IBM

National Travel Information phone system: 511 services

Overview

- **The Challenge**
  Travelers need realtime information such as weather and road conditions
- **The Solution**
  IBM WebSphere® Voice Server, IBM WebSphere Voice Response, IBM WebSphere Portal Server, IBM Content Manager and IBM WebSphere Application Server, all running on a wide range of IBM @server servers
- **The Benefits**
  Provides wired and unwired access to 511 services via the Internet and telephone; allows transportation professionals and travelers to access important travel data from the road

Travel information by phone or Internet
The Intelligent Transportation Systems (ITS) application helps the public sector improve transportation efficiency. Already well under way in Japan and other parts of Asia Pacific, ITS has shown that traffic flow and civil engineering projects can be greatly improved using the realtime data collected from the telematics systems embedded in roadways, sidewalks and other structures.

ITS' innovative 511 service — which provides a 511 dialing code that allows access to travel information, including links to transit agency call centers — is one of many ITS initiatives that attempts to maximize transportation efficiency through the use of technology.

IBM Pervasive Computing behind the scenes
IBM Pervasive Computing division is the voice software provider for 511. The key to any phone-based information system is the underlying voice response technology. IBM offers a portfolio of voice solutions that enables telephone-based access to 511 services.

At the core is IBM WebSphere Voice Response, the IBM Interactive Voice Response (IVR) system. This system provides telephone access (wired and wireless) to 511 services in such a way that the same Web-based applications available from a textual browser can be reused to deliver similar information services over the phone.

e business

IBM has a long history of working with almost every level of government — from kingdoms to parliaments, provinces to states, federal agencies to villages on a variety of technology needs. Becoming an e-government involves much more than putting legacy computer programs on a Web site — Internet technologies offer tremendous opportunities for government to improve effectiveness, efficiency and quality of service.

WebSphere Voice Response is a robust, scalable, standards-based IVR system that enables seamless access to legacy applications and Web-based application data, using touchtone input or natural speech as the user interface.

IBM WebSphere Voice Server provides two components for speech enablement of the enterprise: speech recognition and speech synthesis. There are a variety of technologies that can be used for speech synthesis ranging from text-to-speech through the more natural sounding phrase splicing technique.

Through voice recognition and synthesis, speech access to applications or Web sites is enabled by using standards-based application development tools that utilize Java™ or VoiceXML, protecting the existing 511 applications.

By developing applications with VoiceXML, existing Web applications can be telephone-access enabled, without changes to the core Web applications.

In addition, the IBM Pervasive Computing team has considerable Human-Computer Interaction (HCI) experience in designing usable voice applications.

Accessing information from multiple devices

Voice delivery is only one way in which transportation information can be delivered. Eventually it will be desirable to target this information to multiple devices such as Web browsers, Wireless Access Protocol (WAP) phones, Personal Digital Assistants (PDAs) and in-vehicle devices.

IBM WebSphere Transcoding Publisher is a server-based, software solution that dynamically translates Web content and applications into multiple markup languages and optimizes it for delivery to a variety of mobile devices. The Transcoding Publisher is part of the IBM WebSphere Everyplace™ Server, which is a set of bundled products designed to accommodate the mobile device environment.

Personalizing the 511 experience

Giving 511 callers a personalized experience when they use the system generates more positive reactions, leading to increased usage. IBM WebSphere Portal Server (WPS) allows users to customize their 511 experience based on their needs and select what services are delivered to what devices. In addition to personalizing the experience, WPS works with IBM Content Manager, as well as third-party content management products.

Hardware and software infrastructure

One important aspect of a 511 service is that it should not suffer from significant downtime. IBM High Availability Services offers unique skills, methodologies and processes that improve availability of new and existing systems. This includes hardware and software both by IBM and other providers.

What sets our availability approach apart is that IBM High Availability Services ensures that a customer's entire Information Technology (IT) system — from server to end user — is up-and-running. In addition, IBM offers a wide range of @**server** servers that run a variety of operating systems, such as AIX,® Windows® and Linux.

Application server

All Internet-based applications depend on an industrial-strength application server. The IBM WebSphere Application Server is the premier Java technology-based Web application server, integrating enterprise data and transactions with the e-business world. It provides a rich, e-business application deployment environment with a complete set of application services, including capabilities for transaction management, security, clustering, performance, availability, connectivity and scalability.

One unifying architecture

IBM architecture for mobile environments is not a new architecture; rather it is the extension of proven IBM products into a mobile environment. Client extensions to these products have been developed to extend these robust products into small, embedded devices that make computing pervasive, such as cell phones, PDAs, automobiles and trucks. The voice portal is but one of many ways for users to access their data, as they move from home to offices and travel in vehicles or by foot.

IBM: Custom solutions for local governments

Today many local governments have successfully launched Web sites with interactive services, and are now focusing on providing real e-business solutions designed for all members of the community, such as 511.

IBM is working with local governments at all levels to help them successfully implement their e-business strategies. Our customized services and products deliver the highest security, flexibility and integration of existing systems.

For more information

For more information on voice solutions visit **ibm.com**/software/voice, on global government solutions visit **ibm.com**/solutions/government, on Telematics solutions visit **ibm.com**/industries/automotive or e-mail telematx@us.ibm.com

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