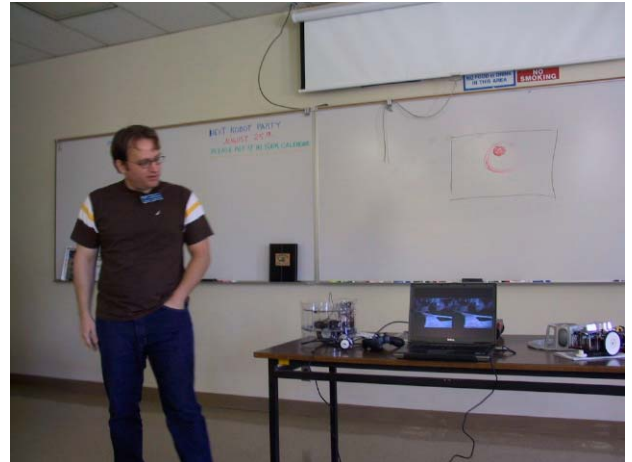# Minutes of RSSC meeting August 11, 2007

Classroom

Bruce Weimer and Steven Gentner gave a presentation on Localization and Navigation, emphasizing the use of visual data.   Bruce began the presentation with mathematical approaches to analysis of visual data.

Steven followed up with demonstrations of new functionality which he has added to his Roborealm visual processing software package (roborealm.com).   New functions included image stabilization. The stabilization works in both the vertical and horizontal axes as well as rotation. He demonstrated this with a short movie taken while walking around carrying a webcam. The raw movie showed quite a bit of rocking motion due to the walking. The stabilized image was much smoother.

Steven showed a new feature, which he called "Visual anchor" in which a colored marker can be placed on

the webcam image; and then the marker remains on the same point in the image even though the camera may be moved about. The marker has a size that is related to the relative distance to the apparent location of the marker. As the camera approaches or backs up , the size of the marker increases or decreases. This allows an estimate of range. Steven showed this, as implemented in the robot below, which placed a marker on the wall in front of it and then moved forward, tracking toward the marker, until the marker had doubled in size. The robot had moved about half the distance to the marker as would be expected.
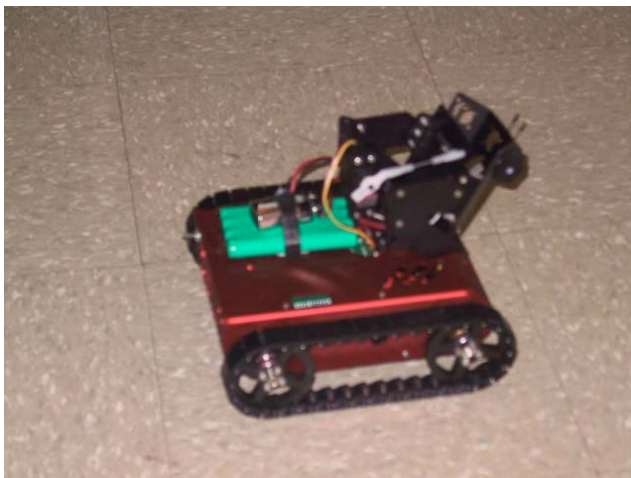
This presentation will be continued next month.

Business meeting
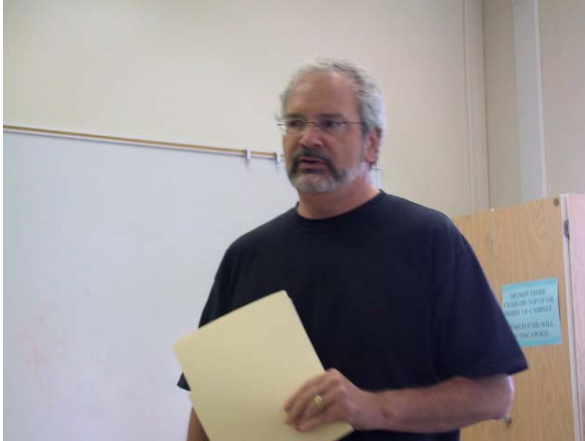
Bruce mentioned that the new mail list had not been set up yet. Brian Lojeck is going to do so as soon as he can contact Jerry Woods to get access to his server.

Upcoming contests will include:
      September: None
      October: Hallway navigation contest
      November: Checker moving contest
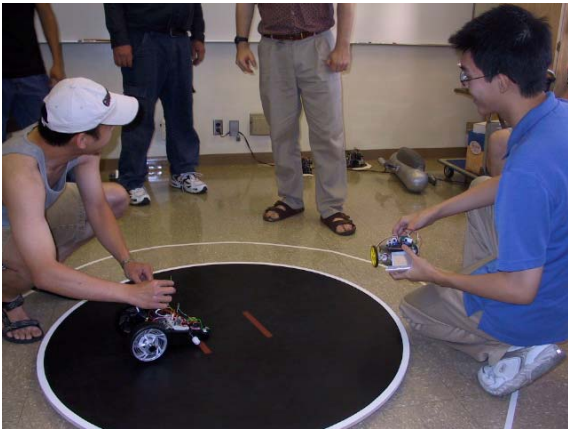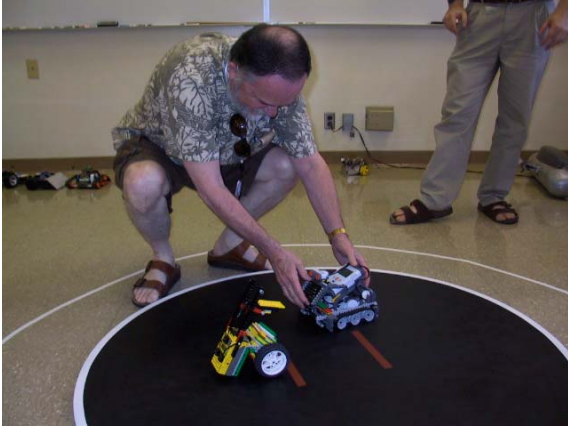   (see below)
      December: the annual talent contest

