

THE ROBOT COMPANION

NEWSLETTER OF THE DALLAS PERSONAL ROBOTICS GROUP

Our next meeting will be Saturday, February 21, 1987, at the Heath/Zenith Store in Garland, at 3:33 p.m.

Our Proposed Agenda:

The new cybernation, a wonderful new robot, complete with software, etc., represents a powerful development tool for mobile robotics research - Walter Bryant.

As mentioned before, but never done, we are holding a drawings for \$100 cash this Saturday! All North-Town Mall participants are eligible.

And speaking of money, the club treasury - how should we spend our money? - let us count the ways... Bring your ideas on how we can invest the money to further the club projects.

This and other new and wonderful demonstrations too numerous to mention. Plan to be there. If you need further incentive, read on:

Club news:

The monthly meeting of the Dallas Personal Robotics Group was held 1/17/87 at the Heath/Zenith store in Garland.

The following people were nominated and elected:

Bev Bryant as treasurer (in absentia, she wasn't there to object!)
Stan Spielbusch as secretary/librarian
Ed Rivers as Vice President
Walter Bryant as President

And, yours truly, although not elected, will continue to publish the newsletter for the time being.

Treasurer's report (given by Walter, in lieu of the absence of Bev)):

Balance in the bank of \$878.60 + \$100.00 from a demo done in Ga. which has not yet been deposited. The bank account we now have needs the signature of the officers to become usable.

We discussed advertising in national magazines, free where possible. Also, ways we can get recommended by Heath and other organizations to get a larger membership. We will offer the new members the newsletter, a VCR tape, and copies of the library at cost, as long as funds last.

Visitors to the meeting included:

Floyd Rosencranz
Paul Brassard

We saw a demo by Walter. How his Hero 2000 'homes' a set distance from and parallel to a wall. First, the robot approaches the surface to a distance of 9". He then turns 90 degrees, goes 3', turns back to the wall, measures the distance, and uses the difference to compute the angle he traveled away/toward the wall. He backs up, and tries again until the two distances are the same.

We then saw a demo by Ed Rivers and Bart de Boisblanc with their two Casio music synthesizers. They proposed that through programming these can be used in conjunction with our robot demonstrations for sound effects.

Next, we saw a demo by Joe Rowe on robot consciousness. The main use for this was for scheduling the 2000 to do different things, depending on the time of day, week, etc. For example, Monday through Friday, the robot will wake Joe up at 7 a.m., But on Saturday, he will wait until 8:30.

And as added incentive, for those of you that missed it:

Heath generous door prizes - a free TV was given away, among other prizes! - just for **being there!** - Thank you, Bud Collins

From the President:

We have more out of state members!
We would like to give a special welcome to:

McNeese Robotics Society
Department of Technology
McNeese State University
Lake Charles, La.

Ongoing Projects by Club Members:

- a. continuous consciousness applicable to both the Hero I and Hero 2000 - Joe Rowe
- b. completely automatic home navigation, Hero 2000 - Walter & Bev Bryant
- c. somewhat completely automatic home navigation, Hero I - Gregory Oliver
- d. the science place demos
- e. 6800 assembler, compliments of Ed Rivers, that runs on an IBM PC/clone and produces S1/S9 code

Ongoing Projects by the Club

- a. program library on disk - Stan Spielbusch
- b. vcr tape of club activities
- c. out of state activities

Programs from our library:

First, so that you Hero Jr. users will know that we haven't forgotten you, we present (thanks to Bud Collins):

HERO JR EXPLORE ROUTINE

THANKS TO FERRY GEISER 9-19-85

FORWARD ROUTINE

```
1   E
2   7   C 18 02 00 2A 1F 03 1F 2A 15 2B 2A 15 2B 2A 03 0C 37 37 0F 0B 14 03 FF
      "LETS START MOVING"
3   E
4   C   26F
5   7   C 1D 34 34 2B 2D 3A 1E 03 FF "FORWARD"
6   0   00F
7   6   2F
8   A   F2F100F
9   8   78F
10  4   1F
11  A   F1F0C24F
12  8   14F
13  8   7F
```

REVERSE ROUTINE

```
14  E
15  C   26F
16  7   C 0E 2F 00 19 03 32 31 25 03 FF "BACK UP"
17  0   C1F
18  B   99F00F0C0F
19  B   99FF99F0C1F
20  A   F99F1C5F
21  8   32F
22  6   2F
23  A   F2F100F
24  8   81F
25  8   19F
```

