

Introduction

VoiceTriage (or **vTriage** for short) is an automated telephone self-help tool. A quick yes-no Q&A via voice or keypads helps users prioritize action possibilities based on situation assessments.

Motivation

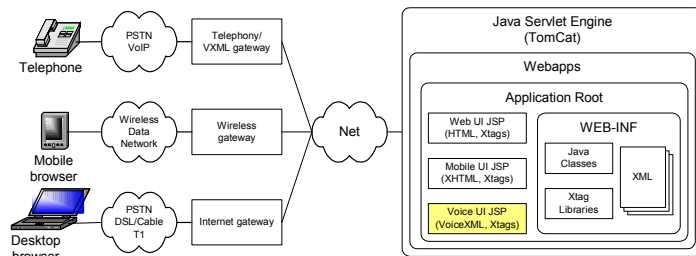
Access, language, and content complexity prevent people from obtaining actionable information. Web pages and search engines are limited in use. When sudden, unexpected needs arise, sifting through Web sites from search results is not the fastest way to determine the best course of actions. Besides, not everyone has Internet access at all time. More importantly, 45% of adults in the U.S. have difficulty reading and understanding text information*.

Telephone is more ubiquitous than Internet tools. But, it is limited in the amount of information exchangeable, and is difficult to achieve consistent and robust usability. It is also expensive to operate call centers. To determine the best course of actions, content must be decision-centric. Interaction must be simple and standardized in order to address a wide variety of topics for people with different needs, skills and backgrounds.

vTriage offers a simple solution based on self-triaging with decision trees. Triaging is a rapid, approximate assessment of given situations. It is less thorough but much quicker than diagnosis. A small number of yes-no questions are often sufficient to determine the course of actions, particularly in situations with limited resources, i.e. time, skills, supplies and equipments. With **vTriage**, anyone can self-triage the situation at anytime, anywhere, in order to make informed decisions without wasting time and money.

Architecture

vTriage is based on a multi-channel, multi-content self-service platform. It follows a standard three-tier architecture with data, logic and presentation. XML files are the primary data source for the application, where decision trees are stored. The decision tree traversal is the main application logic based on XML parsing and search. The presentation tier is coded in JSP with embedded XTags libraries and Java beans. User interface templates standardize the multi-channel delivery mechanism for voice, Web and text messaging. The voice interaction template follows VoiceXML 2.0 protocols. The entire code asset resides in an open source Java servlet engine (e.g. Apache Tomcat) as shown in the diagram. The only installation procedure necessary is to place a .war file in an application directory.

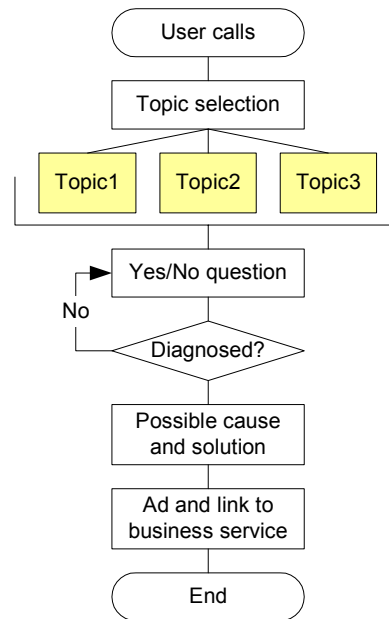


Minimum System Requirements

The core application of **vTriage** requires a minimal hardware and software setting that is sufficient to run a Java servlet engine. A single CPU at 450MHz with 512MB RAM and 500MB hard disk is adequate for small-scale operations. Most servlet engines run on major operating systems, including Linux™, Solaris™ and Windows™. **vTriage** must work with a third-party telephony and speech application platform.

Consistent Dialog Flow

As shown in the call flow diagram, the interaction model is simple and consistent regardless of applications: a topic is chosen in the menu, followed by a series of yes-no Q&A, followed by explanation of possible causes and solutions. Well-defined customer needs are identified after the Q&A; hence, the opportunity should be of particular interest to businesses for advertisement and links via outbound call forwarding.

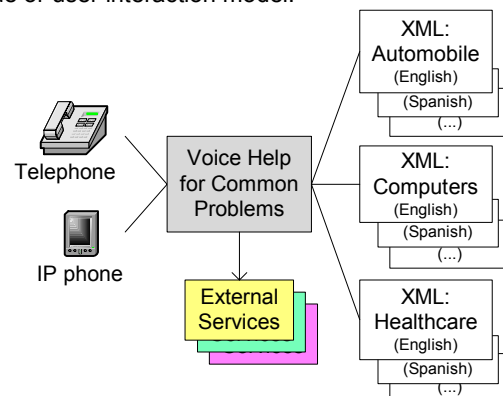


Security

vTriage inherits the superior security feature from Java and the Java servlet engine. In addition, **vTriage** does not acquire, maintain or use user profiles or any private user data.

Applications

“Voice Help for Common Problems” is a series of applications based on the **vTriage** platform. Possible applications include, but not limited to, automobiles, computers, healthcare, legal and finance. Because of the simplicity in architecture and content packaging, it is straightforward to develop, deploy, extend and maintain **vTriage** applications for a variety of domains and languages. Supporting different content and languages is simply a matter of creating or translating a XML file, without changing the logic code or user interaction model.



* 1999, National Center for Education Statistics, US Dept. of Education