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MAY 2, 2008 DISCOVER DALLAS 2008 ROBOTICS COMPETITION THE DIOCESE OF DALLAS

Registration Rules:

- There will be three divisions
 - Arena RCX
 - Arena NXT
 - Invention RCX/NXT (either kit may be used)
- Arena teams will consist of 2 – 4 members
- Invention teams will consist of 2 – 6 members
- Students may be a member of only one team (any division)
- Students in grades 4-8 may compete
- Each school may enter up to three teams per division for a total of nine teams
- One adult sponsor for each division will be required for supervision
- Registration closes on April 18, 2008
- NO late registration will be allowed
- NO additions or changes may be made to a team after April 25, 2008, except to remove a team member
- 1st, 2nd, and 3rd place will be awarded for each division

General Competition Information:

- Registration Fee - \$25 **per** division entered
- Each school will receive 1 practice mat, 1 toll booth, 1 hockey goal & puck, 5 felt pieces
- Robots brought to the contest must have been built and programmed entirely by the student team members
- Robots may be programmed using Robolab, Mindstorm, or another programming language
- Lego parts may not be altered in any way
- Only students will be allowed in the team work area

Location Information:

- May 2, 2008
- St. Monica – Family Center
- Team check-in starts at 8:30
- Competition for all divisions starts at 9:30
- Concession Stand will be open



DISCOVER DALLAS 2008 ROBOTICS COMPETITION ARENA CHALLENGE OVERVIEW

The Challenge.....Should You Choose To Accept It:

- The team captain will place the robot in start area

Tasks:

1. The robot follows the jogging path through Katy Trail using a light sensor, exhibiting line reading behavior, and completing the entire path

After Task 1, Tasks 2, 3, & 4 may be done in any order. You may decide not to do all of the tasks. Points will be awarded only for completed tasks (see score sheet).

2. The robot travels to American Airlines Arena and plays hockey
3. The robot drives to the Dallas Tollway and uses toll tag
4. The robot drives to North Park Mall and shops
5. The robot then drives home and parks on the stop sign

Scoring:

Action	Points	Possible Points
Jogging Path – follow entire path – must use black line reading to receive points	50	50
Hockey puck entirely in the goal	50 pts each	50
Hockey puck touching the goal line	15 pts each	15
Toll Booth – passes through booth	15	15
Toll Booth – indication of paid toll	35	35
Shopping – collect t-shirts	10 pts each	50
Stop on stop sign	25	25
Total Possible Points		225



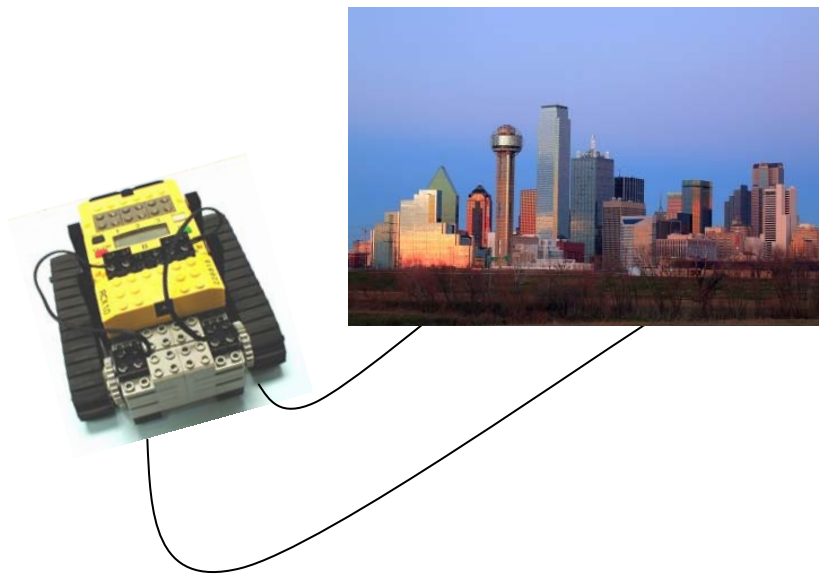
DISCOVER DALLAS 2008 ROBOTICS COMPETITION ARENA CHALLENGE RULES & REGULATIONS

General Competition Information:

