

Dynamic Navigation of VoiceXML

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The next frontier for research on WEB is to make it universally accessible, primarily via audio. VoiceXML brings the power of web development and content delivery to voice response applications, and frees the authors of such applications from low-level programming and resource management. As long as the documents are coded in VoiceXML, they can be aurally navigated. Unfortunately this interactivenss is completely controlled by the author of the VoiceXML document, coupled with linear nature of audio output, this results in navigation process that is tedious and not under listener's control.

The focus of this project is to provide greater control to the listener while accessing VoiceXML documents, so that users can navigate within a page with greater degree of freedom. The two basic criteria met by this project are:

1. User ability to interrupt or interact at any given time.
2. User ability to hear exactly what they want and skip what they don't want.

This project develops the concept of *voice anchors* which allows the user to mark a portion of the document with a name (anchor) and return to the document anytime later by uttering the anchor. The techniques developed in this project has wide applications since VoiceXML is extensively used in the industry for providing information residing in databases & the WEB via audio (e.g. over the phone). Another application developed in this aspect is to provide Mathematics accessible to blind which involves conversion of MathML to static VoiceXML page and then use this system to provide dynamic navigation to it.

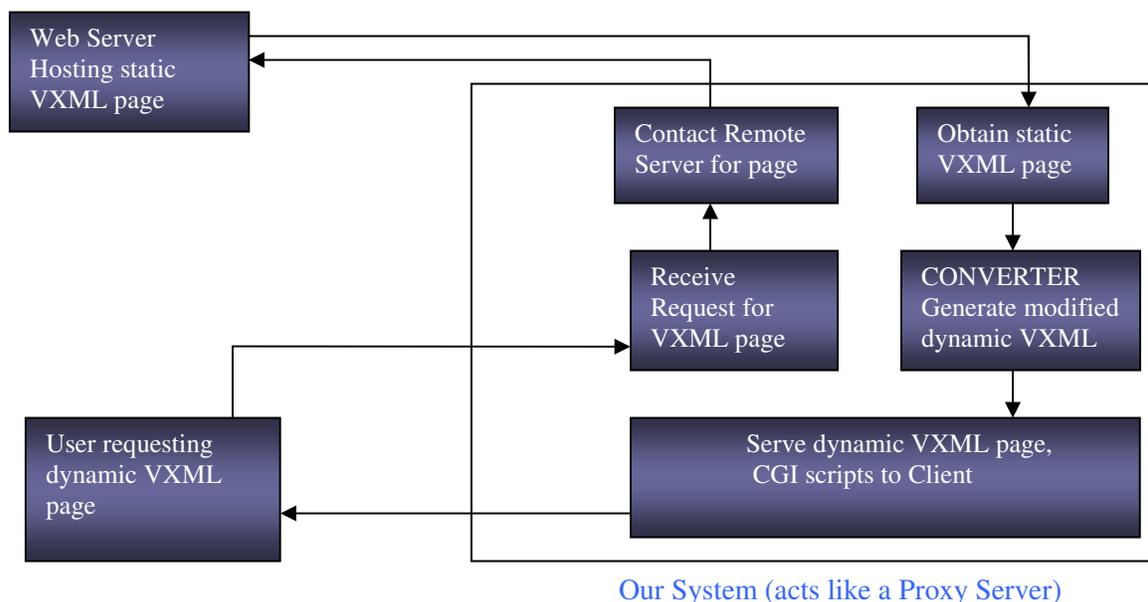


Figure: Overall Architecture

Reference: Narayan, Hemamber and Gopal Gupta "Strategies for Listener-Controlled Dynamic Navigation of VoiceXML Documents", UTD Technical Report UTD CS-28-03.