PAUSE ROUTINE

```
26  B   99F00F0C0F
27  1   C1F
28  B   99FF99F0C1F
29  A   F99F1C150F
30  D
31  8   28F
```

TURN SELECTION ROUTINE

```
32  E
33  4   20F
34  A   F20F0C30F
35  8   50F
36  A   F20F2C30F
37  8   38F
```

LEFT TURN ROUTINE

```
38  E
39  7   C 18 02 00 2A 1F 03 2A 3A 2B 0D 03 18 02 1D 2A 03 FF "LET'S TURN
      LEFT"
```

```

40 1 00F
41 B 99F00F000F
42 0 00F
43 B 99FF99F0C1F
44 A F99F1C6F
45 8 3F
46 6 2F
47 A F2F100F
48 B 81F
49 8 43F

```

RIGHT TURN ROUTINE

```

50 E
51 7 C 18 02 D0 2A 1F 03 2A 3A 2B 0D 03 2B 23 D8 29 2A 03 38 09 0A 1F 03 2A
    15 00 29 0C 03 FF "LET'S TURN RIGHT THIS TIME"
52 1 C2F
53 B 99F00F000F
54 0 00F
55 B 99FF99F0C1F
56 A F99F1C6F
57 8 3F
58 6 2F
59 A F2F100F
60 8 84F
61 8 55F

```

LEFT TURN 2ND ROUTINE

```

62 E
63 1 00F
64 B 99F00F000F
65 0 00F
66 B 99FF99F0C1F
67 A F99F1C25F
68 8 3F
69 8 66F

```

RIGHT TURN 2ND ROUTINE

```

70 E
71 1 C2F
72 B 99F00F000F
73 0 00F
74 B 99FF99F0C1F
75 A F99F1C25F
76 8 3F
77 8 74F

```

BLOCK #1 ROUTINE

```

78 E
79 7 C 37 37 25 1F FF "OOFS"
80 8 14F

```

BLOCK #2 ROUTINE

```

81 E
82 7 C 1B 36 37 37 03 25 16 16 2A 03 38 2F 00 2A 03 1B 21 0B 2B FF "WHO PUT
    THAT HERE?"
83 8 70F

```

BLOCK #3 ROUTINE

```

84 E
85 7 C 1F 32 23 0C 39 0B 09 14 1F 03 0B 09 14 1F 03 0B 09 0D D3 38 32 23 03
    2D 06 09 29 FF "SOMETHING'S IN MY WAY"
86 8 62F
87 F

```

Since I don't have a Hero Jr., I have no way of testing this one. One of you out there will have to let me know how it does. Or, better yet, bring your robot to the next meeting, and **show us!**

Next, we present a Hero I BASIC program that I was given by Ed Rivers. It allows you to use the teaching pendant as an input device, by PEEKing the memory location. It works also with the remote control, but you don't have the trigger switch. Thanks, Ed.

```
10 REM - READ TEACHING PENDANT
20 A = PEEK(%C280)
30 IF A<128 THEN 50
40 A=A-128:B=1
50 D=A/16
60 IF D>0 THEN A=A-(D*16)
70 IF A<8 THEN 90
80 A=A-8:R=1
90 IF A<4 THEN 110
100 A=A-4:L=1
110 IF A<2 THEN 130
120 A=A-2:Z=1
130 PRINT B;D;R;L;Z;A
140 IF B=1 THEN PRINT "ARM":ELSE PRINT "BODY"
150 IF R=0 THEN PRINT "RIGHT"
160 IF L=0 THEN PRINT "LEFT"
170 IF Z=0 THEN PRINT "SLEEP"
180 IF A=1 THEN PRINT "TRIGGER"
190 ON D+1 GOTO 200,210,220,230,240,250,260,270
200 PRINT "NEUTRAL":GOTO 280
210 PRINT "WRIST PIVOT":GOTO 280
220 PRINT "WRIST ROTATE" :GOTO 280
230 PRINT "GRIPPER" :GOTO 280
240 PRINT "BAD" : GOTO 280
250 PRINT "ARM PIVOT" : GOTO 280
260 PRINT "ARM EXTEND" : GOTO 280
270 PRINT "HEAD"
280 END
```

Remember, send us your programs to include in the library. Share what you have with others!