- The robot brought to the contest should have been built and programmed entirely by the students/team
- Each school which has an arena entry will receive one course mat, 1 hockey goal, 1 hockey puck (checker), one toll plaza, and 5 flannel pieces to practice with prior to the competition
- There will be two arena divisions, one for RCX kits and one for NXT kits. A student may be on only one team (arena or invention).
- The arena used at the competition is 4' x 4' and does have sides.
- Only ONE Lego MindStorms robotics kit may be used to construct the autonomous robot. Multiple kits may NOT be used.
- Teams participating in the RCX division may use one additional motor
- Teams may improve functionality, decorate, or accessorize their robot with Lego or foreign items, such as cardboard, Popsicle sticks, rubber bands, playing cards, ect totaling \$5.00 or less.
 - All extra items must be itemized into a Bill of Materials, assigned an appropriate retail value, and approved and signed by the team sponsor
 - Bill of Materials form available on-line
 - Bill of Materials **MUST** be submitted at time of check-in
- Teams will be called to the arena when it is time for them to compete. If the team is not present by the end of the second call, they will forfeit the match.
- The team captain will place the robot in the starting block. After starting the robot, the team captain **MUST** be seated. All other team members **MUST** be seated in the designated team area.
- For RCX bricks, one team's download can erase another team's programs and ruin their performance. Therefore, downloading is only allowed in the Practice Area. It is recommended to cover the RCX receiver with electrical tape after downloading your program.

Arena Adventure Rules:

1. The robot's starting dimensions must fit completely inside the 10" x 10" start area.
2. Robots must leave the "Start" area and perform tasks with only their programming to control them. Remote control units are not allowed.
3. If a robot does not move after the start button is activated, the captain of the team may start their robot again.
4. If a team member touches the robot while it is COMPLETELY outside of the start area before the 2 minute time is up, it will be disqualified from the entire competition. HOWEVER, if the robot has completed the course and has reached home, it may be turned off but not removed from the arena.
5. The robot MUST attempt at least one task other than going Home to receive any points.
6. For points to be awarded for the jogging path, the robot must use a light sensor, exhibit line reading behavior, and complete the entire path.
7. In order to receive points for Home, some part of the robot must be on the stop sign and stop.
8. Upon arrival at home, a judge will pick up the robot and the team will receive 10 points for each piece of flannel attached to the robot.
9. The score is determined at the end of the 2 minute round (or when the captain states the run complete) by the condition of the field at that time only. This means that if a robot moves an object into a scoring zone and then subsequently moves it out before the round is completed, the team will not receive points for that item.
10. Each team will run the course twice. All entries will run in a pre drawn order. At the end of the first round, all teams will run a second time in the same order as round one.
11. The winner will be the team with the highest score from either round. If there is a tie, time will be used as the tie breaker.
12. The judges make ALL final judgment calls and will not consider protests.





MAY 2, 2008
DISCOVER DALLAS 2008
ROBOTICS COMPETITION
ARENA CHALLENGE
SCORE SHEET

Team Name: _____

Toll Paid Signal: _____

Action	Points	Possible Points	Points Earned Round 1	Points Earned Round 2
Jogging Path – used black line reading	50 pts.	50		
Hockey puck touching the goal line	15 pts	15		
Hockey puck completely in the goal	50 pts	50		
Pass through toll booth	15 pts.	15		
Indicated toll paid	35 pts.	35		
Shirts bought and taken home	10 pts. each flannel shirt	50		
Stopped on stop sign	25 pts.	25		
Total Points (225 maximum score)				
Time (2 minutes maximum time allowed)				

Judge's Signature

Best Round
Points: _____
Time: _____



MAY 2, 2008 DISCOVER DALLAS 2008 ROBOTICS COMPETITION INVENTIONS CHALLENGE

In the Inventions contest, teams will create and develop a unique robot that is designed to solve an existing problem of their choosing. Judging criteria will be based on design and complexity of the robot, creativity and originality, selection of the problem and a workable solution. A daily logbook should be kept that documents the team's progress and explains their thought process as they developed the invention. The team will also be judged on the marketing and presentation of the product.

