Miniproject

ROB1 - Robot programmering

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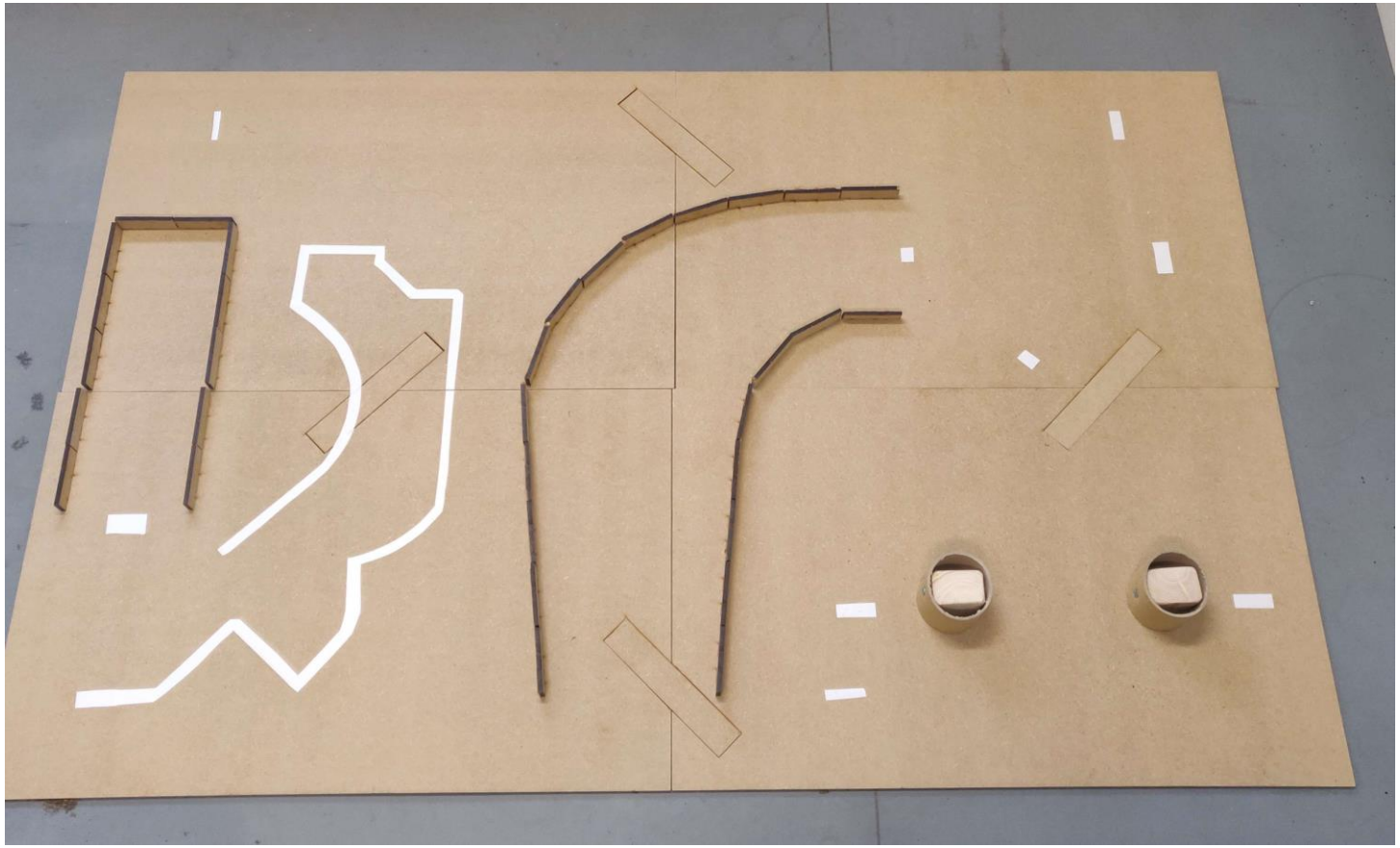
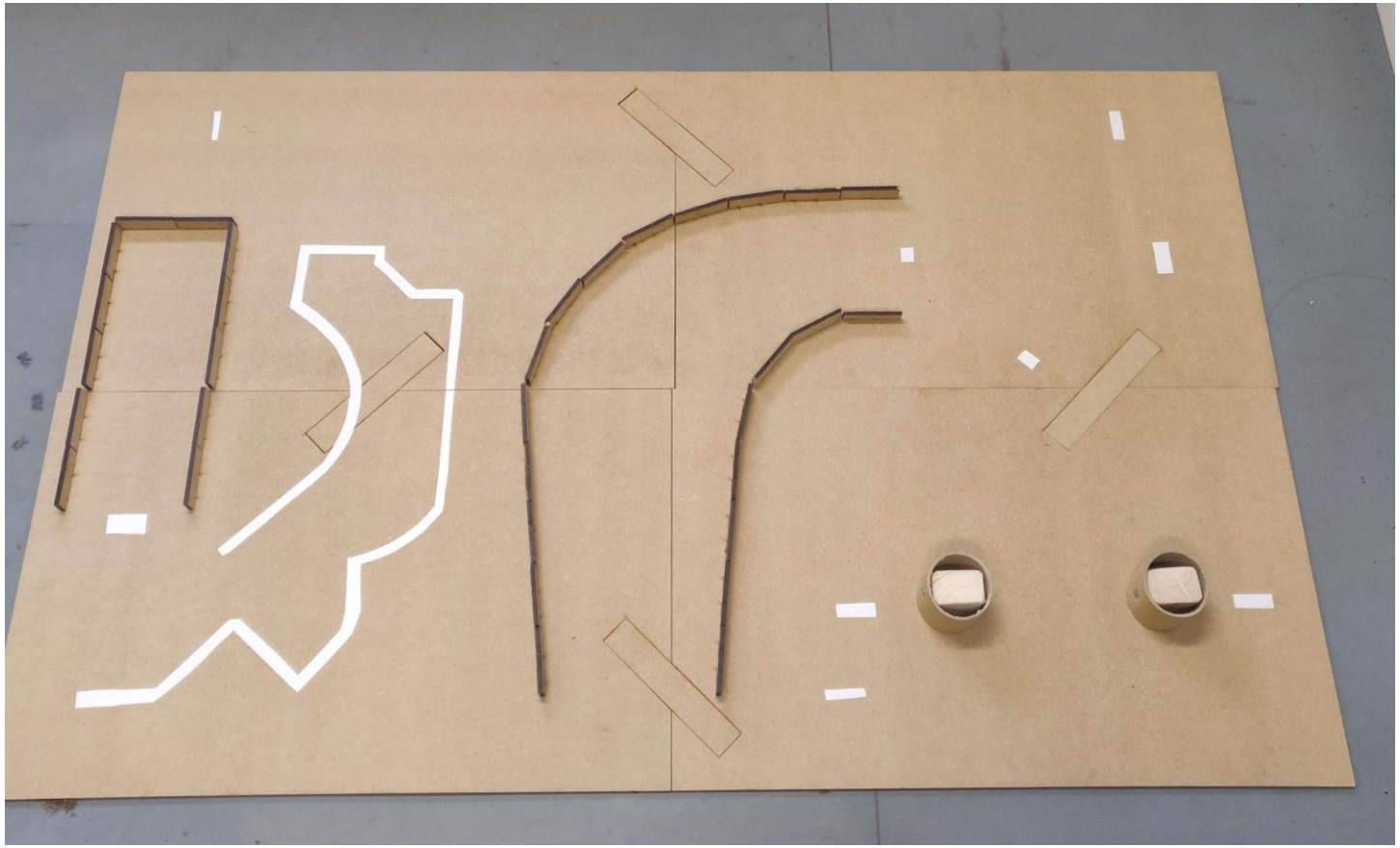
Challenge board

