REQUEST FOR INFORMATION

Speech to Text Translation Software for Accessible Broadcasting

Requesting Organizations

NPR Labs

Background

NPR Labs is an internationally recognized research lab with specialized expertise in digital radio technologies and accessible media service models[1].

Information Sought

HD Radio technology has enabled new methods of delivering content to the growing number of Americans with hearing loss. NPR Labs is investigating the feasibility of integrating speech to text algorithms into the HD Radio framework with an intention to demonstrate viability of radio captioning solutions during NPR's Fall '08 election coverage.

Evaluation Criteria and Operational Objectives

The objective of this RFI is to determine the objective quality of state-of-the-art speech-to-text algorithms, and determine the viability of integrating these algorithms into the HD Radio framework. Specifically, we seek responses to:

- Speed/Latency
  - Does the algorithm work in real-time? If the latency rate is variable, describe the resulting accuracy[2] implications.
- Accuracy
  - What is the accuracy of the algorithm on speech samples of varying complexities (e.g. samples with and without proper nouns) <u>without</u> human intervention?
  - What is the accuracy of the algorithm on speech samples of varying complexities (e.g. samples with and without proper nouns) <u>with</u> human intervention?

- Integration/Extensibility
  - What is the core software that underpins the algorithm?

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[1] <u>NPR Labs</u> was established October 1, 2005 as the only not-for-profit, public service broadcast radio research and development center in the nation. NPR Labs has been recognized for furthering the development of new digital public services, including testing the ability to add new dedicated digital channels for radio reading services for blind, visually impaired and print disabled people, as well as developing Captioned Radio to add text to new digital radio displays for the Deaf and Hard of Hearing . NPR Labs' work on the coverage and quality of the new digital radio services has defined the state of the art. NPR and its staff have been recognized with several industry awards for these initiatives.

[2] In all cases, accuracy encompasses word error rate, as well as readability/understandability (e.g. punctuation, insertion of the appropriate symbols, etc.)

- o Is there an open API for the algorithm (is customization possible by potential licensees, such as NPR Labs staff)?
        - o Is customization of the algorithm possible for a company external to NPR Labs?
        - o Are there any IP restrictions to modifying or improving the implementation of the algorithm?
        - o What is your recommended human intervention process (e.g. correction), if necessary?
        - o Describe the time requirements for setting up and installing the algorithm
        - o If the algorithm requires training, describe its nature and time requirements.
- Cost
        - o What are the initial and recurring costs of using the algorithm:
            - ▪ For NPR acting as the main point of distribution to a membership organization of over 800 public radio stations?
            - ▪ For an individual public radio station implementing the algorithm?
- Support
        - o Does your company offer technical support? If yes, describe.
        - o Is the algorithm under active development? If so, describe access to future improved versions of the algorithm and any supporting material (e.g. updates vocabularies or language models).
- [Optional, strongly recommended] Independent Demonstration of Viability
        - o At
        http://www.nprlabs.org/speechtotext/
        there are a series of samples similar to those that air daily on National Public Radio. To demonstrate the capabilities of your algorithm, please provide unedited transcripts of the audio pieces as transcribed by your algorithm, and any latency (delay) required in generating your transcription of these samples.

<u>Project Owner</u>
Mike Starling, CTO & Executive Director
NPR Labs
Washington, DC

Questions and comments on this RFI are encouraged by emailing mstarling@npr.org

<u>Method and Timeframe of Response</u>
Responses to this RFI must be received by COB Monday, June 30, 2008.

Electronic copies are preferred and should be sent to the Project Owner:

     Mike Starling, CTO & Executive Director, NPR Labs
     635 Massachusetts Ave. NW
     Washington, DC 20001
     mstarling@npr.org

<u>RFI Limitations</u>

The issuance of this RFI by the Requesting Organizations neither implies not constitutes any commitment to issue a further RFP or any other contractual or other obligation to any respondents. The Requesting Organization may withdraw, cease, modify, amend or further pursue the information gathering identified in this RFI at any time without further notice.