# Navigating JavaScript's role in SEO amidst AI challenges



In a recent episode of Google’s "Search Off The Record" podcast, the Google Search Relations team delved into the complexities surrounding the use of JavaScript in web development and its implications for search engine optimisation. This discussion comes at a time when the digital landscape is increasingly reliant on JavaScript to enhance user experience, yet there are concerns about its overuse and the potential pitfalls when interacting with modern search technologies, particularly AI-driven crawlers.

Martin Splitt, a Search Developer Advocate at Google, articulated the dual roles that JavaScript can play in web development. Initially created to bring mobile app-like features to websites, such as push notifications and offline access, Splitt described the current technological landscape as a spectrum that ranges from traditional static websites to fully interactive web applications. He explained, “We’re in this weird state where websites can be just that – websites, basically pages and information that is presented on multiple pages and linked, but it can also be an application.” Using the example of an online apartment viewing tool, he demonstrated how a website can serve both informational and interactive purposes simultaneously.

However, a point of caution was raised by John Mueller, another advocate at Google, regarding developers' growing tendency to rely heavily on JavaScript. He remarked, “There are lots of people that like these JavaScript frameworks, and they use them for things where JavaScript really makes sense, and then they’re like, ‘Why don’t I just use it for everything?’” This widespread enthusiasm for JavaScript frameworks may inadvertently lead to complications, particularly in the age of artificial intelligence.

The increasing prevalence of AI search engines, which are not adept at rendering JavaScript, highlights a significant challenge for developers. A recent study noted that while traditional search engines have improved their support for JavaScript, AI crawlers, such as those employed by ChatGPT and Claude, struggle to execute client-side JavaScript. This creates a potential risk of losing traffic specifically from AI search engines if websites are not optimally designed.

Key considerations emerged from the podcast regarding how to navigate these challenges. For effective visibility in the face of advancing AI technologies, developers are encouraged to adopt server-side rendering practices, ensure that core content is included in the initial HTML, and utilize progressive enhancement techniques. Moreover, developers are advised to exercise discernment about when JavaScript is genuinely the best option for site functionality.

As search engine technology evolves, the balance between adopting modern features and maintaining accessibility for AI crawlers is crucial for achieving a successful online presence. Therefore, integrating traditional search engine optimisation with strategies geared toward AI indexing will be essential for businesses aiming to capitalise on the growing significance of both traditional and AI-driven search traffic.

The team concluded that navigating the complexities of web development in an increasingly AI-driven landscape will require ongoing adaptation and careful consideration of the tools used in website construction. Listening to the full podcast could provide further insights into these developing discussions and trends in search engine technology.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://web.swipeinsight.app/posts/new-search-off-the-record-episode-rendering-javascript-for-google-search-8539> - This link corroborates the discussion on Google's 'Search Off the Record' podcast about rendering JavaScript for Google Search, including the rendering process and best practices for website owners.
2. <https://www.youtube.com/watch?v=XBT_DUzUbOI> - This YouTube video is an episode of 'Search Off the Record' where the Google Search Relations team discusses how Google Search handles JavaScript sites, the rendering process, and best practices for website owners.
3. <https://blog.hubspot.com/marketing/javascript-seo> - This article explains the implications of JavaScript on SEO, including the challenges of indexing and rendering, and provides advice on making JavaScript SEO-friendly, such as using server-side rendering and ensuring core content is in the initial HTML.
4. <https://www.onely.com/blog/ultimate-guide-javascript-seo/> - This guide details how JavaScript affects SEO, including the impact on crawling, rendering, and indexing, and provides best practices for optimizing JavaScript to improve SEO and web performance.
5. <https://blog.hubspot.com/marketing/javascript-seo> - This article highlights the importance of ensuring that JavaScript renders correctly and that page HTML is structured to provide as much information as possible about the page's content for search engines.
6. <https://www.onely.com/blog/ultimate-guide-javascript-seo/> - This guide discusses the common problems with JavaScript that SEOs overlook, such as the impact on indexing pipeline and web performance, and how to address these issues.
7. <https://web.swipeinsight.app/posts/new-search-off-the-record-episode-rendering-javascript-for-google-search-8539> - This article explains the concept of the DOM and the rendering process, which are key topics discussed in the 'Search Off the Record' podcast episode.
8. <https://www.youtube.com/watch?v=XBT_DUzUbOI> - The video transcript and additional resources linked here provide further insights into how Google Search deals with JavaScript sites and the best practices for website owners.
9. <https://blog.hubspot.com/marketing/javascript-seo> - This article advises developers to use dynamic rendering sparingly as a workaround for the challenges associated with JavaScript and SEO.
10. <https://www.onely.com/blog/ultimate-guide-javascript-seo/> - The guide emphasizes the importance of progressive enhancement techniques and ensuring core content is included in the initial HTML to improve visibility for both traditional and AI search engines.
11. <https://www.searchenginejournal.com/googles-javascript-warning-how-it-relates-to-ai-search/536596/> - Please view link - unable to able to access data