

Dynamic Web Page Reporting System based on the Browsed Content

Abinesh J¹, Guhan Muthu S², Ganesh S S³, Batchu Sree Harsha⁴

Department of Computer Science and Engineering, R.M.K College of Engineering and Technology, Thruvallur, Tamil Nadu, India

Abstract: *The mission of this project is to generate dynamic web page based on the browsed content. It has several existing open source features such as voice read write, online suggestions and voice over control. It is educational research oriented application. It involves client-side dynamic web page processes the web page using HTML scripting running in the browser as it loads.*

1. Introduction

It is a web Application which takes notes while referring online resources this Web application provides you the ease of taking notes online and dynamically generates a reading mode (based on activity notes generated in write mode) and stores your data in database permanently. It also provides text based on voice recognition and voice over control features such as converting text-to-speech and vice versa.

2. Module Description

We also have some extension, it is one of the important part in our web application. It will be used when we want to extract some information from some other website then you can use this extensions to get those information to our web application. It has following options such as speak selected content, translate selected content, add selected content to suggestion, add selected content to activity model, meaning for selected content, add current page link to activity model.

PDF model: This model is used when you have a PDF in your system, then use this PDF model to choose your internal PDF file for online reference.

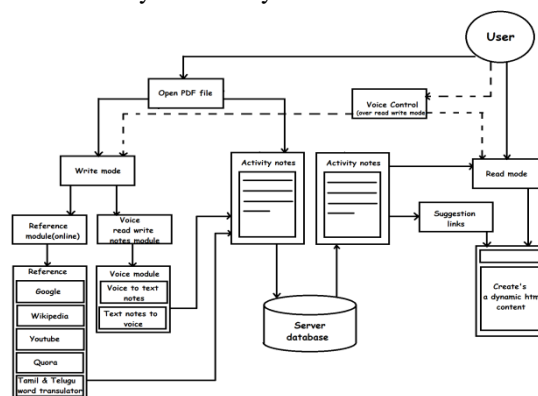
Read model: This module is used when we have not interested in reading, then we can use this model to hear that content we want to read.

Activity model: This model only stores all the browsing information's while referring online for the content. It stores information such as urls, important points while referring online content. This content will store permanently in the server database. when using the read mode, it dynamically generate the web page content based on the activity content stored in the server database.

In **Write mode**, they are two models suggestion model and voice model.

Suggestion model: In this suggestion model, we have three sub models are default Wikipedia model, activity note model, and search models such as Google, Wikipedia, YouTube, quora, word translation and voice search. Then in default Wikipedia model will display the content relevant to your suggested content, now you can add your important point to your activity notes model it also include current date and time.

Voice model: In voice model, while seeing some online videos or referring some online blogs, you can understand some content from that online resource now you can tell your known content to this model, then this model will convert your speech to text. Then you can add those converted text to your activity notes .



3. System Architecture Diagram

In **Read mode**, there are two models in read mode there are open model and generate report model.

Open model: It will choose the activity notes from the database because single user can create multiple activity notes for different online reference content.

Generate report model: It is the most important model in this application because it will generate dynamic web page based on the activity notes content because in write mode we will insert all the important points and links in the activity notes with a special character based on that special character, in read mode we will split that activity in notes into components and store it in an array and the individual array element will be processed then it will be identified whether it is a link or a content or YouTube video link. All this analysis will be done for an individual array element based on analyse it will generate a dynamic web page depend on the content in the array elements.

a) Web Mining

Web mining is the integration of information gathered by traditional data mining methodologies and techniques with information gathered over the World Wide Web. (Mining means extracting something useful or valuable from a baser substance, such as mining gold from the earth.) Web mining

is used to understand customer behavior, evaluate the effectiveness of a particular Web site, and help quantify the success of a marketing campaign. Our goal of Web structure mining is to generate structural summary about the Web site and Web page. Technically, Web content mining mainly focuses on the structure of inner-document, while Web structure mining tries to discover the link structure of the hyperlinks at the inter-document level. Based on the topology of the hyperlinks, Web structure mining will categorize the Web pages and generate the information, such as the similarity and relationship between different Web sites.

Web structure mining can also have another direction -- discovering the structure of Web document itself. This type of structure mining can be used to reveal the structure (schema) of Web pages, this would be good for navigation purpose and make it possible to compare/integrate Web page schemes. This type of structure mining will facilitate introducing database techniques for accessing information in Web pages by providing a reference schema.

b) Responsive Voice

Speed, Pitch and Volume for speech synthesis was introduced in 1.3.7 It is not supported across all platforms, so if your use of voice relies on these features do a full check on your target devices for consistency. This avoids the situation for example where the a developer might tweak the voice to sound a certain way in Safari, but then when experienced on an older version of Chrome on Windows for example the result is inconsistent.

ResponsiveVoice works across multiple browsers and devices using the best capabilities of each to provide a consistent experience.