- 7 challenges for you to utilizing the sensor array of the robot.
- Miniproject solutions grant access to exam.
- Solutions are groupwise.
- You must document your code with comments and upload it to a GitHub repository. Then create a pdf file with the link that is uploaded to Digital Exam.
- The board is avaible for use in room 204.



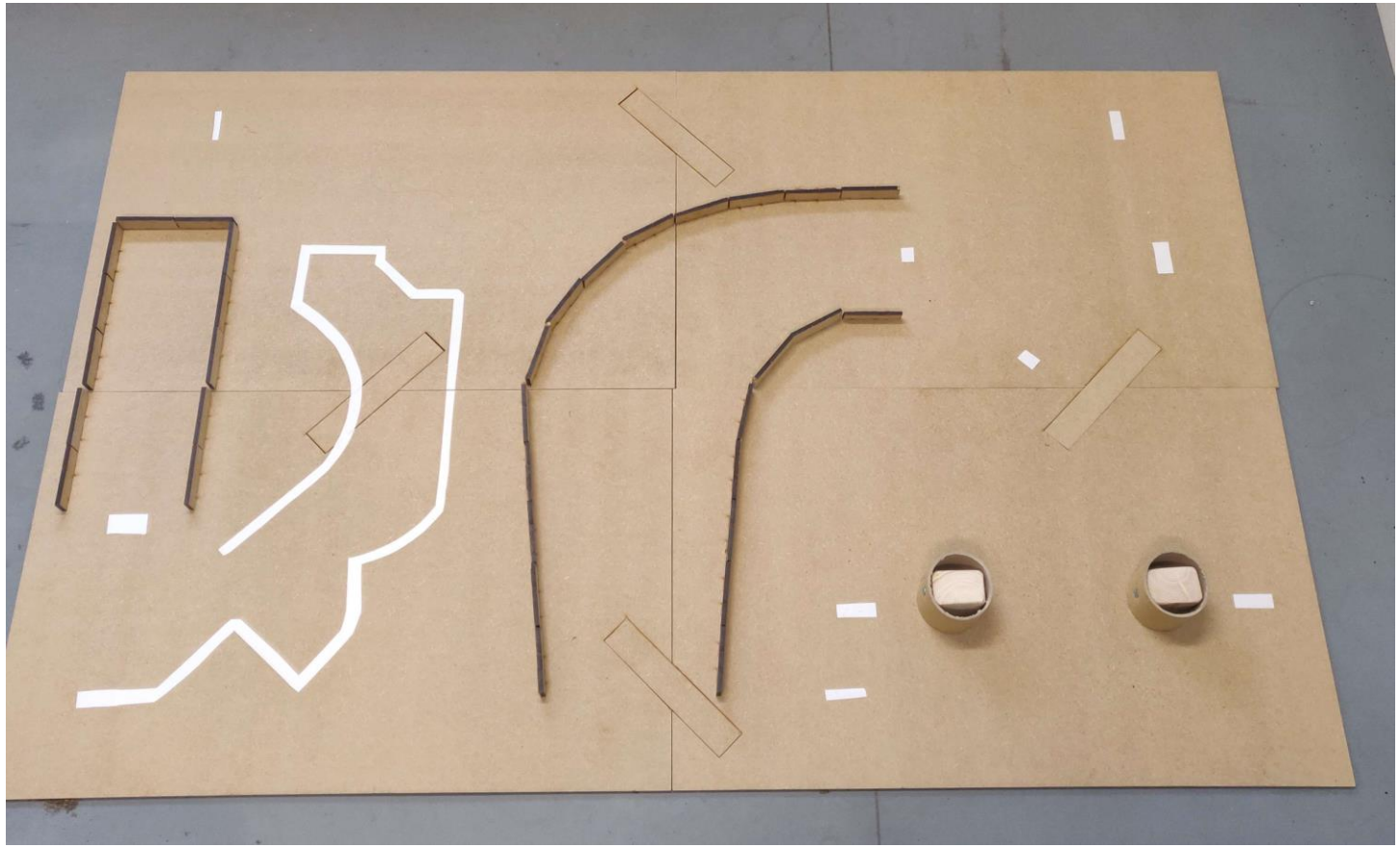
Challenge board

- There will be a competition where you will be competing for the best solutions (Date T.B.D).
- You will be judged on your completion time and precision.
- Avoid hitting any of the obstacles.
- The challenges may be modified, so make your algorithms adaptable.



