Robot Practical Course Bachelor
Competition #1

Task 1.1 The competition: This will be the last assignment of this semester, but be prepared for a hell-run of exciting, mindblowing, competitive work! Refill your coffee stock, get a last night of relaxed sleep and then join the adventure!

In the next weeks you will prepare the Turtlebots for a "laser-tag" match. Every bot gets a number of AprilTags attached on visible parts of its body. An AprilTag is basically a QR-code that can be used to detect the position and orientation of the object it sticks on via a simple webcam (or in our case the Kinect).

Rules:

- You are allowed to use the `move_base` action to control the movements of your bot. Your are also allowed to use the `move_base_simple/goal` topic to rotate the bot, but only while it is not moving otherwise!

- You are allowed to use any camera device to detect your opponents.

- The game client will do the communication for you:
  - Clone the game client:
    ```
    ssh://gitolite@git.mafiasi.de/robot-practical-course/rpc_game_client.git
    ```
  - You must use the game client!
  - It offers a scoring service. Check it out!
  - You need to set the environment variable: `RPC_TAG_ID` to the ID of your AprilTag.
  - The client will identify your player with the hostname.

- The game master will control the gameplay:
  - You will not be able to move before the game started.
  - You may only submit images every 10 seconds.
  - You will not be able to move for 5 Seconds after you have been tagged.

- The game master will score your submissions:
  - The score will be graded on:
    * the distance to your opponent
    * the horizontal distance of the AprilTag to the center of the image
    * the rotation of the AprilTag around the vertical axis.
  - It is possible to earn no points even there is an AprilTag in the submitted image.

- The winning group will earn bonus points for the final grade of this course.

CHEATING IS PROHIBITED AND WILL LEAD TO BAD KARMA[1]!

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[1]and disqualification