

Broadband USA Applications Database

Applicant Name: Z Consulting Group LLC

Project Title: Universal Spoken Natural Language Access to Broadband Information

Project Type: Sustainable Adoption

Executive Summary

Opportunity

We are still relying on a thirty year-old computer interface with its outdated file-and-folder metaphor for nearly everything we interact with on the Internet and the process of navigating layers of hierarchical lists to retrieve a specific file out of often millions of possibilities, is slow and awkward. Using the same approach on the small screen of a wireless broadband-connected mobile phone or portable media player can be a frustrating-- particularly for the elderly or those in previously areas or those with physical or visual impairments.

Imagine then, a technology that enables the user to quickly retrieve the specific media or information they want by simply asking for it in ordinary, conversational English. Better yet, imagine that the user may ask for media or information with vague, ambiguous, or context-sensitive terms. For example: "Play the latest NPR podcast on the national economy" or "Show me highlights of last night's Giant's game" and have that media playing on the mobile phone, laptop, or PC in seconds --even though the user did not know the actual title of the broadcast or when it aired.

While there are already "voice search" services available for PC's and mobile phones, they involve simple voice recognition and a literal conversion to a plain text file that is generally only usable for basic directory or catalog requests. Rather than just identifying the individual words spoken, converting them to text, and then plugging them into a search engine as key words, the system being proposed for this project applies cutting edge proprietary language processing technology that attaches a web of information about every media object and its various possible context-sensitive meanings, attributes, relationships, and associations. These interlocked attributes enable the user to locate a specific file with imprecise terms or vague descriptions. In other words, the user can find what is wanted, yet without knowing exactly what to ask for or where to look.

Project Goals

The proposed project will involve modifying an existing novel broadband interface technology that has been in development for several years and is now being finalized for the voice-activated retrieval of popular music and other commercial entertainment offers. This proprietary technology is already working, and can be demonstrated now on enabled smart phones and lap tops anywhere there is broadband service. If funded, this project would extend this technology to facilitate the discovery of information that is critical to under-served and vulnerable populations including civic, social, and political blogs and podcasts, as well as educational and employment opportunities.

Service Area and Subscribers

Since all the processing and information retrieval occur "in the cloud," the service is location-independent.

Proposed Applications

The proposed system greatly facilitates broadband application usage by those with little previous exposure to computing platforms or who are challenged by visual impairments which make interacting with a traditional on-screen GUI difficult.

Type of System (Please See "System Overview" in the Upload Section for more detail.)

The project leverages massively-parallel cloud-based computers to first pre-process incoming audio for optimal recognition accuracy, and then apply multiple speech recognition processes in parallel to understand not just the words, but the intent and meaning of the spoken utterance. The funding sought would support the development of the various grammars needed for the intended usages. (Grammars are specialized databases of key words and phrases, and are utilized in conjunction with other databases of specialized rules pointing to the attributes and relationships of each element in the grammar). It is planned that in addition to the already-available podcasts and video segments posted on various media company's websites, that various governmental and civic entities may be induced to record and post on their websites audio and video summaries of their activities and policies that might be of interest to vulnerable citizens otherwise unable to access them using traditional user interfaces.

Applicant Qualifications

The Applicant is Z Consulting Group, LLC a small, woman-owned technology and management consulting business. The core technical team and those managing this project are all deeply-experienced in technology start-ups and hold dozens of patents. Included on the team are pioneers in speech recognition, voice search, interactive technology, interface design, media retrieval and distribution, and web-based advertising.

Overall infrastructure cost of the broadband system

None. The proposed system is a cloud-based computing software design that is hosted on leased servers.

Overall expected subscriber projections for the project.

This project is intended to provide a vastly more intuitive and convenient interface to many broadband services. It is hands-free, and may be used by visually impaired individuals. Nearly any device that has a microphone and can access the Internet can utilize this service.

Number of jobs estimated to be created or saved as result of this project.

Because this novel interface approach greatly facilitates the access and use of a wide range of broadband services a large number of new business models and the jobs needed to implement them will be created. The Applicant is making an in-kind contribution of about \$1.5 million in technology that has been developed over the past 5 years and will need about \$5 million to cover engineering costs to build out the specialized databases to support the modification.