0299 Lebanese School of Qatar

Period 1 – Project Plan

Goals and Tasks for Botball 2019

1- **Game Goals and Tasks**
   a) Organize teamwork and assigned tasks (5 December 2018)
   - Supply each team member with all necessary files
   - Team division into 3 major groups: programming, engineering and documentation
   - Follow and be committed the milestone wrote by the team leader
   b) Team cooperation to build the robot (5 December 2018)
   - Understand that a successful project needs united thoughts
   - Assign each member a job in the team following everyone's ability
   - Discuss each position with members in order to reassign if needed
   c) Acquire higher robotics knowledge (6 December 2018)
   - Introduction on robot building new and old technologies
   - Brainstorm ideas between old and new members
   - Knowledge and experience sharing between members

2- **Robot Building Goals and Tasks**
   a) Create and Demo robots structure planning using available components (6 January 2019)
   - Draw many initial designs of the Demo robot
   - Draw many initial designs of the Create robot
   - Discuss the best design for each
   b) Build the Demo robot following the initial design and discussion (7 January 2019)
   - Build the basic design including motors
   - Build a claw to grab objects
   - Build a mechanism to release grabbed objects
   c) Build the Create robot following the initial design and discussion (9 January 2019)
   - Build the basic chassis to attach the Wallaby
   - Build an elevation system to reach the Botguy
   - Attach light sensor, reflectance sensor and touch sensor

3- **Programming Goals and Tasks**
   a) Gameboard mapping programs (14 January 2018)
   - Run the Demo robot for a specific time to check the distance traveled
   - Map servos positions (45, 90, 180 degrees)
   - Run the Demo robot until the reflectance sensor detects the black tape
   - Run the Demo robot until the reflectance sensor detects the blue tape

b) Complete the Demo robot coding of functions and tasks (25 January 2018)
- Initial test for all functions already written to do modifications in case needed
- Write the initial tasks flow that the Demo robot will execute (26 January 2019)
- Run and Test the code following the tasks flow already written (29 January 2019)
- Run the Demo robot function that follows the black tape to grab the gas pipe and put it where it supposed to be (29 January 2019)

c) Complete the Create robot coding of functions and tasks (25 January 2018)
- Initial test for all functions already written to do modifications in case needed
- Write the initial tasks flow that the Demo robot will execute (26 January 2019)
- Run and Test the code following the tasks flow already written (29 January 2019)
- Run the Create robot function that follow the blue tape to reach the Botguy and grab it (29 January 2019)
- Run the Create robot to rescue people from between buildings (29 January 2019)

4- **Documentation Goals and Tasks**
   a) First Period Documentation Complete (23 December 2018)
   - Video-Call meeting to assign parts of Period 1 documentation (20 December 2018)
   - Assignment distribution among all team members (20 December 2018)
   - Search for best practice solution to achieve our goals
   b) Second Period Documentation Complete (16 January 2019)
   - Gather required information from programmers
   - Gather required information from robot builders
   c) Second Period Documentation Complete (25 January 2019)
   - Each member will use a computer to complete the survey
   - Overall review about everything acquired from the whole experience

5- **Schedule Conflict**
   a) Official Holidays – Coach and Members traveling when school is closed.
   b) Term exams preparations and reading period.
   c) Sickness and family emergencies – essential team members were absent.

6- **Team Organization**
   - Workshop: 30 November 2018 – 1 December 2018
   - Tournament: 8 February 2019

Qatar

December-18										
M	T	W	T	F	S	S		30-Nov-18	Workshop	
				30	1	2		01-Dec-18	Workshop	
3	4	5	6	7	8	9			Winter Break (School Closed)	
10	11	12	13	14	15	16			Term Exams	
17	18	19	20	21	22	23			Coach meeting team candidates	
24	25	26	27	28	29	30			Team meetings	
31								08-Feb-18	Tournament	

January-19						
M	T	W	T	F	S	S
	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-19						
M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8		

7- **Division of Labor**
- Adult Team Leader: Jawad Fadlallah
- Robot Building Team for Demo robot: Rafic El Zein, Ayman Balaa
- Robot Building Team for Create robot: Michel Mokbel, Jana Hneine
- Programmers for Demo robot: Ali Soukarieh, Georges Chebly
- Programmers for Create robot: Christopher Akoury, Nadine El Helou
- Documentation Team: Leen Haidar, Rami Fakih

8- **Conflict Resolution**

The team has approved that if disagreements fall, we will solve them in the following ways:
- When facing a programming or a building conflict, team members are entirely free to speak up their opinion and defend his own solution providing logical arguments while respecting other team members' opinions to reach the best suggested resolution.
- In case where several solutions are suggested, the student team leader will go into the voting procedure in which all the team members, along with the coach leader, vote for or against the suggestions, in order to find the optimal solution, based on a criterion, such as time and tasks.
- In case no resolution could be accepted by all team parties or the student team leader disagrees, the adult team leader, Jawad Fadlallah, will try to suggest an optimal solution or a best practice one, to deliver the desired job.