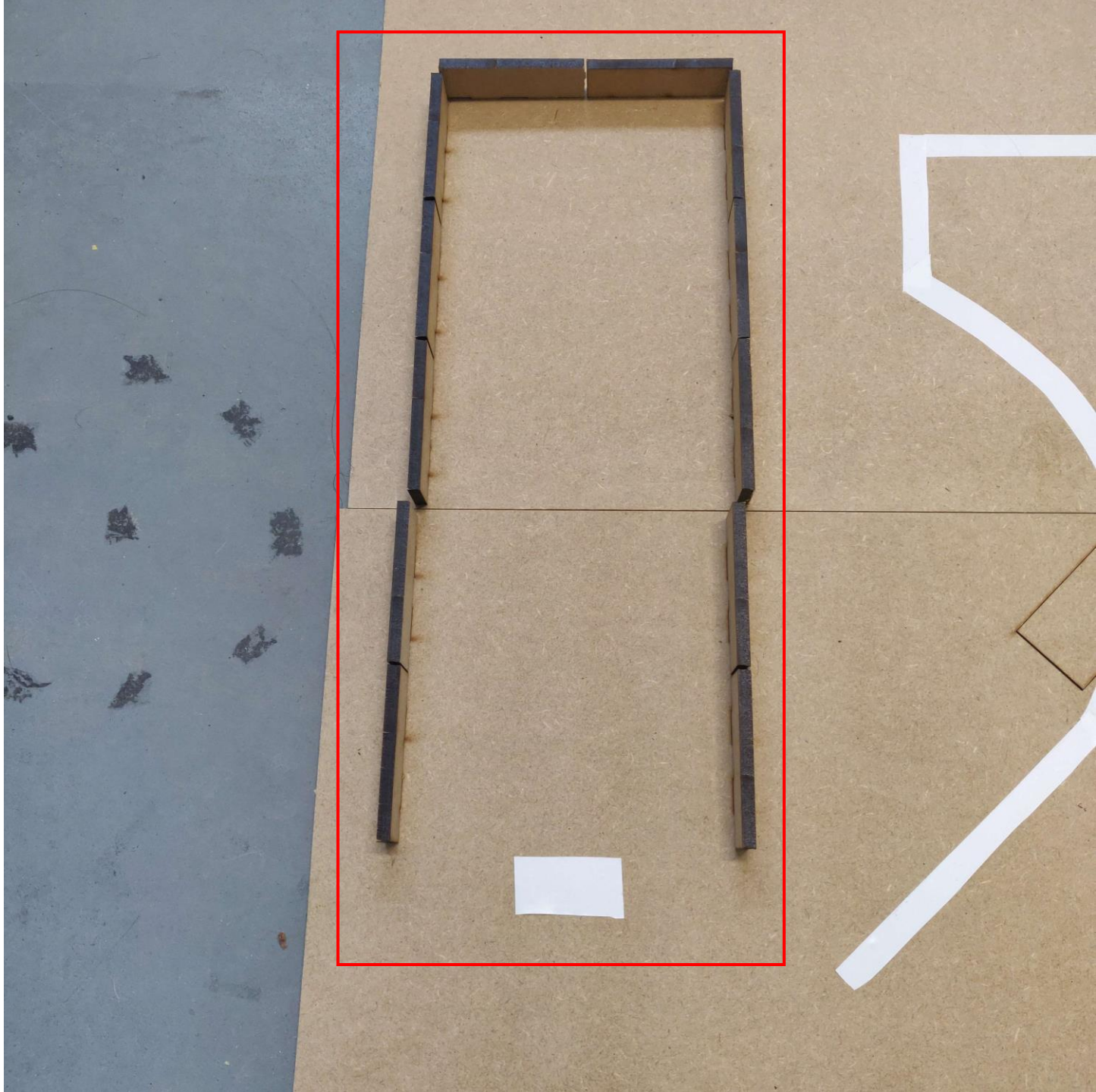
Challenge 0.

You shall program the Zumo to have a programmable interface using the encoders, the LCD/OLED screen and the buttons so that you can launch set solutions with set parameters.



