HanPhone Server: VoiceXML Support

Introduction

HanPhone Server is a powerful and flexible voice application platform developed by KanHan Technologies. It encapsulates computer telephony hardware and TTS (text-to-speech) software, allowing developers to build voice applications using a subset of HTML as well as a simple markup language called HanPhoneXML. Using HanPhone Server, the process of developing an IVRS (interactive voice response system) is very similar to that of developing a web application.

Due to the increasing popularity of VoiceXML, support of this language is being incorporated into HanPhone Server in two phases. In the first phrase, a built-in VoiceXML-to-HanPhoneXML converter will be completed and integrated into the current version of HanPhone Server by the end of August 2003. After the integration, HanPhone Server will be able to render VoiceXML 1.0 documents in addition to HanPhoneXML and HTML documents. In the second phase, a native VoiceXML interpreter will be integrated into HanPhone Server to provide complete support of VoiceXML 1.0 and optionally VoiceXML 2.0.

Phase One: VoiceXML-to-HanPhoneXML Conversion

HanPhoneXML was designed with simplicity in mind and its elements (tags) are closely related to the low-level capabilities of HanPhone Server. By design, the current version of HanPhone Server does not support speech recognition and depends on the content server to provide conditional logic and flow control for the application it hosts. As a result, unlike VoiceXML, which is a generic voice application language, there is no dedicated element for event handling, speech recognition, variables/expressions, resource-fetching control and procedural logic.

However, most of the VoiceXML 1.0 elements for presenting audio content and collecting user input have counterparts in HanPhoneXML. The purpose of the VoiceXML-to-HanPhoneXML converter is to transform these VoiceXML elements into HanPhoneXML elements. Although some VoiceXML elements cannot be replaced by HanPhoneXML elements, the functionalities they provide to the voice application can be implemented on the content server. In fact, this promotes the good practice of separating the presentation and collection of information from the application logic by making the latter the responsibility of the content server. For a list of supported VoiceXML elements, please refer to the document titled *VoiceXML 1.0 Elements and Attributes Supported by HanPhone Server 2.0*.

Phase Two: Native VoiceXML Interpreter

In order to satisfy users who demand the strictest compliance with the VoiceXML specification and fullest exploitation of the functions provided by VoiceXML, the integration of speech recognition and a native VoiceXML interpreter into the next major version of HanPhone Server is being planned. This will be done without compromising the existing HanPhoneXML interpreter and HTML converter, which ensures backward compatibility with applications built with these two languages. Existing users of the current version of HanPhone Server will enjoy free upgrade to this version.

Conclusion

KanHan Technologies is committed to providing a versatile and standard-compliant voice application platform in HanPhone Server. By allowing voice applications to be built in two and soon three languages, namely HTML, HanPhoneXML and VoiceXML, developers can spend more time constructing their applications rather than struggling with a language that they are not familiar with.

For more information about HanPhone Server, please refer to the document titled *HanPhone Server: A Technical Overview*.