Speech features across devices vary considerably, ResponsiveVoice solves this by creating a unified library that acts as close as possible on devices and browsers. Here are some great tips for improving the experience using a comma or full stop will cause a small pause and sometimes change the emphasis of the prior word, changing the order of words can subtly affect the pronunciation, every 100 characters the speech will make a pause if it encounters a comma or full stop before then it will start the 100 count again, using quotes around words can change their pronunciation, putting words together like TinCan will improve the pronunciation, putting words together with a hyphen can improve the pronunciation, letters on their own are spoken well as in X A P I whereas API will be said as 'appy'.

c) Speech Recognition

Speech recognition: Speech recognition is the interdisciplinary sub field of computational linguistics that develops methodologies and technologies that enables the recognition and translation of spoken language into text by computers. It is also known as **automatic speech recognition (ASR)**, **computer speech recognition** or **speech to text (STT)**. It incorporates knowledge and research in the linguistics, computer science, and electrical engineering fields.

Some speech recognition systems require training (also called enrollment) where an individual speaker reads text or isolated vocabulary into the system. The system analyzes the person's specific voice and uses it to fine-tune the recognition of that person's speech, resulting in increased accuracy. Systems that do not use training are called speaker independent systems. Systems that use training are called speaker dependent.

Speech recognition applications include voice user interfaces such as voice dialing (e.g. call home), call routing (e.g. I would like to make a collect call), domestic appliance control, search (e.g. find a podcast where particular words were spoken), simple data entry (e.g., entering a credit card number), preparation of structured documents (e.g. a radiology report), determining speaker characteristics, speech-to-text processing (e.g., word processors or emails), and aircraft (usually termed direct voice input).

The term *voice recognition* or *speaker identification* refers to identifying the speaker, rather than what they are saying. Recognizing the speaker can simplify the task of translating speech in systems that have been trained on a specific person's voice or it can be used to authenticate or verify the identity of a speaker as part of a security process.

4. Client Side Dynamic Web Page Processing

A **client-side dynamic web page** processes the web page using HTML scripting running in the browser as it loads. JavaScript and other scripting languages determine the way the HTML in the received page is parsed into the Document Object Model, or DOM, that represents the loaded web page. The same client-side techniques can then dynamically update or change the DOM in the same way.

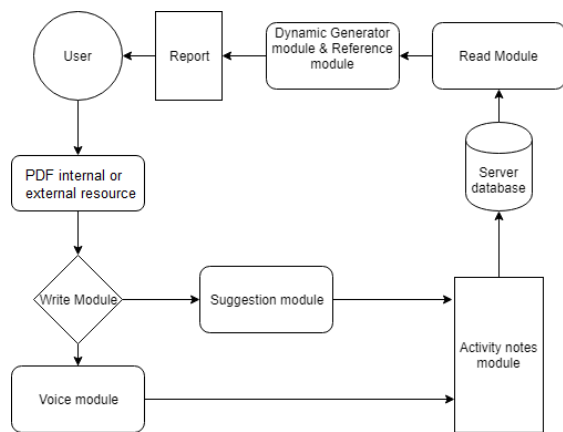
A dynamic web page is then reloaded by the user or by a computer program to change some variable content. The updating information could come from the server, or from changes made to that page's DOM. This may or may not truncate the browsing history or create a saved version to go back to, but a dynamic web page update using Ajax technologies will neither create a page to go back to, nor truncate the web browsing history forward of the displayed page. Using Ajax technologies the end user gets one dynamic page managed as a single page in the web browser while the actual web content rendered on that page can vary. The Ajax engine sits only on the browser requesting parts of its DOM, the DOM, for its client, from an application server.

Client-side scripting: It is changing interface behaviors within a specific web page in response to mouse or keyboard actions, or at specified timing events. In this case, the dynamic behavior occurs within the presentation. The client-side content is generated on the user's local computer system.

Such web pages use presentation technology called rich interfaced pages. Client-side scripting languages like JavaScript or ActionScript, used for Dynamic HTML (DHTML) and Flash technologies respectively, are frequently used to orchestrate media types (sound, animations, changing text, etc.) of the presentation. Client-

side scripting also allows the use of remote scripting, a technique by which the DHTML page requests additional information from a server, using a hidden frame, XMLHttpRequests, or a Web service.

Example: The client-side content is generated on the client's computer. The web browser retrieves a page from the server, then processes the code embedded in the page (typically written in JavaScript) and displays the retrieved page's content to the user. The inner HTML property (or write command) can illustrate the client-side dynamic page generation: two distinct pages, A and B, can be regenerated (by an event response dynamic) as `document.innerHTML = A` and `document.innerHTML = B`; or on load dynamic by `document.write(A)` and `document.write(B)`



Data Flow Diagram

5. Conclusion

The main purpose is to generate client-side dynamic web page content based on the browsed content stored in activity notes module which stored in database, then dynamic web page generated in the read mode with the internet suggestions.

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