



ROBOFEST

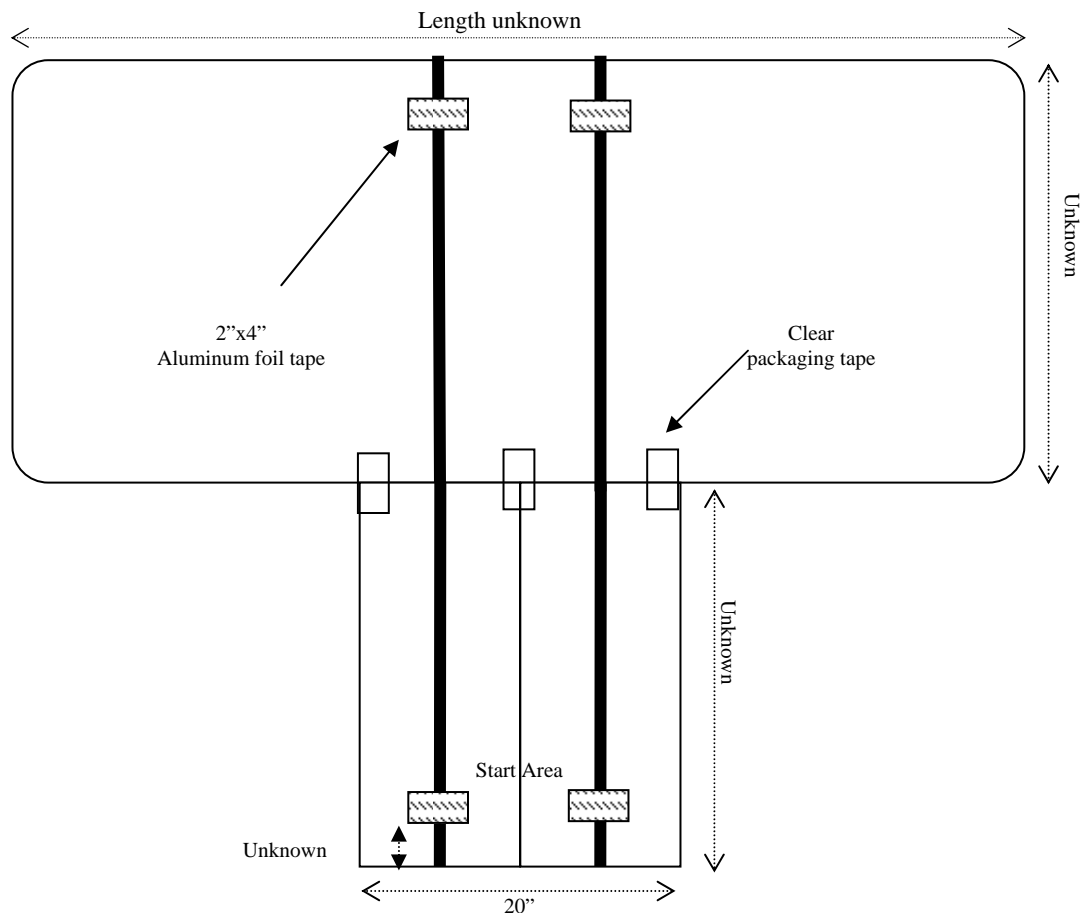
RoboFashion Show

2008 (v1.1 Official Version, Feb. 29, 2008)

Robotics in education creates an innovative and simulating classroom environment, in which students have fun, are excited, and are motivated to learn math, science, engineering and technology. Robotics transforms imagination into reality. Robotics can also connect classroom lessons to real-world environment. The RoboFashion Show category has been created in order to promote imagination, creativity, harmony, collaboration, technological arts, and beauty. As a result, it will get more students interested in science, engineering, math, and technology at an early age.

RoboFashion Show Challenge

A team of robots (two are recommended) will use the whole stage (see the figure below) to show off their costume, walk (driving), and performing dancing motions. Robots have up to two minutes to demonstrate their robots to music; the music is the team's choice. Robots must start from Start Area and may finish at any location. Robots may follow the edge of the boards and do not need to follow the lines, especially on the table area. Team members may interact/dance together with their robots while sending various signals to the robot for synchronizing the dance.



The stage is made of a plastic folding table (light surface color, not necessarily white) and laminated white multipurpose boards (about 10" width) with a black line in the middle. The shape of stage is known in advance as you see in the figure above, but the actual lengths will remain unknown until the day of the competition. To help with robot localization, size 2x4" aluminum foil tape will be placed on the black line and intersections as landmarks. The boards will be placed on 10.5" high crates. Team members are responsible for catching robots that fall off the course. Since the folding table is thicker than white boards at the contact area between the table and white boards, something such as books or magazines needs to be placed under one end of the boards in order to make the surface flat. Therefore, there will be a slight incline. The seam will be taped with clear packaging tape.

RoboFashion Show simulates human fashion shows. As a reference for ideas, a bridal fashion show video can be found at <http://video.google.com/videoplay?docid=3504599566833590400&q=fashion+show>

RoboFashion Show with story (RoboSkit) is welcomed. Teams can use microphones during the show.

Robots specifications

- Number of robots per team: one or more (two robots are strongly recommended)
- Robot type: any, as long as fully autonomous (no remote control is allowed)
- Robots may not be touched after they are started. If touched due to malfunctions of the robots, points will be deducted by judges. Human players, however, encouraged to use voice, sound, claps, hand signal for the ultra sonic sensor or camera, or visible light to signal robots.
- legged robots are welcomed
- Any programming language can be used
- Number and types of robot controllers, sensors, motors, or parts: unlimited
- Robot shape: human or animal like with arms, tail, and creative costumes
- Size: width should be less than 10". (no limitation on length, height, or weight)

Robot programming requirements

- Each robot may need a reliable program to follow a black line or edge on a white surface
- The lighting condition of the stage is static but unknown until the day of the competition
- If a team has multiple robots, there must be a method to work together such as the ability to detect member robot in front of it and stop and be able to automatically restart.
- Each Robot is supposed to cover the whole stage for getting better judging scores. This means each robot needs to visit the large table area to the left and right sides on black lines.

Judging

Each team is given a chance to introduce the team members and robots to the audience using the general Robofest rule. Just like the judging of figure staking, a panel of judges will decide winners using various criteria such as robot design, decoration of the robots, costume, completeness (cover the whole stage or not), reliability (human help or not), technological merit, creativity, artistic choreography and performance, synchronization, harmony, team work, etc.

Team registration

- Maximum 7 members per team
- 5th – 9th grade students
- Each team must bring everything needed for the show, such as a computer (laptop) to program, electrical cords, music CD or MP3 file, etc.