

## DECEMBER 1997 ISSUE OF THE DPRG NEWSLETTER

Well, another year has come and gone. Man, where did the time go? Looking back on this past year, we've accomplished so much! We've grown from just a few in attendance to consistently having 25-30. Our membership has grown from just a few to about 50. We've had T-Shirts made for 1997 (of which we have sold enough to pay ourselves back for them being made)! We've started working on a group robotics project (GARP). We've started working on an H-Bridge project again and it looks like it has promise. We've held a very successful robotics contest. We've gotten a lot of new and improved data up on our web pages. We've started a DPRG email list, which has been very successful. By the way, I believe the web pages and the email list has been tremendous in raising awareness of our group globally, and we now even have members outside the Dallas area. Besides our regular meetings at the Infomart, we've been holding monthly "Robotic Builder's Night Out" meetings as an informal get together to just chat about robotics, and they have been very successful with about 5 to 10 in attendance at each of these meetings. And, much work has been done to complete our goal of getting 501c status for our group. And, there's probably other things going on, that I can't recall at the moment. Wow, in just one year, we've really come a long way!

What do we have planned for the future? So far there's planned to be another robotics contest in February, setup a display case in a local library in March, and host a booth at the Pepsi-kid-around in September. Other things we might consider are having a 1998 T-Shirts made, continuing with our 501c status work and thereby get a group bank account, continue updating our web pages, holding training classes at the end of our meetings, and maybe create a basic robotic kit for beginners and the advanced.

There is so much that we could be doing, as a group. We learn so much just by getting together and sharing our ideas and learning from one another. We have so many talented members and visitors in the meetings and on the email list. My experience in being in the DPRG has to me been a very satisfying one. I have been honored to be president of this great group of people this past year. Thanks to everyone for the great time this year that you've allowed me to have as president! Whether I'm elected next year to be president or not, I will be more than happy to continue to be an active member of the great group we know as DPRG and to help out in any way that I can.

Thanks for the memories, they've been great ones!  
Jim Brown, 1997 DPRG President

### Clay Leads the November DPRG meeting



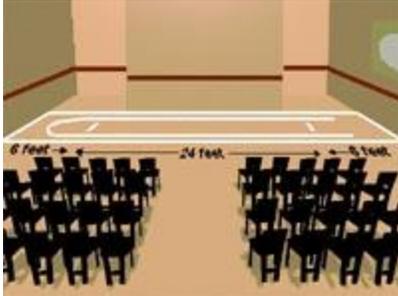
Look at the huge crowd at the November meeting. We've been consistently holding around 25-30 in attendance in our meetings. Check out the [Photo Gallery](#) of pictures taken at the November DPRG Robotics Meeting.

The Dallas Personal Robotics Group is one of the nation's oldest special interest groups dedicated to the development and use of personal robotics and has been around since 1984. Currently the DPRG has about 50 members.

### The Fiscal Year is at Hand

We're coming up on another DPRG fiscal year. In January we'll be holding elections once again for the officers and workers in the DPRG and maybe try to decide something about the new Bylaws and what officers we should have. Right now, the only officer we have is me (Jim Brown) as President. That's really not the way we should be operating. Also, we have a Librarian, a Software/Hardware librarian, and a parts librarian. Anyway to change the Bylaws will require a hefty majority of the membership which is now up to about 50. Steve Rainwater has penned a new set of updated bylaws for us in preparation of getting the 501c status for our group that will require a set of bylaws. I'll try to get them online for everyone to view. We all need to sit down and read them and decide if that's what our group should be doing.

### RoboRama Robotics Contest to be held in February



DPRG will be having a robotics contest at the February meeting! The date was moved back to accommodate those who are still working on their robot for the contest and since November, December, and January are busy months to find time to work on robots. The purpose of the contest is to raise participation in the group. Hopefully this will inspire those who have half-built robots to get them built so that they can do the course. Last time (May 97) we had the contest we had 9 robots enter and 5 robots that completed the course. Eric Yundt's YaTu had the best time.

The simple premise for the contest is for a robot to autonomously go from the start area (on the right) to the end area (on the left), and back in the best time. Although this seems like a simple task, it's amazing how few were able to come up with a robot that could do it for the last contest. (click on the image to see a 120k animated gif of a robot running the course). The Contest is described in more detail below.

## **More on Robotics Contests** by the Contest Committee and penned by Eric Yundt

RoboRama.97b

October, 1997

The purpose of the RoboRama is to provide a forum for DPRG Robot Builders to exhibit their Robot(s) and by example, to encourage others to engage in Robotics.

All Robots are invited to come and be on display regardless of sophistication, level of completion, or ability to compete in the contests.

The contests are open to all DPRG members.

