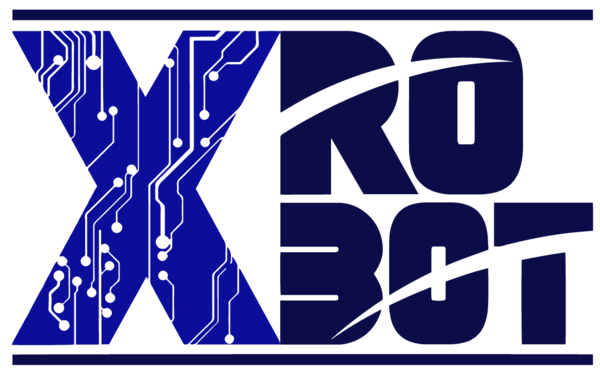
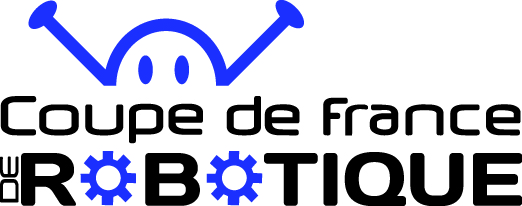
**System requirement specification R2**

**(on top of SRS R1)**

**Robot**

**deadline 10th April**

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1. **Avoiding collisions**

|  |  |
| --- | --- |
| REQU 1 | The robot shall have at least one sensor on its front panel |
| REQU 2 | The robot shall be able to detect an obstacle in its path up to 200mm ahead of it |
| REQU 3 | When an obstacle is detected the robot shall be stopped in less than 100mm |
| REQU 4 | After an emergency braking the robot shall move again in less than 5s |
| REQU 5 | The robot shall wait at rest for 3 seconds for the obstacle to go away by itself |
| REQU 6 | While it’s waiting, the robot shall calculate an alternative trajectory in case the obstacle doesn’t move |
| REQU 7 | The movement initiated in REQU 4 shall avoid the eventual obstacle if this obstacle doesn’t move |

1. **Installing the robot**

The atoms and the game table are set up according to the rules.

|  |  |
| --- | --- |
| REQU 8 | One single person shall be able to place the robot on the table in less than 3min |
| REQU 9 | The robot shall be placed in its starting zone with help of wedges |

1. **Scoring one point**

|  |  |
| --- | --- |
| REQU 10 | The robot shall start from its starting zone |
| REQU 11 | The robot shall have a system to push an atom |
| REQU 12 | The robot shall leave its starting zone to reach a position adapted to the pushing of an atom (*i.e* the atom shall be situated between the robot and the periodic table) |
| REQU 13 | The robot shall be able to push one of the atoms next to the starting zone into the periodic table |
| REQU 14 | The robot shall be able to push the atom in less than a 100s after the beginning of the match |
| REQU 15 | If the robot encounters an unexpected obstacle, it shall react according to the REQUs described in “1. Avoiding collisions” |

1. **Adaptability**

|  |  |
| --- | --- |
| REQU 16 | The robot shall be able to act as a part of the yellow team OR the purple team according to the assignment before the match. |