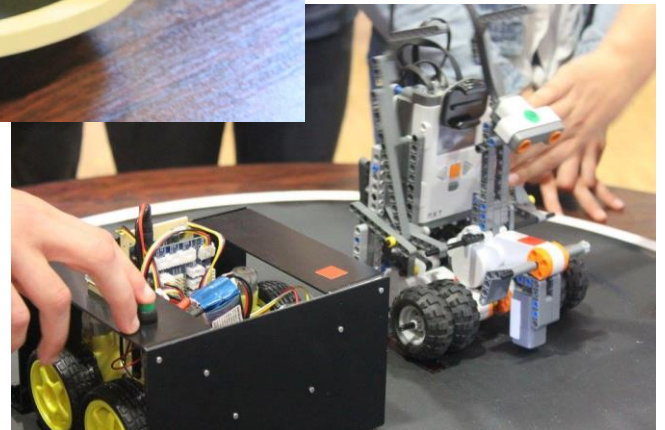
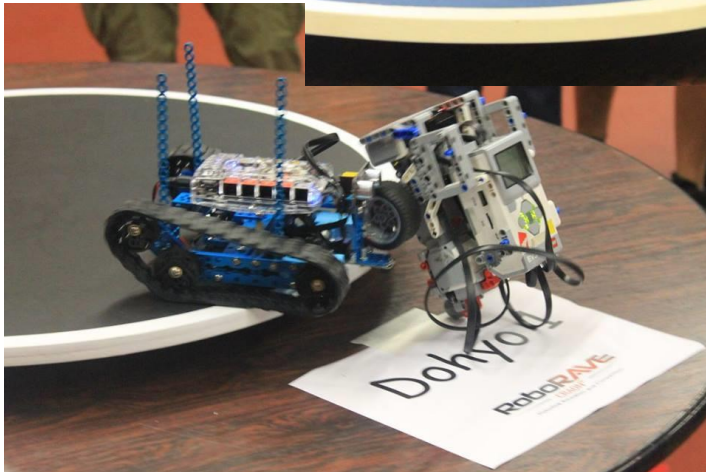
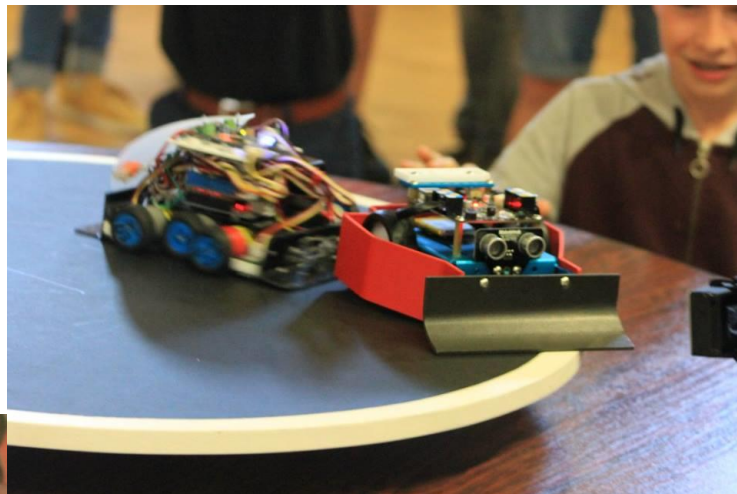




Collège VOLNEY
54 rue du Poirier
53400 CRAON



R SumoBot challenge 2019



RoboRAVE France – Craon

<http://www.roborave53.fr/>



The following rules correspond to the mini-Sumo Robots competitions in force in Japan and in the US, with some modifications. Only autonomous robots are accepted. The challenge will include a qualifying phase and a final phase.

Chapter 1 Definition of a fight

Article 1: definition

Two sumo robots fight, on a sumo ring (dohyo) in accordance with the rules. Each robot is activated by a person. Robots must have been built by the participants. For each versus there is maximum 3 fights. The fight lasts until one of the two fighters make a point (yuko), the decision is issued by a referee.

