

Course Details

VoiceXML Programming

Course Information

Code: VPD

Number of Days: 3

Instruction Method: Instructor-led

Please contact your local training center for the latest update on this course.

Course Description

VoiceXML Programming is a vendor neutral course that stresses understanding and working with the VoiceXML 2.x Specification elements to create an application that will run on any certified VoiceXML Platform. Emphasis is also placed on understanding the intricacies and nuances of working with ASR, TTS, a web server (application server) and the call processing server for both application development and troubleshooting.

Hands-on practice includes review questions after every module followed by a programming assignment that incorporates the new topics into an ongoing comprehensive application. Challenge exercises are included for advanced students.

This course includes: introduction to VoiceXML and application servers, XML syntax rules, VoiceXML leaf and root documents, VXML forms, blocks to speak TTS or pre-recorded audio to the caller, using Speech Synthesis Markup Language (SSML) with TTS, VXML fields to collect caller input using touch-tone or speech recognition, using SSML to configure the speak-as format of variables containing dates, times, currency and digits, 'filled' to react to caller input, error handling and reprompting, working with variables, the Form Interpretation Algorithm, goto and submit, exit and disconnect, transferring calls, invoking subdialogs, invoking ECMA Script, understanding ECMA Script syntax used within assignments and logical conditions, understanding speech recognition grammars.

Who should take this course?

VoiceXML Programming is intended for the application developer who will be writing applications that invoke VoiceXML. It is also recommended for technical support personnel who will be supporting VoiceXML applications.

Prerequisites

- Programming experience of some sort is a must

Course Objectives

After completing this course, a student will be able to:

- Explain the role of VoiceXML, the call processing platform, the speech resources, and the application server and how they are similar to the internet paradigm
- Write multi-page VoiceXML applications that invoke a root document and transition between other VXML pages and server-side applications which interact with back-end systems
- Use built in speech recognition grammars to write speech enabled applications
- Use TTS and enhance its capabilities using SSML
- Use the VXML logging capabilities
- Configure properties such as input timers, web server fetch timers, speech recognition parameters
- Handle unexpected system errors and expected caller-input error events

Course Topics by Day

Day 1

- Introduction to VoiceXML
 - VoiceXML History
 - VoiceXML Paradigm versus Traditional IVR
 - Some VoiceXML Terminology
 - VoiceXML 'Scope'
 - Understanding partial URLs
- Writing Your First VoiceXML Application
 - Introduction to XML Syntax, VXML
 - Forms and Form Items
 - Blocks – the First Form Item
 - Speaking Prompts to the Caller
 - Logging Information
- VoiceXML Fields and Prompts
 - VoiceXML Fields for Gathering Caller Input
 - Prompting the Caller for Input
 - Fields Define a 'Field Item Variable'
 - Specifying Speech Grammars and/or DTMF
 - Working with the Seven Built-in Speech Grammars
 - Speaking Variables with SSML
 - Clearing a Variable Value to Re-collect the Input
 - Using Field to Build a Simple Menu
- Conditional Logic, Filled Actions and Transitions
 - Decisions: <if>, <elseif> and <else>
 - Reacting to Caller Input using <filled>
 - ECMAScript Introduction for Logical Conditions
 - Goto and Submit to Transition between Documents
 - Form Interpretation Algorithm

Day 2

- Variables, Assign and Properties
 - Declaring a Variable: <var>
 - Assigning a Value: <assign>
 - Shadow Variables
 - Session Variables, Including ANI and DNIS
 - Properties, Including Timers, Speech Recognition Parameters and Web Fetching Properties
- Event Handling
 - Catch
 - Handling the Noinput, Nomatch, Help, Cancel and Exit Events
 - Handling the Error Event
 - Count Attribute for Handling Multiple Recurrences of an Event
 - Throwing your Own Event
- The Subdialog Form Item
 - Invoking the Subdialog for Subroutines that Return Back
 - Understanding the Execution Context of the Subdialog
 - Passing/Receiving Parameters
 - Coding the Subdialog
 - Returning/Accessing Results
 - Returning Events

Day 3

- Transfer Calls
 - Transfers and the <transfer> Form Item
 - Blind Transfers & Error Conditions
 - Bridged Transfers & Error Conditions
 - Disconnect and Exit
- Advanced Grammar Topics
 - Link Element
 - NBest Processing
- Record, Object and <script>
 - Recording a Message with <record>
 - Record Attributes and Allowable Media Formats
 - Record Shadow Variables
 - Invoking Platform Specific Functionality : <object>
 - ECMAScript Client-side Scripting
- Grammars in XML Format
 - VoiceXML Grammars
 - Speech Grammars
 - XML Grammar Specification
 - External Grammars in VoiceXML
 - DTMF Grammars
- Appendix: VoiceXML 2.0 Elements
 - Elements: Parent and Children Elements
 - Considerations in Writing Good Speech Applications