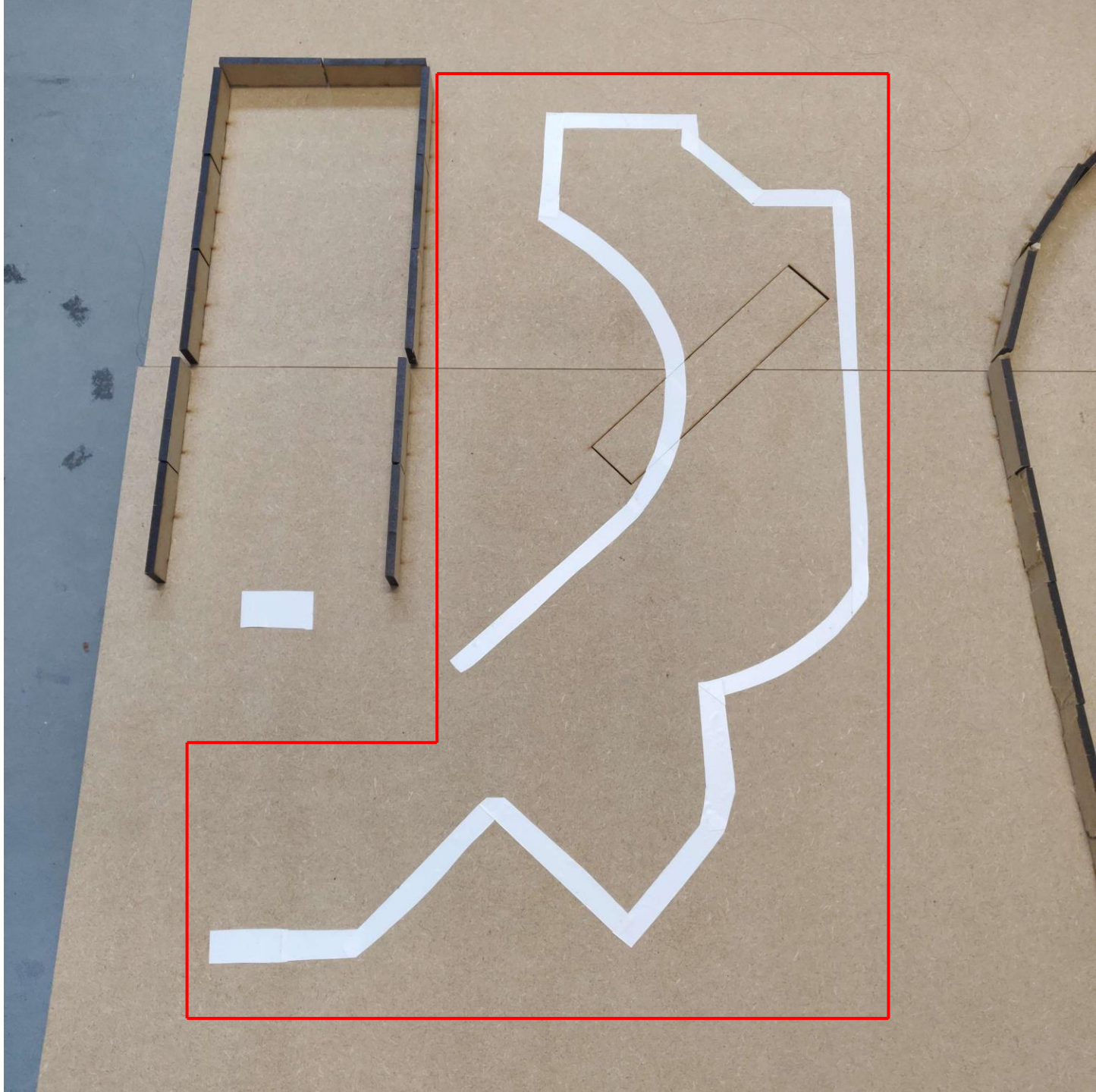
Challenge 1.

The Zumo shall be able to drive to the white line, align it self and then drive untill it is at a specific distance to the back wall at the end of the hallway.