Chapter 2 Characteristics of a robot

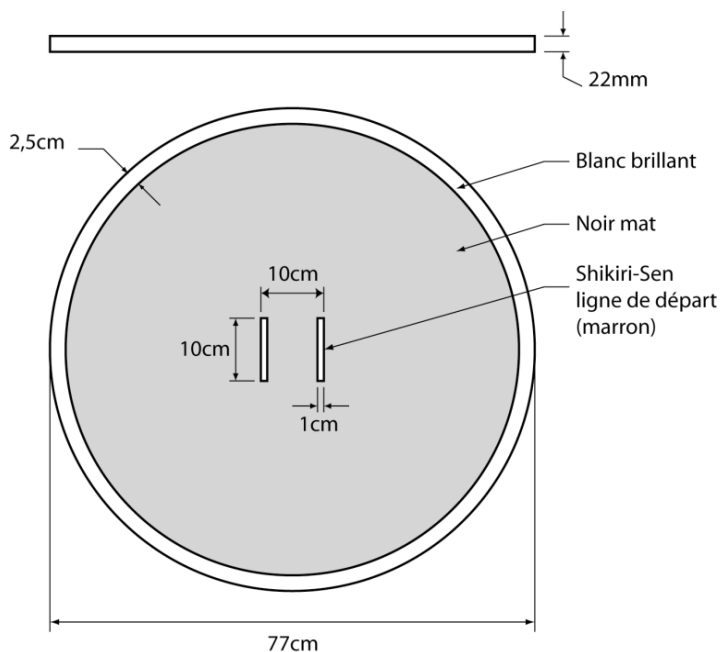
Article 2: definition of « inside the dohyo »

The inside of the Dohyo represents the surface of Dohyo, included the edge

Article 3: The Dohyo

The dohyo is a circle of 77 cm diameter by 18 mm minimum thickness. It is made of wood.

- Dohyo's surface is smooth and painted in mat black.
- Start lines (shikiri-sen) are indicated by two parallels lines of 10 cm long by 1 cm wide, placed 5 cm from the center of the Dohyo.
- Outer edge is indicated by a circle of 2.5 cm, painted in white, delimiting the Dohyo. The white circle is included in the dohyo



Article 4: Outside the dohyo

The area outside the dohyo goes up to 30 cm beyond the boundaries of the dohyo. The color must not be white. There is no restriction on the nature and form of this area, if it follows the rules.

Chapter 3 Characteristics

Article 5: characteristics

- After their activation, the robots must wait **3 seconds** before moving.
- The maximum dimensions in the initial position is 18 cm x 22 cm square with an unlimited height, however after the robot activation it can take more space
- The robot must weight a maximum of 1000 g. (with the batteries!).
- The energy source is electric battery or accumulators.
- The robot must be approved before the first fight and can be checked before each fight.

Article 6: Limitation on the robot design

- A robot must not interfere with the operations of his opponent, by projections or lights.
- A robot must not degrade the dohyo.
- A robot must not use systems that block locally (like vacuum cleaners or glue)
- A robot must not throw things (liquid, gas, powder, fire...)

Chapter 4 General rules

Article 7: General rules

- Teams win points in several meeting (group stage). Points will be added to points earned before the day of the event and will be retained for the final ranking.
- The first 4 qualified teams will compete in a final tournament.

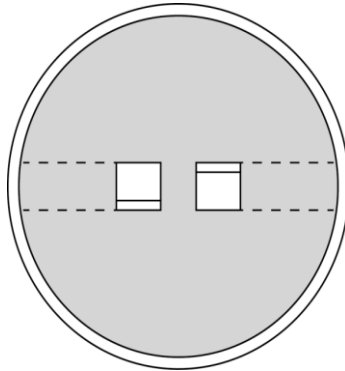
Article 8: Meeting principle

- A meeting consists in 3 fight of 2 minutes each.
- The first team to win 2 points yuko is the winner.
- When none of the robots receives two yuko points or 1-point yuko robots, the referee gives a draw.

