

# **The human voice - computer interface**

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## **ACS Technology Fellowship, Spring 2006: Final Report**

The purpose of this ACS Technology Fellowship was to support the development of a curricular unit that would explore the current state of the audio interface between humans and computers. Curricular material would be gathered and a set of exercises would be written that would explore Automatic Speech Recognition (ASR) and Text-To-Speech (TTS) software routines. These goals have been achieved and I will be using the products of this work in my Musical Technology (Physics 115) class for non-science majors during the Fall 2006 semester. In order to have the broadest impact with the curricular materials, a webpage was created for the free distribution of this material to faculty at Davidson, to ACS colleagues, and to educators in general. The material and exercises may be found at the following website:

<http://webphysics.davidson.edu/faculty/dmb/digitalspeech/digitalspeech.htm>

The website contains instructions and links so that anyone may easily adapt the material and exercises for their own use. A link to this page may be found on my homepage as well (<http://webphysics.davidson.edu/faculty/dmb/welcome.html>). I will continue to modify the contents of the website as I use them in my classes. There should also be a significant upgrade to the speech tools available in the current Windows XP operating system when the new operating system Vista is released. It will be interesting to compare the results of the exercises when performed under these two operating systems.

Since the material and exercises have yet to be used in the classroom, there are no other outcomes to report at this time. The results of this work will be shared with the Davidson College community via the Instructional Technology Seminar Series sponsored by the Instructional Technology Group. It is also my intention to present the results at the Fall 2007 meeting of the North Carolina Section of the American Association of Physics Teachers. This venue is an ideal place to pass along the results of this work to many ACS colleagues and other educators in physics (high school, 2-year and 4-year college and graduate school faculty) throughout the state in the form of a talk and/or a workshop.

I believe the outcomes of the project that this Fellowship has supported will prove to be valuable teaching resources for me. I have and will continue to distribute them to as wide an audience as possible. The fascination of musical technology is not limited to college students; it spreads to the general public. It is hoped that through my presentations and the easy availability of the materials, science literacy may be increased in a general way.

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