Robotics Society of Southern California
November 1990

Upcoming Event Calendar:

November 6:	RSSC November Meeting, MTI College: Topic - Motors 7-9 PM
November 10:	RSSC Robot Project Workshop, The Robot Company 10-12 AM
November 25:	Computer Swap Meet at Advanced Computer Products 8-12 AM
December 4:	RSSC December Meeting, MTI College: Topic - Batteries 7-9 PM
December 8:	RSSC Robot Project Workshop, The Robot Company 10-12 PM
	Christmas Party, El Toro Marine Base Officers Club 8 PM
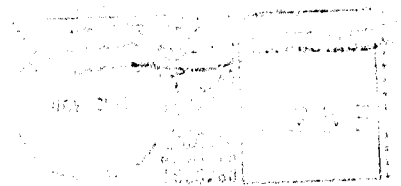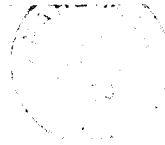
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October 2nd RSSC Meeting

We continue to have a good turn-out for our meetings with about 20 people in attendance.

Don Golding was supposed to give a briefing on FORTH but was having babies instead, so Jerry Burton with the aid of Roland Koluvek gave the presentation using Don's notes.

Joe McCord has obtained the Officers Club at El Toro Marine base for the night of December 8th for a Christmas party. We will be taking reservations at the next meeting and choose the entree. It looks like a great evening - plan to attend, its a good way to get to know each other. Bring your significant other so they can see who you spend your Tuesday evenings with.

Mark Frank has the Society Robot up and running, now the fun begins, making it do something. Now is the time to start proposing some experiments and/or learning projects.

One area to start thinking about is, what method should we use to teach the robot paths. A remote control teach pendant would allow the user to control the robot manually and augment the voice control commands it already has. It could be RF, infra-red, hard wired, etc. be prepared to discuss this issue and propose some methods.

October 6th ROBOT PROJECT WORKSHOP

Joe had a show to do, and I was supposed to open the Robot Company for the meeting. Fortunately, only 4 people showed up and ran the robot around the parking lot, since I didn't show up. I'm sorry I over-slept and didn't wake up until 10:30 and since I'm about 45 minutes away I didn't make-it.

November 6th Meeting

Tom Carrol will give a talk on motors as a follow-up to his article in the October newsletter. Plan to attend and ask all the questions concerning motors and how to control them.

Membership

I have started deleting members who have not renewed. There is typically a 1 month grace period, so the following members need to renew by the end of November or you won't receive a December newsletter.

Rod Crowl, Garren Davis, Alvin Fuchs, Ric Molen, Rob Zirnstein.

Even if you can't make meetings due to other commitments, it still makes sense to renew your membership so you can continue to receive the newsletter and keep up with what's going on.

Treasury Report

As of November 3, 1990 we have a current balance of $ 658.34. This is more than sufficient to cover our operating expenses, which really just consist of postage and the PO box, so we can probably fund some additional subsystems for the society robot. What do you suggest ???

The Roboteer

Last month I covered the MAPPING module and what it has to do. This month I'll discuss the E_DEF (Environment DEFinition) module and what its requirements are.

First, why do we even need a E_DEF module ? There may be areas in the environment that we don't want the robot to go into, so we want to restrict it. Or we may need to clean-up some of the edges of our map due to inaccuracies of the MAPPING process itself, i.e. mark tiles as unused that the robot determined were occupied or tiles as full that the robot determined were empty.

Another service of the E_DEF module is to identify task points, landmarks, entry/exit points etc. This is the process of tagging certain places in the environment that can then be associated with voice commands. (Remember the original goal is "Get me a Beer !" - this is where we identify the place where 'Beer' is and the task that is to be performed at that location).

Therefore, the E_DEF module should allow the user to add certain characteristics to selected sub-sets of the E-Map and P-map tiles. The E-Map and P-map as generated by the robot should be displayed on the screen and the user can apply certain operations to the tiles as follows.

Select/Deselect Sub-set: This operation allows the user to select/deselect a sub-set of tiles for use in subsequent operations. A sub-set can be from 1 to n tiles. The selected sub-set should be highlighted until deselected.

Assign Class: All tiles of the currently selected sub-set become members of the desired class. A class can be related to a COMMAND word in the VOICE and KNOWLEDGE_BASE subsystems. Typically classes represent rooms, but can be any arbitrary group of tiles.

Assign Primary Path: All tiles of the currently selected sub-set are marked as path tiles. This can be used to extend the automatic P-map that was generated by the robot.

Assign Free Space: All tiles of the currently selected sub-set are marked as free tiles. This overrides any space marked as occupied or path and makes it allowable for the robot to enter it. It may be possible that the robot marked a tile occupied, when in fact it was not. It is also used to restrict the path to just certain areas.

Assign Space Occupied: All tiles of the currently selected sub-set are marked as occupied. This marks the selected tile(s) as occupied, even though the robot did not detect anything in that space. This is used to restrict the robot's access to certain areas or to correct errors in the automatic MAPPING process.

Assign Task Point: The designated tile will be flagged as a task point (related to a TASK command word defined in VOICE). Task points are typically used as destinations in complex tasks. For example, "Go to Bedroom, and do wake-up sequence at 7 a.m". The place in the bedroom where the robot is to perform the wake-up sequence would be designated as a WAKE-UP task point.

Assign Exit Point: The selected subset will be flagged as exit tiles. The NAVIGATION module will approach E-tiles in a definite way so as to go through a door with maximum clearance. The E-tiles should be defined as the tiles that exist in common between 2 classes. They should be assigned to BOTH classes that form the boundary.

Assign Class Union: By selecting both sub-sets of E-tiles on the boundary of two classes, the two classes that are adjacent become associated.

I'm sure there are additional services that will be required, but I think this set will be sufficient to start. Next I'll discuss PLANNING.