Chapter 5 Proceeding of a fight

Article 9: Start a fight

Before the fight, participants greet each other before putting their robot on the Dohyo. Then they place their robot behind the start line. No part of the robot must be placed in front of the starting line before the beginning of a fight. Robots will be placed aside, the front one in opposition to the front one other, see figure below. With autonomous robots, the candidates start button on the orders of the referee. The fight starts after 3 seconds. Candidates must be at 30 cm at least from the dohyo, after pressing the start button, throughout the duration of the fight.



Article 10: End of a fight

A fight ends when the referee announces the winner robot or announces a draw. Participants greet after talking back their robot.

Article 11: Cancellation of a fight and meet replayed

A fight is canceled or replayed under the following conditions:

- Robots are locked together, or they turn in a circle and it seems that it will not change.
- Robots touch the outside of the dohyo at the same time.
- If the fight is replayed, robots must start immediately without possibility of reparation.

Chapter 6 Scoring - Yuko

Article 12: Yuko

The following conditions result in yuko point:

- When the robot ejects its opponent from the dohyo by a legal action.
- When the opposing robot goes out of the dohyo itself (whatever the reason).
- When the opposing robot is disqualified or have more than one violation or warning.
- When two advantages (Yusei points) has been given.
- When one advantage (Yusei point) has been given and the opponent has received a warning.

Article 13: Advantage (Yusei)

The following conditions cause an advantage or Yusei points:

- When the opposing robot gets blocked on the edge of the dohyo and can't move from the edge itself.

Article 14: Before the event (deadline Friday, 17th May 2019)

- Presentation PowerPoint: 75 pts
- Bonus video presentation in English on the blog: 25 pts

Article 15: The day of the event

- **Individual presentation of their work by the team in English: 75 pts**
- During the approval, points will be awarded for the customization of the robot:

Basic frame: no bonus

Customization of the robot: 50 pts

Complete design: 75 or 100 pts

Article 16: During the event

- The qualitative phase takes place in the form of group stage.
- A 2-0 victory brings 100 points,
- A 2-1 victory brings 75 points,
- A draw brings 50 points,
- A 2-1 defeat brings 25 points,
- A 2-0 defeat brings 0 points.

After each group phase we will make a ranking to give points to teams.

The details of these group phase points will be given regularly on the day of the test. They will depend on the number of teams registered. A maximum of 700 points can be obtained during these group phases.

Chapter 7 Violations

Article 17: Warning

One of the following action results in a warning for the participant:

- The participants or element (control panel, etc...) enter on the dohyo before the referee announced the end of the meeting.
- The preparation for a new meeting lasts more than 30 second.

- An autonomous robot moving (out of its starting position defined in Article 8) before 5 seconds after the judge has given the departure signal.
- Any actions that are considered displaced.

Article 18: violations

One of the following actions is defined like a violation causes a yuko to the adversary or both.

- One or more parts of a robot with a weight of 10g at least falls out the robot.
- One of the robots no more moves on the dohyo.
- The 2 robots move on the dohyo, but don't come into contact with each other.
- Smoke escapes from a robot.

Article 19: Lost meeting by violation

One of the following actions causes a lost fight per violations:

- A participant doesn't come to the edge of the Dohyo when he is called.
- A participant ruins the fight. For example, destroying, deforming or damaging the Dohyo.

Article 20: disqualification

One of the following results in disqualification and forced him to leave the tournament:

- The robot of one participant doesn't follow the characteristics of robots given by Article 5.
- One participant created a robot not complying with the indications given by Article 6.
- A participant displays unsportsmanlike behavior. For example, use violent or libelous language to the adversary or the arbitrator.
- A participant voluntarily hurts his opponent.

Chapter 8 Injury and accident

Article 21: Suspension request

When a participant is injured, or a robot has an accident, and the fight can't continue, a suspension of up to 5 minutes maximum can be requested by a participant.

Chapter 9 Objection

Article 22: objection to the referee

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

Article 23:

A participant who raises an objection on the tournament rules must explain his disagreement to the managers tournament before the start of the fight.