Project/ scenario name:	Voice based Web Browser
Custom scenario description:	Internet has brought about an incredible improvement in human access to knowledge and information. Voice browsers allow people to access the Web using speech synthesis, pre-recorded audio, and speech recognition. This can be supplemented by keypads and small displays. Voice may also be offered as an adjunct to conventional desktop browsers with high resolution graphical displays, providing an accessible alternative to using the keyboard or screen, for instance in automobiles where hands/eyes free operation is essential. Voice interaction can escape the physical limitations on keypads and displays as mobile devices become ever smaller. The browser will have an integrated text extraction engine that inspects the content of the page to construct a structured representation. The internal nodes of the structure represent various levels of abstraction of the content. This helps in easy and flexible navigation of the page so as to rapidly home into objects of interest. Finally, the browser is integrated to an automatic Text-To-Speech transliteration engine that outputs the selected text in the form of speech.

Objective/ vision: To develop a Web Browser which will

1. Accept the voice commands

2. Output should be converted to speech

Users of the system:
1. Administrator
2. Users

Functional requirements (include at least 8):

1. It should exploit voice input and output, using speech synthesis and prerecorded sound for output (together with small displays when available), and a combination of keyboard and speech recognition for input.
2. The technology will make it practical to browse the Web from any telephone using open standards for voice browsers.
3. The Voice browsers would use speech synthesis and prerecorded material to present the contents of Web pages. A variety of aural effects can be used to give different emphasis to headings, hypertext links, list items and so on.
4. Users interact with voice browsers by spoken command or by pressing a button on a keypad. Some commands interrupt the browser. For instance to request a list of hypertext links occurring in the current section of the document. Other commands are given when the browser prompts for input, for example, to select an option from a menu in a form.
5. To increase the robustness of speech recognition, voice browser should take advantage of contextual clues provided by the author so that the recognition engine will focus on likely utterances,

improving the chances of a correct match.

6. Speech synthesis needs to be driven by dictionaries, falling back for unknown words on rules for regular pronunciation.

Non-functional requirements (include at least 4):	i. Secure access of confidential data (user's details). SSL can be used.
	ii. 24 X 7 availability
	iii. Better component design to get better performance at peak time
	iv. Flexible service based architecture will be highly desirable for future extension

Optional features:

User interface priorities:	A. Professional look and feel
	B. Use of AJAX atleast with all registration forms
	C. Browser testing and support for IE, NN, Mozila, and Firefox.
	D. Use of Graphical tool like JASPER to show strategic data to admin
	E. Reports exportable in .XLS, .PDF or any other desirable format

Reports:	i. Reports customizing the stored data in a platform independent format and displaying it using style sheets.
	ii. Admin must be able to data in reports in excel sheets
	iii. Admin must be able to make pictorial depiction of data in excel sheets for better understanding
	iv. Reports should be elaborate for all the users.

Team Size-	2-4 students
Technologies to be used:	**UML, J2EE, XML, e-Forms, AJAX, Web 2.0, Web-services, SOA**
Tools to be used:	• **ROSE/RSA / WebSphere Modeler**
	• **Eclipse/ RAD / Lotus Forms Designer / Portlet Factory**
	• **WebSphere Portal/ WAS/ WAS CE / WPS**
	• **DB2 Express – 'C' or DB2 UDB**

- **Tivoli CDP/TSM / Tivoli Directory Server**

- **Linux will be the preferred OS.**

| Final deliverable must include: | 1. Online or offline help to above said users, Application development executive and developer
2. Application archive (.war/.ear) with source code
3. Database backup and DDL Script
4. Complete Source code |