If changes are made, update the design. *(By March 9<sup>th</sup>)*
2. Test the prototype on the practice board and note any issues. *(By April 6<sup>th</sup>)*

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### III. Programming Goals and Tasks

- A. Check over new software updated this year (aka Wallaby) and download all new software. *(By March 9<sup>th</sup>)*
  1. Check online and download all new software for the Wallaby. Check that new location has Wi-Fi so that the software can be used. *(By March 2<sup>nd</sup>)*
  2. Take time to get familiar with the new coding platform *(By March 9<sup>th</sup>)*
- B. Program the basic tasks as requested by the builders as well as basic movements (e.g. left turn, right turn) *(By March 23<sup>rd</sup>)*
  1. Code basic movements that rely on specific numbers and etc. so that the robot can run precise movements *(By March 16<sup>th</sup>)*
  2. Code all basic tasks assigned by builders so that prototype of build can run. *(By March 23<sup>rd</sup>)*
- C. Check how prototype runs and make necessary changes to code. *(By April 13<sup>th</sup>)*
  1. Take notes during first prototype run such as turns that are off and movements that are not timed correctly. *(By March 30<sup>th</sup>)*
  2. Resolve these issues and then continue to test and revise until game day. *(By April 13<sup>th</sup>)*

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### IV. Documentation Goals and Tasks

- A. Complete First Period documentation. *(By March 8<sup>th</sup>)*
  1. Have a team discussion to discuss conflict resolution, meeting times and meeting conflicts. *(By February 27<sup>th</sup>)*
  2. Have documentation team write the complete documentation, then go over with Student Leader and Adult Team Leader *(By March 2<sup>nd</sup>)*
- B. Complete Second Period documentation. *(By March 29<sup>th</sup>)*
  1. Run tests to gather data on the Prototype as well as discuss with builders the design. *(By March 16<sup>th</sup>)*
  2. Write up 2nd Period documentation and input testing data then, check with builders and programmers for accuracy. *(By March 26<sup>th</sup>)*
- C. Complete Third Period documentation. *(By April 19<sup>th</sup>)*
  1. Set a date for a team discussion and discuss changes for the next year. Take notes during the team discussion. *(By April 13<sup>th</sup>)*
  2. Write up 3rd Period documentation on the discussed topics, run by the whole team to reinforce Lessons Learned portion. *(By April 16<sup>th</sup>)*

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### V. Schedule Conflicts

- A. Due to changing locations from a Lockheed Martin branch to a Johns Hopkins campus some meetings were missed by team members, rescheduled and had meeting times changed. *(February 17<sup>th</sup>, 24<sup>th</sup>, 27<sup>th</sup>)*
  1. Post communication allowed all members to know in a timely manner when Post would not be held.

- B. One of the team's members will be missing Saturday meetings once a month due to sea cadet commitment. (*March; 12<sup>th</sup>, April; 9<sup>th</sup>*)
  - 1. Post communication made sure everyone was updated and that team members could still communicate.
- C. During spring break a majority of team members will be unable to attend meetings. (*March 26<sup>th</sup>, 28<sup>th</sup>, 30<sup>th</sup>*)
  - 1. Communication will ensure that no one is missing information and the meetings will be planned to be around these dates.

## Team Organization

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### Schedule of Meeting Times

Regional Workshops - February 20<sup>th</sup> /21<sup>st</sup> (attended by team member Josh Brooks)

Regional Tournament Prep Session - April 22<sup>nd</sup>

Regional Tournament - April 23<sup>rd</sup>

Global Conference on Educational Robotics - July 6<sup>th</sup>

Monday and Wednesday meetings run from 6:30pm to 9:00pm. Saturday meeting times may vary, so all team members check the email sent in advance by the Post's communications officer.

#### I. Monday Meetings:

Schedule for February: 22<sup>nd</sup>, 29<sup>th</sup>

Schedule for March: 7<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup>, 28<sup>th</sup>

Schedule for April: 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup>

#### II. Wednesday Meetings:

Schedule for February: 24<sup>th</sup>

Schedule for March: 2<sup>nd</sup>, 9<sup>th</sup>, 16<sup>th</sup>, 23<sup>rd</sup>, 30<sup>th</sup>

Schedule for April: 6<sup>th</sup>, 13<sup>th</sup>, 20<sup>th</sup>

#### III. Saturday Meetings:

Schedule for February: 27<sup>th</sup>

Schedule for March: 5<sup>th</sup>, 12<sup>th</sup>, 19<sup>th</sup>, 26<sup>th</sup>

Schedule for April: 2<sup>nd</sup>, 9<sup>th</sup>, 16<sup>th</sup>

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### Division of Labor

Adult Team Leader: Bob Ekman

Student Team Leader: Kathleen Arnett

Vice Student Team Leaders: Sophia Lieske, Anne-Michelle Lieberson

Robot Building Team (for Create Robot and Lego Robot): Anne-Michelle Lieberson, Dominic Gagliardi, Moses Kans, Joshua Brooks

Robot Programming Team (for Create Robot and Lego Robot): Kathleen Arnett, Sophia Lieske, Karen Herrera, Austin Long

Documentation Team: Sophia Lieske, Kathleen Arnett

FAQ Researcher: Kathleen Arnett

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### Conflict Resolution Plan:

- 1. All disagreements should be resolved between "talent" groups by either discussion or vote.

2. If that cannot solve the issue or the issue is between groups, Student Leader Kathleen is called in to listen to both sides and help to resolve issues.
3. If this is still not enough, or the conflict is between teams (as Explorer Post 1010 enters several) then Adult Leader Bob Ekman is called in to resolve tensions between groups.