Robot contestants must follow these guidelines:

- o they must be autonomous -- self-controlled
- o they must not rely upon human intervention during the contest except for starting, stopping, or during emergency situations
- o they can have on-board or off-board controllers, tethers are OK
- o their dimensions must not be greater than, 48" length, 48" width, 96" height and they must not weigh more than 300 lbs.
- o they must not inherently present a danger to humans, other contestants, pets or property

Contest course boundaries are defined by walls of the room and by 12" high portable walls made of white cardboard or poster-board.

Each Robot contestant has the specified "Time to Complete Course" amount of time to finish a given course and may be restarted from the START AREA as many times as necessary within the allotted time.

Questions about the guidelines, how things are scored, or RoboRamas in general should be directed to the DPRG Contest Committee.

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#           #
#  QUICK TRIP  #
#           #
#####

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Objective:

For an autonomous Robot to begin in the course START AREA "A", travel to the END AREA "B" (completely over the line), and then return to the START AREA "A" in the least amount time.

Time to Complete Course: 5 minutes

Accomplishments	Points	8'	
Shortest Times to Complete Course	1st: 30 2nd: 15 3rd: 10		
Turns Around in Designated Areas	10		
Not Touching Any Walls	10		
Start on Command/Countdown	10 / 5		
Cognitive Navigation	10		
Entertainment Value	0 - 10		
Craftsmanship Value	0 - 10		
Discretionary Bonus	0 - 15		
Total Possible Points:	105		

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#####
#           #
#  T-TIME   #
#           #
#####

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Objective:

For an autonomous Robot to begin in the course START AREA "A", travel to the END AREA "B" (completely over the line), and then travel to the SIDE AREA "C" (completely over the line), and then return to the START AREA "A" in the least amount of time.

A random number (1 - 6) of soda cans will be "hidden" (placed) on the course (6" or greater from walls) which may be counted, collected, and brought back home to the START AREA "A" for extra points. Soda cans may be removed for any contestants who don't want them in the way.

Time to Complete Course: 8 minutes

Accomplishments	Points	8'	---
Shortest times to complete course	1st: 40 2nd: 20 3rd: 10		
Turns Around in Designated Areas	10		
Not Touching Any Walls	15		
Soda can recognition/count can be indicated by blinks, beeps, etc. Cans may be collected singly or in groups and must be brought entirely into the START AREA "A" to count.	8'   C   16' 32'		
Recognize/Count Cans (each)	10 / 15		
Bring Cans Home (each)	10 / 15		
Entertainment Value	0 - 10		
Craftsmanship Value	0 - 10		
Discretionary Bonus	0 - 15		
Total Possible Points:	100 + 30/can		

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### Scoring Guidelines

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There are several types of scores that may be awarded a Robot contestant. Some scores are based upon certain accomplishments being done (yes or no), others on how many of specific objectives are achieved (e.g., 2 out of 3 cans collected), and some variable scores are based upon a judgement call by the judges (e.g., how entertaining on a scale of 0 - 10).

DONE THAT scores are awarded in full if objective is accomplished. HOW MANY scores are awarded in full each time specified tasks are accomplished. VARIABLE scores are awarded from zero to full scale based upon how well an objective or ideal is met in the judges opinion.

DONE THAT scores	HOW MANY scores	VARIABLE scores
Shortest times	Count cans	Entertainment
Turns around	Collect cans	Craftsmanship

No touch  
Start on command  
Self-navigate

Discretionary

OBJECTIVES/ACHIEVEMENTS & DESCRIPTIONS

Shortest Times to Complete Course, 1st, 2nd, & 3rd Place

Strictly time-based. Shortest time to go from START AREA, through the course and to completely within the FINISH AREA. Top three finishers are awarded full amount for their respective place.

Turns Around All Designated Areas

Does Robot turn around in designated turn areas versus just going straight in and backing out? Robots turning in every area are awarded full "Turn Around" points.

Not Touching Any Walls

Robots not touching any course walls or crossing tape marked "boundaries", are awarded full "No Touch" points.

Start on Command (full points) or Countdown (1/2 points)

Does Robot automatically start running the course on command or do a countdown versus being started manually? Starting on command must be done via a "non-physical" method, for example: voice, whistle, light signal, etc. A countdown start is a time delayed start, with or without indicators. Robots who start the course on command are awarded full points. Robots doing a "countdown" start are awarded half (1/2) "Start on" points.

Cognitive Navigation

Does the Robot make navigational decisions on its own as it completes the course versus being pre-programmed with course completion details? Navigating Robots are awarded full "Navigation" points.

