Technical Specifications of School Category

Eligibility

- Participants are advised to form a team of up to 5 students. Any number of teams from a school can enroll in the competition.
- All the team members should be students of same school at the time of their participation in the competition.
- Each team should provide valid identification document from the principal of the school on the competition day to prove the eligibility to participate in the competition.

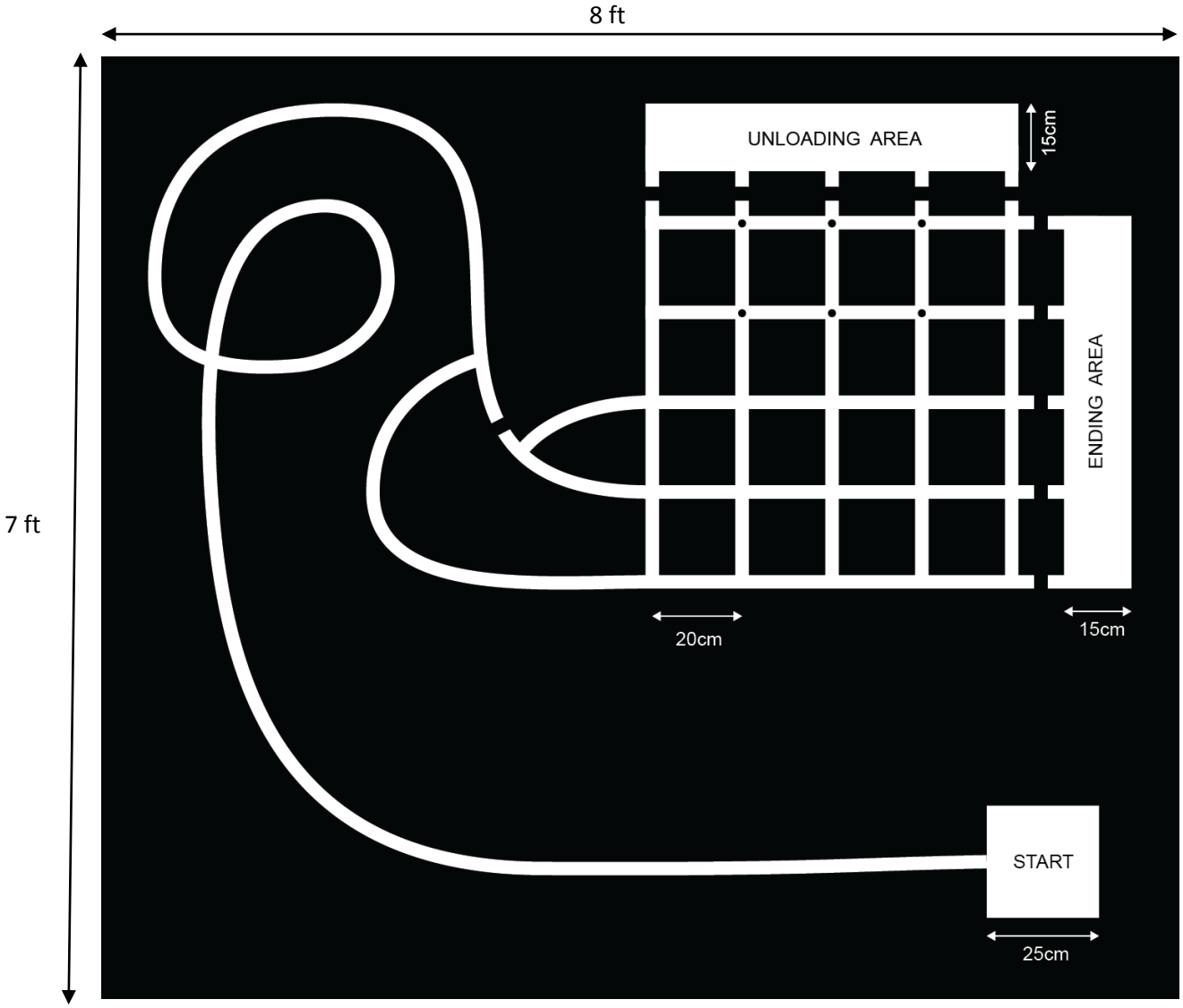
Robot Specifications

- Dimensions of the robot must not exceed 25 cm × 20 cm (length × width).
- Robot must be completely built by the team itself with their own design ideas.
- Robot should have a clearly indicated “ON/OFF” or “START” switch.
- Once the robot is switched on, it should be self-navigating. Wireless communication and remote controlled robots are not allowed in the competition.
- No off-the-shelf kits are allowed except processing boards (ie. Arduino or equivalent, Raspberry Pi, etc.), sensor modules and drive gears. If you have any doubt, contact the organizing team.
- After starting an attempt, the only interaction of the participants with the robot should be starting and stopping if necessary. A penalty will be given for any other interaction with the robot.
- Robot must be wheeled and it should not cause any damage to the platform. Any robot with the potential threat of damaging the game platform will not be allowed to compete.
- Robots should work under any ambient light condition.

Platform

- Dimensions of the platform will be 8ft x 7ft. Please refer the view of platform.
- Surface of the platform will be black and matt finished. The grid, start point, ending area and the unloading area will be glossy white. Thickness of the white lines will be 3 cm.
- There will be a clearance of at least 10 cm between any white line/white area and the edge of the platform.
- Curved lines will not be same as the view of platform below. There will be significant differences.
- Start position is indicated by a white square where the side length will be 25cm.
- Width of the unloading and ending areas will be 15 cm.
- The platform will not be perfectly flat, so be ready to face little imperfections.

View of platform



Platform Details

Start point

Starting point is marked as a white square (25cm side length). Participants should place their robot on that square.

Ending area

After completing the task, robot should stop at any point of the white area. There will be an additional black line immediately before the ending area.

Paths from level 1 to level 2

There are 3 paths from level 1 to level 2. There will be a black area (3cm in width) on the path to recognize the best path which is directed to the level 2. Immediate turn after the black area will be the best path. Robot can enter the level 2 using any path. Additional points will be given for choosing the best path.

