

Abstract

This project focuses on the development of a Chrome extension controlled by voice to improve user interactivity with web browser. Voice based browsing extensions are explored in the modern era, but most of them are limited to certain languages or do not provide flexible tab control, inline search or smooth speech interaction. The proposed solution introduces a lightweight browser extension which supports both Bangla and English commands and provides flexible features like switching between tabs, inline search for Google and Wikipedia, fill up forms, read out selected text through speech. To achieve this, we implemented speech recognition APIs, intent-based command matching and parsing for accurate result with modular Javascript architecture for scalability. Chrome extension APIs were integrated here for tab management, content handling and background propagation. The system was test through real browser scenerio and successfully performed site navigation, click through expected links, inline search with dual languages without noticeable lag. A special feature is added for auto silence detection and highlight-based read-out functionality by integrating speech recognition APIs. The findings shows that the extension can help to reduce manual browsing effort by providing solutions for users with limited typing skills and handicuffs. This project shows that voice driven solution can improve web accessibility and multilingual abilities.

Keywords: Chrome extension, Speech recognition, APIs, Voice driven solution, Inline search.