Rules:

- The robot brought to the contest should have been built and programmed entirely by the students/team.
- The team sponsor is allowed in the team area to help deliver and setup the display.
- Only students will be allowed in the team work area after initial set-up. (If a situation arises, such as laptop failure, then the parent or sponsor should inform a contest official and receive approval before entering the team work area.)
- Students must display name tag prominently.
- Each team should consist of 2 – 6 members.
- Each team will have a 6 foot table to use if desired to conduct their presentation and will be limited to that space.
- Presentation time is will be no less than 3 minutes and no more than 5 minutes.
- The robot is not limited to number of motors or sensors.
- The Judging Rubric will be used to score the competition.

Judging Rubric:

CATEGORY	0 Points	1 - 3 Points	4 – 7 Points	8 – 10 Points
Complexity of Programming	No evidence of programming	Programming uses a simple design with few steps.	Program has evidence of several tasks, functions, and steps.	Program is complex and has numerous tasks, functions, and subroutines.
Construction Design	Poor design and construction. Unable to initiate task.	Weak design and construction. Able to partially complete the task.	Adequate design and fairly stable construction. Able to complete most elements of task.	Well thought out design and stable construction. Able to complete task.
Creativity and Originality	Uses existing ideas, no original thought.	There is little evidence of original thinking.	Invention shows some original thought. Work shows new ideas and insights.	Invention shows a large amount of original thought. Ideas and creative and inventive.
Selection of Problem and solution	No solution to the selected problem.	Partial solution to the selected problem.	Practical solution to a selected problem.	Unique and practical solution to a relevant or significant problem.
CATEGORY	0 Points	1 Point	2 - 3 Points	4 – 5 Points
Logbook	No logbook.	Incomplete description of activities in logbook.	Adequate description of activities in logbook demonstrating thought processes, development, and design.	Meticulous, detailed, and extensive description of activities in logbook demonstrating thought processes, development, and design.
Marketing	No marketing theme evident.	Loosely connected ideas to promote invention.	Focused theme or ideas in promoting the invention.	Creative theme or ideas in promoting the invention.
Presentation	Delivery not smooth and audience attention often lost.	Delivery not smooth, but able to maintain interest of the audience most of the time.	Rehearsed with fairly smooth delivery that holds audience attention most of the time.	Well-rehearsed with smooth delivery that holds audience attention.



MAY 2, 2008 DISCOVER DALLAS 2008 ROBOTICS COMPETITION INVENTIONS CHALLENGE

Team Name: _____

School: _____

Part 1:

CATEGORY	0 Points	1 - 3 Points	4 – 7 Points	8 – 10 Points
Complexity of Programming	No evidence of programming	Programming uses a simple design with few steps.	Program has evidence of several tasks, functions, and steps.	Program is complex and has numerous tasks, functions, and subroutines.
Construction Design	Poor design and construction. Unable to initiate task.	Weak design and construction. Able to partially complete the task.	Adequate design and fairly stable construction. Able to complete most elements of task.	Well thought out design and stable construction. Able to complete task.
Creativity and Originality	Uses existing ideas, no original thought.	There is little evidence of original thinking.	Invention shows some original thought. Work shows new ideas and insights.	Invention shows a large amount of original thought. Ideas and creative and inventive.
Selection of Problem and solution	No solution to the selected problem.	Partial solution to the selected problem.	Practical solution to a selected problem.	Unique and practical solution to a relevant or significant problem.

Part 1 Score: _____

Part 2:

CATEGORY	0 Points	1 Point	2 - 3 Points	4 – 5 Points
Logbook	No logbook.	Incomplete description of activities in logbook.	Adequate description of activities in logbook demonstrating thought processes, development, and design.	Meticulous, detailed, and extensive description of activities in logbook demonstrating thought processes, development, and design.
Marketing	No marketing theme evident.	Loosely connected ideas to promote invention.	Focused theme or ideas in promoting the invention.	Creative theme or ideas in promoting the invention.
Presentation	Delivery not smooth and audience attention often lost.	Delivery not smooth, but able to maintain interest of the audience most of the time.	Rehearsed with fairly smooth delivery that holds audience attention most of the time.	Well-rehearsed with smooth delivery that holds audience attention.

Part 2 Score: _____

Total Score: _____

Judge's Signature