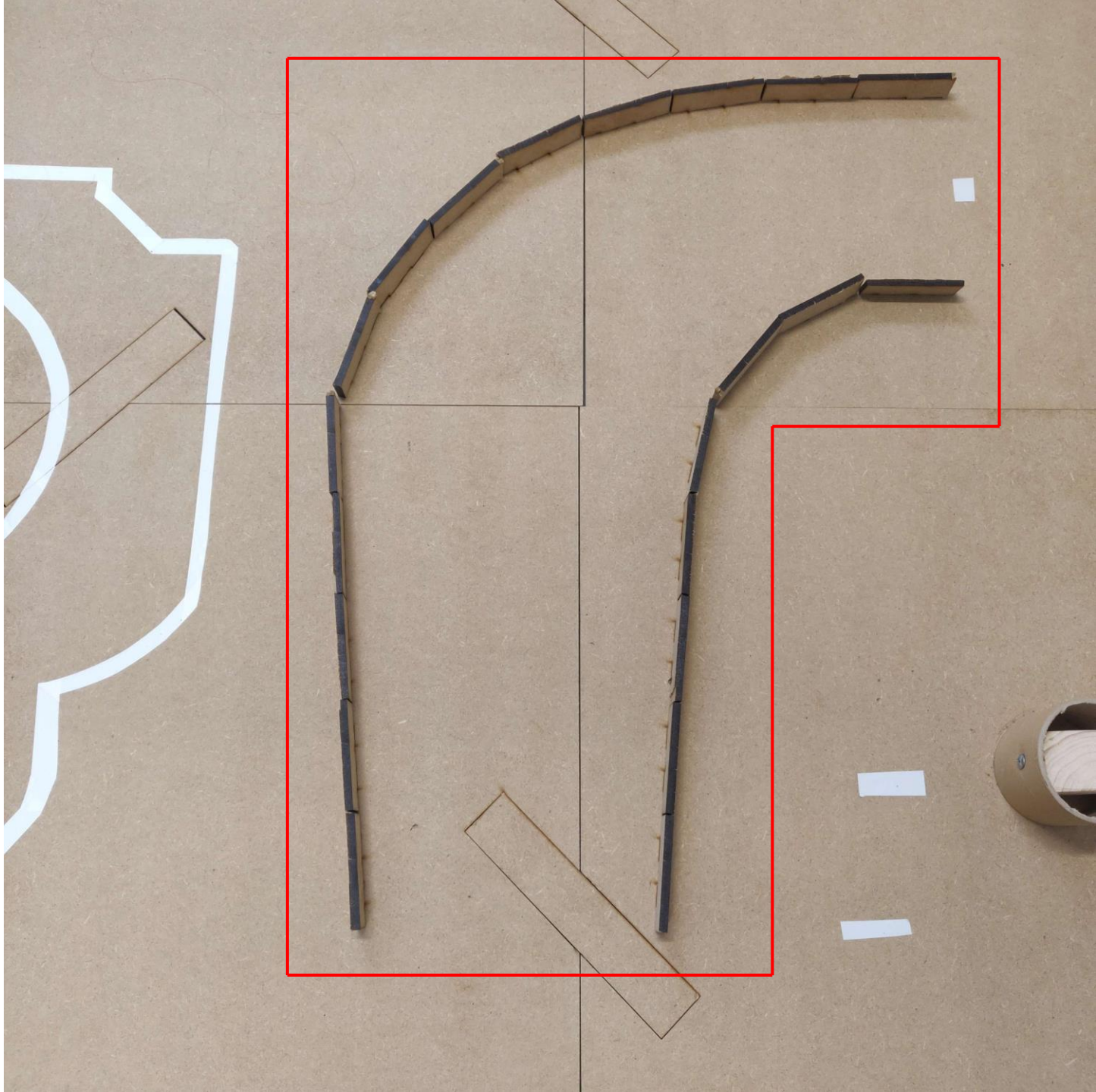
Challenge 2.

Starting on one end of the white line, the Zumo shall be able to follow the line all the way to the other end without skipping major sections.



