Association

Collège VOLNEY
54 rue du Poirier
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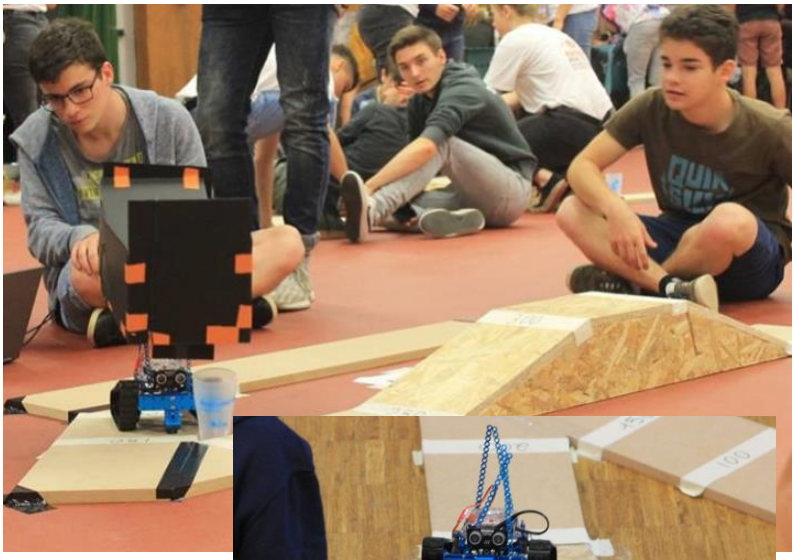
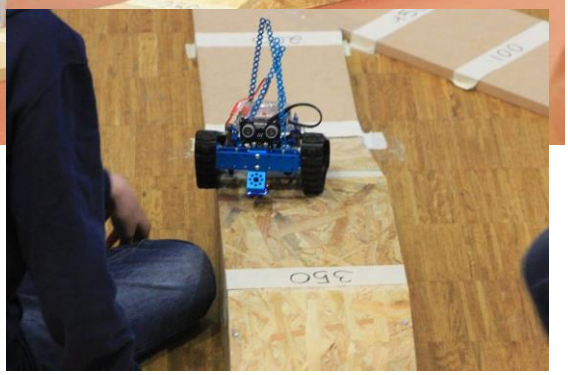
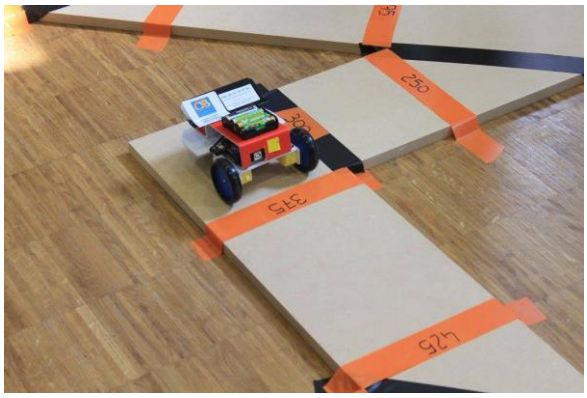
Rules

a-MAZE-ing challenge 2019

Parcours lycée 2018







RoboRAVE France - Crac

http://www.roborave53.fr/

The participants have to design and build a robot (and eventually a second robot) following the rules and the spirit of this RoboRave. This robot must complete the rules below. Each team can be helped by a coach (one coach per team, at the most) but the design and of the robots must be created by the pupils. The robots will be approved by the RoboRAVE France-Craon at your arrival. The challenge is going to have a qualifying phase and a final phase and some surprises.

Chapter 1 Target of the challenge

Article 1: objective

To design, build and program an autonomous robot that can follow a raised wooden maze without falling off in 3 minutes or less. The time will be used as a tiebreak

Chapter 2 Characteristics of the track

Article 2: The track

- The track consists of a wood board of 18 mm tall and 23,5 cm wide.
- The track consists of several straight sections (lengths: 30 cm to 200 cm) and several angles (right and/or left, 45°, 90° or 135°)
- The track (5 straight lines and 4 angles for school and 6 straight lines and 5 angles for the high school) will be announced on Friday 24th of May 2019 at 9h00 am.

Chapter 3 Characteristics of the robots

Article 3: characteristics

- The dimensions do not exceed 18 cm X 22 cm of side for an unlimited height.
- The autonomous robots (all platforms are accepted) should not use sensors.
- The energy source is electric battery type or accumulator.