Recognize / Count Cans (each)

In Soda Can courses these points are awarded for each Soda Can noticed by the Robot. "Noticed" is defined as a Soda Can being detected by the Robot and may be indicated by an audio/visual signal at the Soda Can "site". Points are only awarded for a given can once -- no additional points for noticing the same Soda Can multiple times. Full points are awarded for each Soda Can "noticed" and half (1/2) points additional for each noticed Soda Can if every Soda Can gets noticed. For example, if in a 3 Soda Can course, 2 out of 3 Soda Cans are noticed, then award: ( 2 \* points ), if every Soda Can is noticed, then the Robot is awarded:

$$( 3 * \text{points} ) + ( 3 * \text{points} / 2 )$$

Collect / Bring Cans Home (each)

In Soda Can courses these points are awarded for each Soda Can collected and brought into the FINISH AREA. Soda Cans may be "collected" by any non-destructive means, like pushing, pulling or carrying the Soda Can. Slightly denting the Soda Can is OK, but destructive collection like puncturing or smashing is not OK. Full points are awarded for each Soda Can brought home and half (1/2)

points additional for each Soda Can brought home if every Soda Can is brought home. For example, if in a 3 Soda Can course, 2 out of 3 Soda Cans are brought home, award: ( 2 \* points ), if every Soda Can is brought home, then the Robot is awarded:

$$( 3 * \text{points} ) + ( 3 * \text{points} / 2 )$$

#### Entertainment Value

Points awarded for an exceptionally entertaining course completion. "Entertainment" points should be awarded for Robots doing special things for the audience's entertainment, for example: playing a tune, singing, dancing, light shows, etc. Points awarded should be proportional to the entertainment provided with more points being awarded for more entertaining contest course completion.

#### Craftsmanship Value

Points awarded for exceptional Robot design and construction. Points awarded should be proportional to the quality of the craftsmanship exhibited in the Robot with more points being awarded for fine workmanship, clever design techniques, overall appearance, etc.

#### Discretionary Bonus

Points that can be awarded at the Judge's discretion for any reason. It's a good place to reward Robots and Robot builders for accomplishments or exceptional behavior not rewarded elsewhere in the scoring.

#### Robot Scorecard

		8'
Contest:	Quick Trip	+---+
Date:	August 16th, 1997	B
		---
Robot:	_____	32'
Builder:	_____	---
		A
		+---+

DONE THAT scores -- full points if accomplished

Time to Complete Course: \_\_\_\_\_ seconds      Points: \_\_\_\_\_

Place:    1st=30    2nd=15    3rd=10

Turns around in all designated areas? (10 points) \_\_\_\_\_

Doesn't touch any walls? (10 points) \_\_\_\_\_

Starts on command? (10 points)    Countdown? (5 points) \_\_\_\_\_

Cognitive navigation / self-navigates? (10 points) \_\_\_\_\_

VARIABLE scores -- zero to full points based on judgement

Entertainment value? (0 - 10 points) \_\_\_\_\_

Craftsmanship value? (0 - 10 points) \_\_\_\_\_

Discretionary bonus? (0 - 15 points) \_\_\_\_\_

TOTAL POINTS (max: 105 points) \_\_\_\_\_

OVERALL CONTEST RANKING \_\_\_\_\_

Judged by: \_\_\_\_\_ Date: \_\_\_\_\_

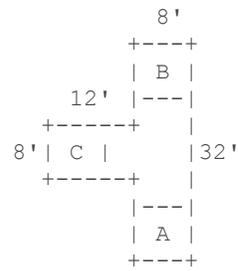
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Robot Scorecard

Contest: T-Time

Date: August 16th, 1997

Robot: \_\_\_\_\_

Builder: \_\_\_\_\_



DONE THAT scores -- full points if accomplished

Time to Complete Course: \_\_\_\_\_ seconds Points: \_\_\_\_\_

Place: 1st=45 2nd=20 3rd=10

Turns around in all designated areas? (10 points) \_\_\_\_\_

Doesn't touch any walls? (10 points) \_\_\_\_\_

HOW MANY scores -- full points each time accomplished

Recognize / count soda cans (10 points each)

Recognized \_\_\_\_\_ # cans \* 10 points \_\_\_\_\_

Bonus for all cans? \_\_\_\_\_ # cans \* 5 points \_\_\_\_\_

Collect and bring soda cans home (10 points each)

Collected \_\_\_\_\_ # cans \* 10 points \_\_\_\_\_

Bonus for all cans? \_\_\_\_\_ # cans \* 5 points \_\_\_\_\_

VARIABLE scores -- zero to full points based on judgement

Entertainment value? (0 - 10 points) \_\_\_\_\_

Craftsmanship value? (0 - 10 points) \_\_\_\_\_

Discretionary bonus? (0 - 15 points) \_\_\_\_\_

TOTAL POINTS (max: 100 + 30/can points) \_\_\_\_\_

OVERALL CONTEST RANKING \_\_\_\_\_

Judged by: \_\_\_\_\_ Date: \_\_\_\_\_