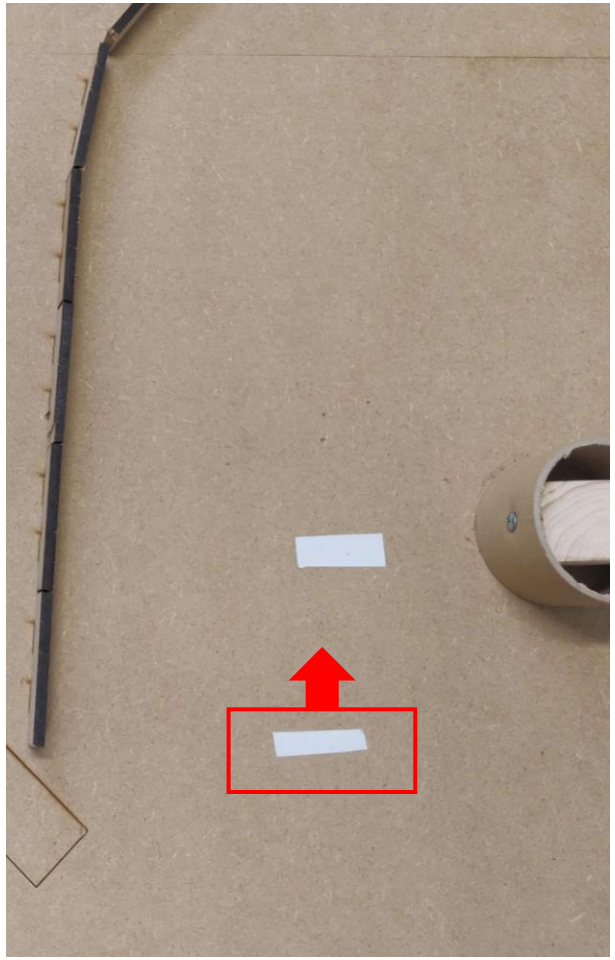
Challenge 3.

The Zumo shall drive in between the walls, with equal distance to the walls at each side, untill detection of the white line at the far end of the challenge.



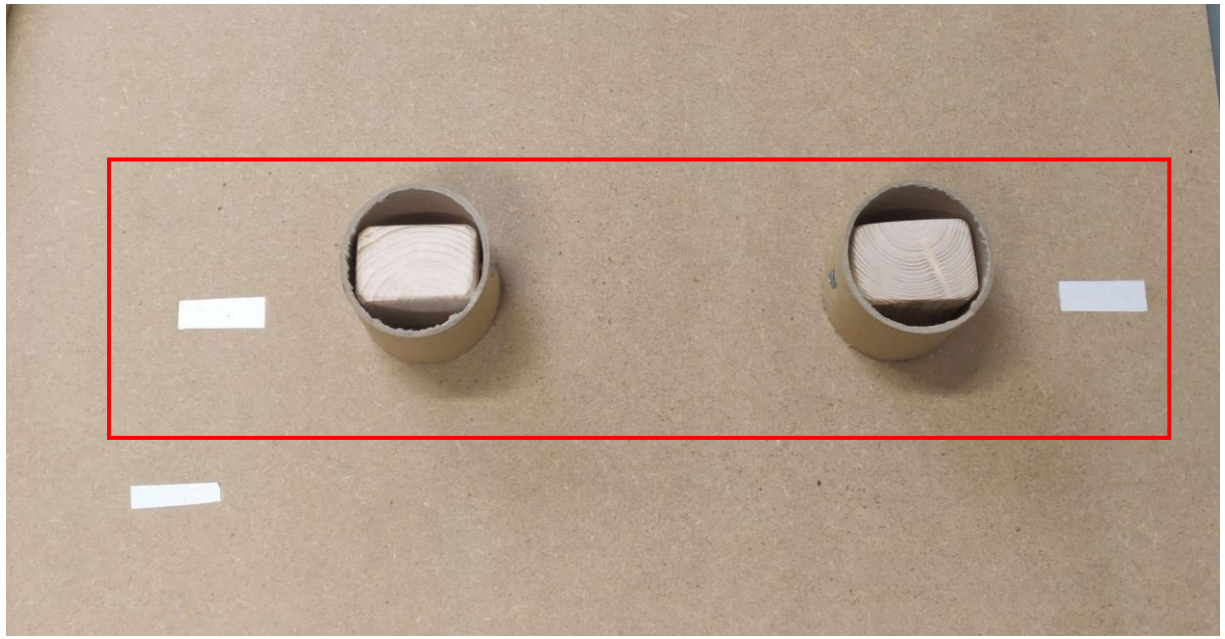
Challenge 4.

The Zumo shall be able to drive to the white line, align it self and then drive a set distance straight forward.



