SpeechNav: Document Navigation By Voice

Andrew Begel, Zafrir Kariv
University of California, Berkeley
abegel@cs.berkeley.edu, karivkln@uclink4.berkeley.edu

October 9, 2002

Abstract

This paper examines document navigation using voice recognition software. Existing commercial tools' support for voice-based navigation provides a substandard replacement for those whose disabil-

prove it. However, the process of document navigation has not been subject to similar consumer

found; if not, the user issues a find-next command and repeats. The expected number of times to repeat is half of the number of times the words appear in the target document, assuming that the user's target is uniformly distributed amongst the search results.

In this mode, $\Delta_{rc} = 70$ ms, $c_{find} = 1$, $c_{OK} = 1$ and $c_{next} = 1$.

- **Find Dialog by Voice**: This is the same as Find Dialog by Keyboard, except that $\Delta_{rc} = 7$

that speech macros could be useful to speed up this task, but most did not use them.

4.2 Prototype Ideas

minimum reaction time (usually around 750 ms) between recognition of the cursor hitting the target and the computer recognizing and acting on the command to stop scrolling. This time is far too long for any sort of precision, and precise control of the cursor requires the user to anticipate the arrival of

		# Lines	Total Time (sec)	Multi-page Time (sec)	Reading Time (sec)	# Cmds	# Recog Errors	# User Errors	# Mouse Grid
User 1									
Doc 1	Task 1	87	235	226	74	42	5	3	0
	Task 2								

3.1 Content-Aware Mouse Grid

The beauty of mouse grid is its simplicity and speed in quickly moving the cursor to a precise location on the screen. However, it does not "know" what is on the screen. In addition, people do not and

[3] P. M. Fitts. The information capacity of the human motor system in controlling the ampli-