Location of payloads

Payloads will be placed only at points which are marked in black circles on the view of platform.

- Note: These circles are marked here only for referencing. There are no black colour circles are marked on the platform.

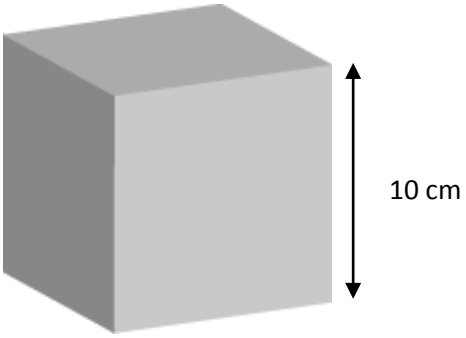
Unloading area

Payloads should be delivered to the unloading area which is marked in white. There is an additional black line immediately before the unloading area.

Payload

Payloads will be light weight cubes which have a side length of 10 cm. Payloads are made of polystyrene (rijifoam) and colour will be white. Payloads can be pushed, dragged or lifted and placed at the unloading area.

View of payload



Challenge

The challenge for the school category is to build an automated line following robot. The background colour of platform is black. There are two levels in the platform. First one is consisted with curved white lines and second one is a white grid to aid the robot to navigate the platform.

The robot should follow white lines of the level 1 and enter to the level 2. Additional points will be given for choosing the best path. Then robot should navigate the grid and stop at ending area.

There are 2 payloads placed on the second level of platform. Positions of payloads are fixed during a round. If the robot can find the payloads and deliver them to the unloading area before reaching to the end position, team will be rewarded with additional points.

Competition Procedure

- All the teams should submit their robots to the organizers of IESL RoboGames at the beginning of a round. Teams are not allowed to modify their robots after submitting.
- No trial runs will be given after starting the competition.
- At the beginning of an attempt, team should place their robot at the "START" position.
- Team should switch on the robot on the judges signal. Once robot is switched on, it should not be given any kind of aid such as pull the robot.
- Each team has 3 attempts to complete the task. Fastest attempt will be counted for grading. All 3 attempts should be made within 15 minutes.
- Team can decide to stop the robot during an attempt and the team will be given marks for percentage of completion.
- The decisions of the panel of judges regarding the rules and the conduct of the event will be final.

Please contact our organizing committee for further inquiries.

- Regarding registration and event details:
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- Regarding game specifications:
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*Please use the subject as "Robogames2014" for emails.

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