Spec R1:

Requirement for the contest:

Dimension of the robot :

* The perimeter of the robot can’t exceed 1200mm, and 1500mm deployed
* The height of the robot can’t exceed 350mm (375mm included the emergency button.

Power the robot (the battery):

* Need to confirm that the battery isn’t modified
* battery Lithium-Fer and battery for the computer, phone, are allowed without any conditions

What can the robot do?

Test R1:

Spect R2:

* Do 10 times : Win the game against a static robot put randomly somewhere in the table.
* Requ 1 : The robot shall start when turned on
* Requ 2 : The robot shall start communication with camera and initialize its position in less than [N1: 100 ms]
* Requ 3 : The robot shall decide an action to do >> calculate the optimal trajectory >> move
* Requ 4 : The robot shall permanently know it’s position with a precision of [N2: 1cm (< N3)]
* Requ 5 : The robot shall recalculate the trajectory when it is [N3 : 5cm] in front of an obstacle
* Requ 6 : The robot shall be able to detect the atoms color
* Requ 7 : The robot shall be able to grab an or many [N4 : 3 atoms] atoms at once
* Requ 8 : The robot shall be able to put atoms carefully [N5 : 0.5cm from the predicted atom position]
* Requ 9 : The robot shall be able to launch the Blueium to free the goldonium
* Requ 10 : The robot shall

Test R2:

>> Robot starts after turning it on

>> Do (One or many of these actions / not necessarily in this order) :

* Put a “X” atom in place :

> Calculate trajectory OR the trajectory will be already known if launched from the starting point

> Get in front of the “X” witch is in front of its own periodic table zone without touching any other atom

> Push the “X” atom to its place

OR

> Get in front of the “X” witch is in front of another periodic table area without touching any other atom

> Take it

> Go to its area in the periodic table (Path calculated and send using the camera)

> Put “X”

OR

> Go to our Chaos Zone

> Detect “X”

> Take “X”

> Go to its area in the periodic table (Path calculated and send using the camera)

> Put “X”

OR

> Calculate trajectory (calculated and send using the camera)

> Go to the atom distributor

> Get “X”

> Calculate trajectory (calculated and send using the camera)

> Go to its area in the periodic table

> Put “X”

* Put an (or many) atom (atoms) on a random place

> Calculate trajectory (calculated and send using the camera)

> Go to our Chaos Zone/ Atom distributor

> Grab an or many atoms

> Calculate trajectory (calculated and send using the camera)

> Go to the periodic table

> Put atom or atoms

* Free the Goldonium :

> Calculate

[time limits! / moving strategy]

* not going into the opponent’s starting zone
* Put “Redium” in its place
* Put "Greenium" in its place
* Put "Blueium" in its place
* Put the “Goldonium” in its place
* Make sure atoms are in contact with the table or with another atom and that they are totally or partially in their specific zone.
* Don’t touch or move atoms in the opponent’s zone and never enter the opponents periodic table.
* [3 atoms are randomly put in front of our and the opponent's periodic table]
* weighing atoms ?.. (6 max) possibility to get into the balance through the ramp
* Free the Goldonium atom by lanching the Bleuiom initialy put in the top of the atoms accelerator
* Do the experiment: launch an electron
* Predict number of scored points