

Introduction:

The AHEAD project has been making progress over the past few weeks. With the expected minor set backs, everything has been going reasonably well. Although we would like to be further along, we are still within our time limit for completion of the project. Although not many independent aspects of the project have reached their completion, they are well on their way.

Text To Speech:

The software interface was intended to use text to speech. Since the initial idea there was a great deal of research. An attempt to use Microsoft's TTS API was first thought to be a very distinctive, however, due to time constraints it would overwhelmed the project. The next option was to find software that would do what we wanted. After trying a few options, DPSEECH and ClipSpeak were found to be the best options. Another program, DSPEECH was the first option but would not run easily on the actual AHEAD system, so ClipSpeak was the next option. The only thing that will use the budget would be to actually buy a new voice that would be used since the program itself was freeware. The AHEAD software was then programmed to use ClipSpeak or DSPEECH, and together the text to speech aspect of the project is done.

Interface:

The main interface is still pretty rough as we are trying to get together a well working idea. The main functionality works, however, there is still a need to spend time on it and make it much more intuitive and user friendly. Testing will help shed light into what will become our actual interface. The touch screen is currently working. This will allow the gesture software to be worked on and completed. Until then, the touch screen will still allow the user to interact with our interface.

Simulation Data:

One of the important parts of demoing our project is the ability to simulate some real world data. Currently we are working on getting the system to read in values that are being about via a modified kill-a-watt device. There are currently problems getting the data to properly propagate through its interface into the AHEAD system. A few XBee radio units have been ordered to add in the data being sent to more closely reasonable that which it would actually see in the consumer market.

Audio Amplifier:

Since the voice output from the PC is kind of low, a two stage audio amplifier was built. The differential amplifier takes a stereo input from the PC and the non inverting amplifier outputs a mono sound. We encountered some problems while testing the amplifier. There is some noise at the output which maybe reduced by adding a band pass filter and enclosing the speaker. The sound level from the speaker is low. This is probably because the wattage rating of the speaker is .25 W. Therefore, a speaker with a higher wattage would solve the problem. Further, when we input a sinusoidal input, we get a square like signal as an output and voltage of the power supply drops very fast from 9 V to 2 or 1 V. There might be some wiring errors.

Budget:

The amount of money left in budget has dwindled down so far. Currently we have about \$17.79 left in the budget. This is starting to become one of the biggest factors in the completion of the project. At this point we are discussing the possibility of getting a little extra room in the budget to purchase the few things that we still need.

Part	Quantity	Cost
Asus Netbook	1	219.99
Touchscreen Overlay	1	87.67
Kill-A-Watt (watt meter)	1	25.98
Digital Potentiometer	2	2.22
USB to RS232 Serial Adapter	2	35.98
X10 Firecracker	1	17.24
Xbee RF Modules w/ sockets	3	93.13
Total		482.21

Gantt Chart

The Gantt chart on the next page shows percentage completion of tasks.