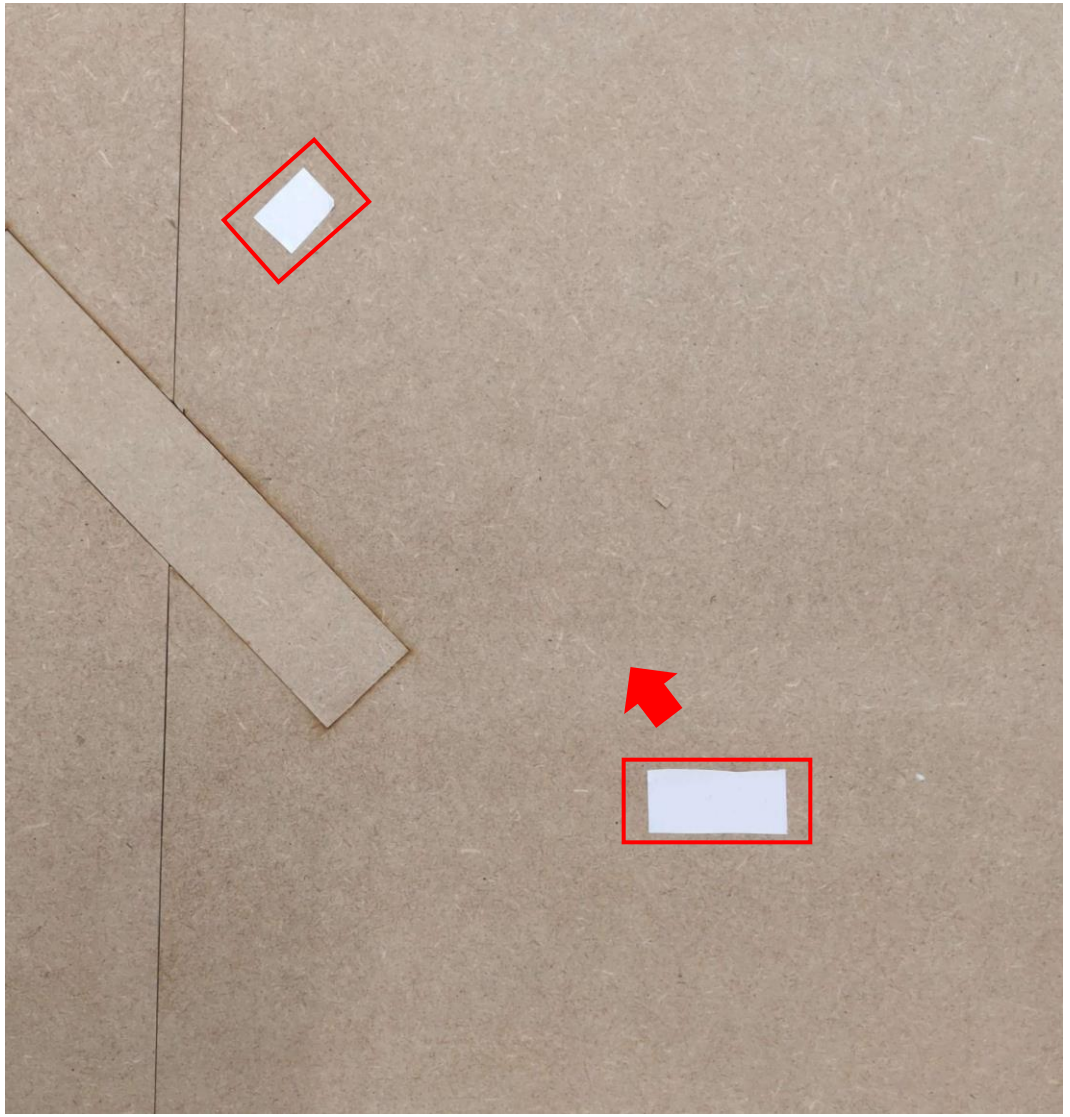
Challenge 5.

The Zumo shall drive slalom between the cylinders whilst using the white lines to count successfull passes from line to line on the display. You are challenged to get as many successfull passes as possible in a set amount of time.



Challenge 6.

The Zumo shall be able to drive to the white line, align it self and then turn the a set amount of degrees before driving forward untill detecting the other white line.



Challenge 7.

The Zumo shall be able to drive to the white line, align it self and drive straght until hitting the white line at the other end of the board.

Challenge board

Use each other and write questions on Teams

If the board breaks, then please contact me asap at mboghl21@student.aau.dk.

Have fun!