Chapter 4 General rules

Article 4: General rules

- The robot has 2 minutes to browse the entire maze.
- The robot must be able to push a ball in the last straight line. This ball will be located 20 cm from the finish and will yield bonus points depending on the target reached after arrival (defined by a gantry).
- Teams will have a limited number of tries which will be determined by the number of teams entered. The highest score added to the points obtained before and the day of the event will be retained for the final ranking.
- The first 4 teams are qualified for the final tournament and opposed in table (half, final) in 2 minutes session.
- The organization is subject to change.

Chapter 5 Points

Article 5: Before the event (deadline Friday, 17th May 2019)

- Presentation PowerPoint: 100 pts
- Bonus video presentation in English on the blog: 25 pts

Article 6: The day of the even

- Individual presentation of their work by the team in English: 75 pts
- During the homologation, points will be awarded in relation to the customization of the robot: basic chassis: no bonus; customization of the robot: from 50 to 100 pts

Article 7: during the test

600 points + bonus time + bonus ball

School: 5 straight sections + 4 angles

1st straight line: 50
1er angle: 125
2nd straight line: 175
2nd angle: 250
3rd straight line: 300
3rd angle: 375
4th straight line: 425
4th angle: 500
5th straight line: 550

Crosses the finish line: 600

Hight school: 6 straight sections + 5 angles

1st straight line: 50
1st angle: 100
2nd straight line: 150
2nd angle: 200
3rd straight line: 250
3rd angle: 300
4th straight line: 350
4th angle: 400
5th straight line: 450
5th angle: 500
6th straight line: 550
Stop on the final line: 600

Bonus ball: to discover the day of the event (between 0 and 40 points).
Time bonus: the time made by the robot to reach the final line will determine the point bonus (see the Maze sheet).

Chapter 6 Fair play

The participants must keep calm, courteous and respectful

Article 8: disqualification

Your team will be disqualified if:

- The robot does not follow the characteristics of robots given by article 3.
- A participant does not exhibit courtesy or respect towards the referee.

Article 9: Objection to the referee

No objection to the referee's decision will be accepted.

Article 10: Claims

All claims must be made in the presence of the team manager.

Maze sheet - Bonus time

Time	Points	Time	Points	Time	Points	Time	Points
0"	300	30"	17	1' 0"	3	1' 30"	0
1"	271	31"	16	1' 1"	3	1' 31"	0
2"	246	32"	14	1' 2"	3	1' 32"	0
3"	222	33"	13	1' 3"	3	1' 33"	0
4"	201	34"	12	1' 4"	3	1' 34"	0
5"	182	35"	11	1' 5"	3	1' 35"	0
6"	165	36"	10	1' 6"	3	1' 36"	0
7"	149	37"	9	1' 7"	3	1' 37"	0
8"	135	38"	8	1' 8"	3	1' 38"	0
9"	122	39"	7	1' 9"	3	1' 39"	0
10"	110	40"	6	1' 10"	3	1' 40"	0
11"	100	41"	6	1' 11"	2	1' 41"	0
12"	90	42"	6	1' 12"	2	1' 42"	0
13"	82	43"	6	1' 13"	2	1' 43"	0
14"	74	44"	6	1' 14"	2	1' 44"	0
15"	67	45"	5	1' 15"	2	1' 45"	0
16"	61	46"	5	1' 16"	2	1' 46"	0
17"	55	47"	5	1' 17"	2	1' 47"	0
18"	50	48"	5	1' 18"	2	1' 48"	0
19"	45	49"	5	1' 19"	2	1' 49"	0
20"	41	50"	4	1' 20"	2	1' 50"	0
21"	37	51"	4	1' 21"	1	1' 51"	0
22"	33	52"	4	1' 22"	1	1' 52"	0
23"	30	53"	4	1' 23"	1	1' 53"	0
24"	27	54"	4	1' 24"	1	1' 54"	0
25"	25	55"	4	1' 25"	1	1' 55"	0
26"	22	56"	4	1' 26"	1	1' 56"	0
27"	20	57'	4	1' 27"	1	1' 57"	0
28"	19	58"	4	1' 28"	1	1' 58"	0
29"	18	59"	4	1' 29"	1	1' 59"	0