

Implementation of a Speech Recognizing Web Browser

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Web browser is a software application for accessing and retrieving information from the World Wide Web. Normally a web browser accepts input from key board and mouse. Using voice commands to interact with the browser is more user friendly compared to typing and clicking because speech is a more natural way of communication.

There are web browsers that accept the voice commands from the user. The existing web browsers, that accept the voice commands from the user, have many limitations. They have a set of predefined commands and user is unable to add or modify them according to his requirements. Some browsers support some specific operating systems only. Creating a browser and combining it with speech recognition engine is one solution to overcome these limitations.

Speech recognition is the process recognizing the speech signal and converting it to a set of words. Speech recognition engine is software that is used to convert speech input into text output. Sphinx is the speech engine which is integrated with the web browser. It uses a statistical model named Hidden Markov Model to represent features of sound units. Sphinx is used to convert the sound signal into text output. The text output is then used for the functionalities of the web browser.

Integrating the speech engine to the browser provides the speech recognition ability to the web browser. Speech input can be given to the browser using a microphone. Web Browser can be operated in speech enabled mode or speech disabled mode according to the user requirement. A set of words to be used in the application can be added according to the requirement of the user.

Key words: Web browser, Speech signal, Markov model, Sphinx