RSSC Meeting September 13, 2008

Paul Ashley presented a class on "Building Vex robots" He has a website at Robo-Works.Com and works with local high schools to get students interested in robotics.

Vex Robotics build session Participants built Vex robots. Five robots were built successfully. There was a brief competition where the robots chased golf balls. It was neat to see these robots go together so quickly and easily. Paul has a great system where a complete set of parts to build a robot is in a plastic tote. He has about 10 of these

totes which means that he can quickly and easily introduce a large group to the fun of building robots.

Business meeting:

The October Class will be computer vision for obstacle avoidance by Steven Gentner. The November meeting will be at Mt. Sac in conjunction with the Vex robotics competition.

Jim brought up the idea of using club funds to by a robotics kit. The Talent show will be moved to November in conjunction with the Mt. Sac meeting.

Presentations:

Jim Utsenbergs Sensitve Plant: The change in capacitance relative to the plant is used to drive an oscillator. The Oscillator drives a speaker. Distance from the plant is mapped to frequency.

Bruce demonstrated a four rotor helicopter. $100 on amazon.com (Now down to $79!) It runs off of IR. There appear to be three rate gyros.

John Walters: Demonstrates a 18 linkage walking mechanism. It has an extremely flat gate.

Martin Mason showed an optical mouse interfaced to a microprocessor. The optical mouse gives two axes of position and velocity information.

Thomas Mesershmidt showed a femisapien. She doesn't come with a remote! Her hand are four position switches. She speaks emotish. There is an IR sensor and several touch sensors. Available for $99 via amazon etc. She has a switch built into her head which causes her to stop her current behavior.

Martin LaRoque showed his Emax robotic truck with camera, sonar and IR sensors. He is using a lynxmotion rotary table with a winch servo (for 180 degree rotation) (Editors note: Just about any servo will give 180 degrees of rotation is you just expand the timing range. IE standard servo time is 1.52 ms which is varied between about 1.1 and 2.0 ms. You can actually use pulse widths between 0.7 and 2.5 ms which yields 180 degrees instead of 90 degrees. Experiment with a function generator to find what range your servos will tolerate.)

Carl showed the Scara arm that he had built some time ago using hobby servos. Due to the dead band, the arm is a dead end. Remove the pot out of the servo. Replace it with a ten turn pot. He has started over at the drawing board and built an xy table using servos, belts and drawer slides.