

Minutes of RSSC meeting December 8, 2007

Classroom

We had a very informative lesson by Brian O'Neal of TinMan Robotics (tinmanrobotics.com).

The subject was how to use plastics to construct parts for our robots. He gave a nice overview of the types of plastics commonly available and their characteristics indicating which are most suitable for particular applications requiring machining, bending or gluing. He emphasized the use of ABS and styrene plastics.

He brought in heatguns and wood and clamps to make fixtures for bending and actually did some bending for the class. He also had a number of parts he had previously fabricated including a couple robot bodies and a prototype can gripper for use in the contest next month.



Business meeting



Our outgoing President, Bruce Weimer gave us a review of the activities our club has been involved with over the last year.

He also treated the whole club to pizza for lunch! Were we really unable to get him to run again?

We then moved on to the election of officers for the next year. These were hard fought races which often boiled down to the only person who volunteered for an office being elected by acclamation.

The winners (losers?) were:

Jim Ubersetzig as president
Walter Martinez as Vice president
Martin Mason as Secretary and Webmaster
Ron Rose as Treasurer.

Alex Brown will be giving a classroom session on laser range finders for January.

The Great Annual Talent Contest

Each year we hold a contest which is open to anyone to show their favorite project. The winners are chosen by the audience considering factors such as: Software, Electronics, Hardware and overall appeal..



The first Entrant was Jim Ubersetzig with his robot, "CR" (short for Can Retriever) which is being built for next months contest. The robot was demonstrated to successfully locate a can and pick it up. His robot is the one in the foreground holding a red can.



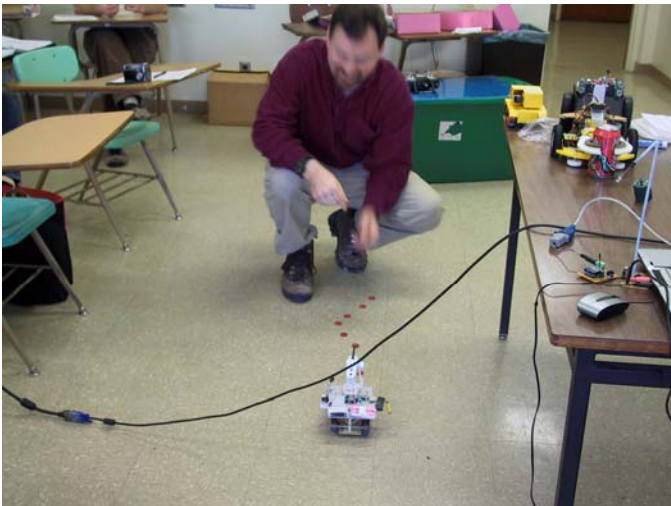
Brian O'Neal showed a Tamiya tank setup with a body made of ABS as he demonstrated in the classroom session earlier in the day. It has a camera mounted with Pan and tilt mechanism with radio control from a standard RC controller. This tank design was made for a number of students who had a project.



Martin Mason demonstrated his new RoboQuad which he has interfaced to Steven Gentner's RoboRealm.com vision software. He has built a hardware and software interface which converts laptop commands to the proprietary IR protocol that the robot uses. He demonstrated voice commands to a laptop which he then sent out on USB which was converted to RS-232 serial which was then finally converted to the proprietary IR signals. He also showed that he had a camera installed which communicated with RoboRealm in the laptop.



Brian O'Neal showed a second entry which is his "Bulldog" sumo robot. He gave a description of how he is using two ultrasonic rangefinders mounted in a stereo configuration to more accurately locate the competitor robot by using triangulation.



Martin Mason showed a second robot also which is a tractor design which has been mounted with a camera which communicates with a laptop over a radio link. He uses RoboRealm vision software to make the robot follow a trail of red dots as shown in the picture.

The winners of the contest were:



1st Jim Übersetzig



2nd Brian O'Neal



3rd Martin Mason

Show and Tell



Walter Martinez showed us the new Vex robot which he got on Ebay. It has a gripper which he believes will be suitable for the can contest next month. But, it will be a challenge to adapt it to autonomous mode.



Martin Mason showed a model car which comes with a garage which also acts as a battery charger for the car. He has it interfaced to a laptop.



Dave Stoffen gave a presentation on the Pleo robot, available from Sharper image. This robot is intended to be an animatronic pet and has many behaviors.



Alex Brown gave a presentation on the Hokuyo laser range scanner. It is capable of making a 240 degree scan every 100 milliseconds with a range reading every 0.35 degrees. It has a range of up to 5.6 meters.

He had it interfaced to a laptop which was taking the radial readings from each scan and displaying the data as an occupancy grid. He demonstrated how well it could detect nearby walls as well as doorways in the walls and smaller obstacles such as table legs.