

## Student Research Symposium 2003

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**Thomas Harris**

### **Engineering Dialog for Gadgets**

My colleagues and I have analyzed speech interface requirements over a broad range of applications to find a small but credible requirements basis for configurable speech interfaces. Respecting these analyses, I have built the Speech Graffiti Personal Universal Controller (SGPUC or Controller), a personal universal interface for human-device speech interaction. Its specification language and protocol effectively separate the SGPUC architecture from the devices that it controls, which allows a user to carry the controller as their personal speech interface around with them, using it to interact universally with any adapted device. The development of numerous adapted devices demonstrated the SGPUC to be a sufficiently generic interface, and careful user studies are being planned to demonstrate the quality of those speech interfaces.

The research, which is a part of my upcoming masters thesis, attempts to show that a high quality and low cost human-device speech interface can be built that is largely device agnostic, which is a benefit to manufacturers and interface users alike. These investigations also help to validate the principles of Speech Graffiti as a speech interface paradigm, and they provide a base-line for future study in this area.

My talk will focus on dialog issues that we have faced in the design of effective speech interactions, and I will also provide an overview of the dialog and gadget controller system architecture. I will demonstrate some actual devices, probably a media player and some light switches.