Martin Mason said that his students at San Antonio college were looking for a new contest which they would hold in conjunction with our club. While several ideas were being considered, we decided on a contest for 20 cm. Square robots operating on a 6x4 foot playing field with end zones. Each robot will be reponsible for finding either red or black checkers in the center of the field and moving them to its own end zone. Martin will publish the final rules

August Contest

This contest was a modified sumo competion allowing for slightly larger robots to accommodate more peoples designs. There were 10 entries (10 robots, 8 humans) that were divided up into pairs for competition. Each pair competed for best of three matches. The primary matchups determined the winner. All the losing robots had a second chance to compete against each other which determined 2nd place. Pictures of all the competitors follow along with the results.

Top whiteboard (signs): NO FOOD or DRINK IN THIS AREA | NO SMOKING

Tournament bracket 1:

- G. DIGGER
- B TAIL
  - G. DIGGER
- AVATAR
- SPIKE
  - SPIKE
    - G. DIGGER
      - #1
      - G. DIGGER
- #2
- GERM BOT
  - GERMBOT
- GHOST OF BOE
- GHOST OF CHOC
  - GHOST OF CHOC
    - GHOST OF CHOC
    - #3
    - PEK BOT
      - G. DIGGER
- PEK BOT
- RAM BOT
  - PEK BOT
    - PEK BOT

Tournament bracket 2:

DON'S NEW BLOG SITE
ROBOT FOR YOU.COM

NEXT ROBOT PARTY
AUGUST 25TH
PLEASE PUT IT IN YOUR CALENDAR

- B TAIL
- Avatar
  - B Tail
  - #2
- #2
- GHost of Boe
  - #2
- Rambot
  - Germbot
    - #2
    - Germbot
- Spike
  - Spike
  - Germbot
- Germbot
- GHost of Choc

Show and Tell

Several people gave presentations on their robot which had just competed.

Jim Ubersetzig told us about his new version of a robot hand which he is working on. It will have 4 fingers and a thumb with 2 (or more) axes of motion.

He is looking into using a light beam emitted from the thumb and sensed at the fingertips to determine the position of objects within the hands potential grasp.

Ron Rose showed us (what appear to be, I missed it) a soldering vise kit which is available for just $1.99 at Harbor Freight.

He also extolled the virtues of Shoe Goo as an all purpose molding compound and adhesive.
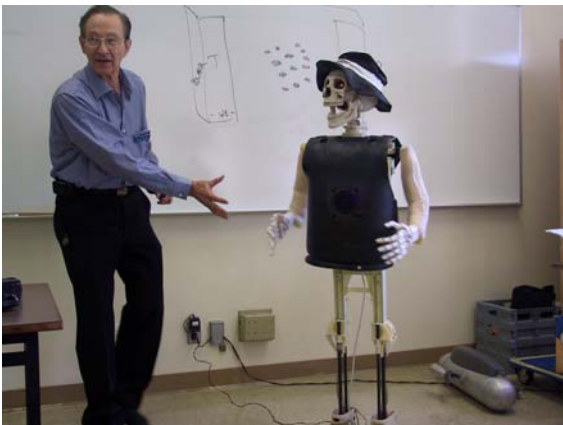
Don Fears showed us his new club Greeting bot (stationed outside the elevator to direct people to our room). Note: the bot is much more modestly dressed when on duty!

He found it on sale after Halloween. It is quite animated and has 5 different programs which can be selected.

This skeleton came originally from www.gemmy.com (who earlier inflicted Billy Bass on us).

Mike Shanahan gave us an update on his deep diving submarine.

He has been having difficulties trying to ballast it such that it will float after a failure. He has been using syntactic foam which is not supposed to absorb water…but seems to do so at high pressures.

Ben (our VP) Showed us a hovercraft he is modifying. It has two fans, one to provide levitation and a second to give propulsion. He has it set up (sensors and programming) to act as a sumo fighter. But, unfortunately, it has no pushing power.

For your amusement, his T shirt is from Mt. San Antonio college and says " PHYSICS, we do it the lab what would be a felony to do in your garage".

Tom Messerschmidt (sorry no picture) is interfacing an AIML chatbot into his Leaf Robot. He is working now to figure out how to make the chatbot voice recognition work with the Leaf built-in speech recognition.

He had just reinstalled the software onto a laptop to bring to the meeting and had some trouble making it work as well as it was working at home on his desktop (Yeah, we've all heard that one ;-). He reported later that after making some changes to the laptop (including voice training) it was working much more reliably.