MAPS September summary 2002

September was a very exciting month. At the beginning of the month, after spending long hours debugging, Stefan and I determined that we needed to re-organize our code for the gui. Stefan drew up a list of functions for me to implement (most of the code we could probably reuse). The idea was to reduce the large number of global variables we were using and make the code simpler and more intuitive. The functions were named with vary straight-forward names like highLightNode which takes the index of the node to be highlighted. The functions are divided up into categories such as utility functions, edit functions and gui/display functions.

We also decided to reorganize the layout of the gui to make it look a little prettier and more intuitive.

This reorganization led to much clearer and more concise code. Since we did it in a top-down sort of way, I could write a few functions in the procedure of a button (like AddPic) and would not even know how the function was going to implement the function. This was really cool because that is how code should be written. Then the implementation of the functions was really easy since the basic idea for each function was simple enough and very straight-forward.

The interesting thing that I found when trying to decide how to implement some of the more complicated functionality such as scrolling was that I would discuss with Stefan for quite a while how it should be done, and end up writing three lines of code to do it. That's how good our code for this gui is written.

One of the issues we had to come to face was that of deciding when to advance the cursor to the next node. In other words, determining when the node you were on was full and knowing when the user wanted to advance to the next node. (I'll get to the solution for this in a second). Another issue we faced had to do with the scroll bar. I ended up coding it the way that makes intuitive sense to me in that the size and placement of the scroll bar reflects the total number of nodes and where in the script you are. Therefore, as the script gets bigger, the size of the bar gets smaller. And when you are at the rightmost node in the script, the scroll bar is all the way to the right. And similarly for the left.

As I continued to re-write/organize the code, I came across some issues with the Insert/Replace form. This along with the issue of determining when to advance to the next node, led Stefan and I to decide that we needed modes. These modes, however, would be somewhat invisible to the user.

We decided on two modes, AppendMode and EditMode. The program starts out in append mode and (to solve the problem of order of insertion) when AddPic/AddSnd are clicked in appendmode the pic/snd is added to the current node unless there is already that type of media in the node, in which case it is added to the next node, and the cursor is advanced. The way to enter Editmode is to click on a node. This (very cool) changes the caption on the AddPic/Snd buttons to say Replace current pic/snd. With a checkbox added to the layout, the user can click it and switch to inserting where the AddPic/Snd buttons change again to indicate that if clicked a new node will be inserted before the current one. This whole functionality completely rid us of the Insert/Replace form and made this whole process virtually invisible to the user (very exciting)!

After I had re-written the existing code, we proceded to add more functionality

such as a delete node button and function (which was really easy). We also worked on the ability to add scripts to a database and have those run on the handheld.

Another exciting part of September was the Coleman Institute conference and dinner. I was very excited to hear John Seely Brown's talk at the dinner about new technologies and the advancement of the cognitive science field in general. It was amazing to hear him speak about nano-technologies and find out about Kismet, a robot that reacts to people's tone of voice and facial expressions with facial expressions of his own. Although I didn't get to attend many of the special sessions on the last day of the conference, I did get to see most of the posters in the poster session. Overall what I took away from the conference is that I want to continue in the realm of Cognitive Science as my life career and goal. I realized that this is the kind of work I want to do with Computer Science. So altogether it was a very awesome experience.