

Qatar

**Team Name:** Doha College

**Team Number:** 0282

## **Period One - Project Plan**

### **Goals and Tasks for Botball 2019:**

#### **Game Goals and Tasks:**

1. Prepare forum (Slack) for communicating ideas and sharing documents, *Deadline:* 1/12/2018
  - a. Download application, *Deadline:* 1/12/2018
  - b. Invite team members, *Deadline:* 1/12/2018
  - c. Sync with google drive folder, *Deadline:* 1/12/2018
2. Read over 'Botball Game Review' powerpoint and brainstorm ideas, *Deadline:* 5/12/18
  - a. Prepare projector and screen and read scoring rubric, *Deadline:* 5/12/18
  - b. Use whiteboard for planning, *Deadline:* 5/12/18
3. Discuss and finalise game strategy, *Deadline:* 23/12/2018
  - a. Review scoring rubric and present ideas, *Deadline:* 12/12/2018
  - b. Finalise ideas by team votes
  - c. Type up game strategy in document and share with team, *Deadline:* 23/12/2018
4. Build practice board, *Deadline:* 02/01/2019
  - a. Ask DT department to bring wooden board, *Deadline:* 05/12/2018
  - b. Count and check number of pipes, purchase more if needed, *Deadline:* 12/12/2018
  - c. Paint board, *Deadline:* 17/12/2018
  - d. Construct the buildings and pipes, *Deadline:* 23/12/2018

#### **Robot Building Goals and Tasks:**

1. Prototype Small and Create bot, *Deadline:* 02/01/2019
  - a. Complete a labelled drawing for the Small bot based on written strategy, *Deadline:* 02/01/2019
  - b. Complete a labelled drawing for the Create bot based on written strategy, *Deadline:* 02/01/2019
2. Build Small bot, *Deadline:* 21/01/2019
  - a. Construct chassis, *Deadline:* 16/01/2019

- b. Construct gripper mechanism, *Deadline: 16/01/2019*
    - i. Construct mirrored 4 bar linkage. *03/01/2019*
    - ii. Attach motor. *09/01/2019*
    - iii. Attach to chassis and test. *16/01/2019*
  - c. Construct lifting mechanism (works cohesively with gripper), *Deadline: 16/01/2019*
    - i. Connect servo to lifting mechanism, *Deadline: 16/01/2019*
  - d. Add colour and top-hat sensors, *Deadline: 21/01/2019*
3. Build Create bot, *Deadline: 21/01/2019*
- a. Attach wallaby, *Deadline: 26/12/2018*
  - b. Design cohesive scooping mechanism that both lifts and folds, *Deadline: 16/01/2019*
  - c. Build scooping mechanism, *Deadline: 16/01/2019*
  - d. Add tophat sensor, *Deadline: 21/01/2019*

### **Programming Goals and Tasks:**

1. Write and test programs, *Deadline: 02/12/2018*
  - a. To calibrate tophat sensor, *Deadline: 02/12/2018*
  - b. To calibrate servos, *Deadline: 02/12/2018*
  - c. To create basic functions for both robots, *Deadline: 02/12/2018*
  - d. To achieve precision turning using Small bot, *Deadline: 02/12/2018*
2. Complete program for Small bot, *Deadline: 23/01/2019*
  - a. Draft structured English to implement strategy, *Deadline: 12/01/2019*
  - b. Program Gripper mechanism, *Deadline: 16/01/2019*
  - c. Program lifting mechanism (works cohesively with gripper), *Deadline: 16/01/2019*
  - d. Incorporate codes for movement and sensors into main code, *Deadline: 21/12/2018*
  - e. Test all programs with team and troubleshoot, *Deadline: 23/01/2019*
3. Complete program for Create bot, *Deadline: 23/01/2019*
  - a. Draft structured English to implement strategy, *Deadline: 12/01/2019*
  - b. Program scooping mechanism, *Deadline: 16/01/2019*
  - c. Incorporate codes for movement and sensors into main code, *Deadline: 21/12/2018*
  - d. Test all programs with team and troubleshoot, *Deadline: 23/01/2019*

### **Documentation Goals and Tasks:**

1. Complete First Period Documentation, *Deadline: 28/12/2018*
  - a. Team meeting to set up overall schedule, assign tasks and write up conflict resolution, *Deadline: 26/12/2018*
  - b. Gather info from building and programming teams to establish goals and tasks for the season, *Deadline: 28/12/2018*
2. Complete Period Two Documentation, *Deadline: 18/01/2019*
  - a. Read over Mechanical Design rubric and examples, *Deadline: 02/01/2019*
  - b. Read over Review rubric and examples, *Deadline: 02/01/2019*
  - c. Gather data from building team for assignment, *Deadline: 02/01/2019*
  - d. Gather data from programming team for assignment, *Deadline: 02/01/2019*
3. Complete Period Three Documentation, *Deadline: 26/01/2019*
  - a. Set up computers for everyone to take survey, *Deadline: 23/01/2019*
  - b. Gather info from team members for lessons learned, *Deadline: 23/01/2019*

### **Schedule Conflicts:**

**Resits** - January - Some team members will not be able to be fully committed time-wise to botball till these exams are out the way

**THIMUN Conference** - 23rd January to 25th January - Some team members will be absent

**Half term break** - 13th February to 15th February - No school so after school meetings will be missed

**Various after school activities conflicting with after school meetings**

### **Team Organisation**

#### **Key:**

**blue = workshop**

**yellow = after school meetings**

**Tournament = 8th February**

### **Schedule of meeting times:**

All Monday/Wednesday meetings will be from 1:30pm to 2:30pm. If more meetings are needed, the team will meet on extra days.

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2018 December						
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
26	27	28	29	30	01	02
03	04	05	06	07	08	09
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

2019 January						
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
31	01	02	03	04	05	06
07	08	09	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	01	02	03

2019 February						
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
28	29	30	31	01	02	03
04	05	06	07	08	09	10
11	12	13	14	15	16	17

### **Division Of Labour:**

**Adult Team Leader** - Mr. Mir - will resolve any conflicts

**Project Manager** - Ibrahim - Responsible for delegating tasks, preparing all team members and resolving any conflict. Will use past Botball and other competition experience to help out in all divisions.

**Builder** - Tajwaar - will construct the robots for the competition

**Builder** - Seif - will construct the robots for the competition

**Builder** - Richard - will construct the robots for the competition

**Builder** - Alex - will construct the robots for the competition

**Programmer** - Oliver - will put together code for the robots

**Programmer** - Hamza - will put together code for the robots

**Programmer** - Saif - Attended competition last year - will put together code for the robots

**Documentation** - Salma - will complete period 2 and 3 documentation

**Documentation** - Sara - completed Period 1 documentation, will complete all other documentation

### **Conflict Resolution:**

- All conflicts will be resolved through voting; the majority vote passes. However, the final decision rests with the Project Manager. Also, if there are even votes, the decision rests with the Project Manager.
- If there is a conflict within a division (eg. Programming team or Building team) that cannot be resolved through voting, it should be taken to Ibrahim, the Project Manager. Any further conflicts should be taken to the adult team leader.
- If there are any team members who are not doing their share of work, acting disruptively, or missing deadlines, the issue will be brought to Mr. Mir, the adult team leader. Team votes or Mr. Mir's decision will be final.