MAPS Summary August 2003

At the beginning of the month I tried to finish debugging and adding the Undo/Redo features.   Here are some coding (debugging) details:

While testing I tried adding some pictures to a script. After adding several pictures, I noticed that it was adding the one before the one I was clicking on. It was evident to me that two things were wrong. The first was that a counter was off somewhere. The second was that the reason why the counter was off was because a picture that was too large of a size was being included in one count and shouldn't have been. After some searching I discovered the section of code in the double click action of the Picture Select Display that had not been updated to include checking the file size of pictures. After adding this the problem was fixed. What had been happening was that files that were too big would not be displayed because the display code checked for that, but they were being counted in this section of code, which led to the counter error.

After some more testing I noticed that the action of right clicking on a picture (which enlarges the picture) was also displaying pictures one off. Same problem, a missed chunk of code that wasn't checking file size. I made the change and searched for any other places that could have this problem. I didn't see any so I assume that the fixes are complete.

I made the decision to change the shape of the script viewer picture box. Before it was wider than it was taller. I decided to change it so that it reflected the actual shape of the device of the PDA screen, which would allow for a more realistic preview. I also made it so that the picture width and height would only be adjusted (shrunk) if they were bigger than the bounds of the box. This reduces the overall stretching of photos because it does not stretch it to fit, only shrinks it.

I fixed a bug in the display of the Whole Script View. Before it would display two blank boxes at the end, but when the last one was clicked on, the program would crash. It is safe to click now.

I noticed another issue related to pictures that are too big. If they happen to be in bmp format, then they get displayed in the file list box. I have it so that clicking on them will produce an error message, but we'd rather that their names were not displayed at all. This is related to another issue that I have with file boxes that I think can only be solved by finding another file list box control. The current way it works is to filter out file names through the filter property, which we currently have set to '*.bmp.' We would also like the file boxes to display folders. This can't be done by just adding an extension, because folders don't really have an extension (that VB will recognize). I tried a quick look on the internet for something that would work but to no avail. We'll look at attacking this problem later.

After I'd thought I'd completed the Undo stuff, I really hadn't finished. I discovered that I hadn't dealt with three very important global variables. The Current Script Index, the Array Index for Node Zero and the Total Script Nodes counter.

The issue was that when I was undoing an append action (particularly the case where it was appending media into a new node) I was not decreasing the Total Script Nodes counter. Since an append into a new node adds a node, we had to reflect that we had basically deleted the node upon undoing that action. This was of course only true when we were undoing an append action into a blank node.

Part of the problem was that I was calling the guiReplace fcns to undo the append, and these do not decrease the counter like guiDelete does. I inserted into the Undo code some code that will take care of this now. This is simpler than actually calling delete in my opinion, at least in logical structure.

The rest of this month was spent working on the image experiment with Stefan and Anja. I spent some more time taking pictures of objects and formatting them so they were ready for our experiment.

We were fortunate enough to have one test subject this month, and as usual, the experiment told us a lot. After the experiment we realized that we would need to have a larger test set of pictures and definitely more test subjects. In this experiment we wanted to test both people from the cognitively disabled population and people from the non-cognitively disabled population for comparison.

There were also a few things about the mechanics of the experiment that we thought about modifying. Some of them are easier than others, so we may only implement the easy ones right away. We also don't want to jump the gun on making changes until we test some more people because what did or didn't work for one person may differ for other people.

The main focus then was on streamlining the experiment and also the analyzing of the data. Right now the analysis is a little tedious and we want a better way of doing it.

Overall we were very pleased with the experiment and are excited to see what results we get.

(Note: Since we are currently engaged in the experiment and this journal is posted online, I'm withholding further details about the experiment until it is complete).

Stefan and I also discussed what further changes we will make to the GUI in the future and what needs to be done with the website. I'm hoping to get some work done on the website in the near future, as it is in serious need of updating.

Another issue that has been bothering us is the amount of time and work it takes to format pictures so they are ready for the device and ever further the database. I consulted Dan Meyer, a fellow URAP, and he referred me to a tool online that will make this job much easier. More on how that goes next month.

Finally, after some issues with security, the Network MAPS server is back up and running. Although we still cannot save to that database over the network, we can load scripts from it from anywhere with a broadband connection. We'll be talking to Sybase in the near future to get that more solid.