



Firefox Recap

Daily/Weekly/Monthly Report

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Client: Firefox AI Platform

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Motivation and Objective

Many browsing analysis tools compromise user privacy by relying on cloud storage. This project aimed to develop a Firefox extension that privately analyzes browsing behavior using offline AI models in order to create categorized visual reports of browsing history. This empowers users to reflect on their habits without exposing personal data.

Approach

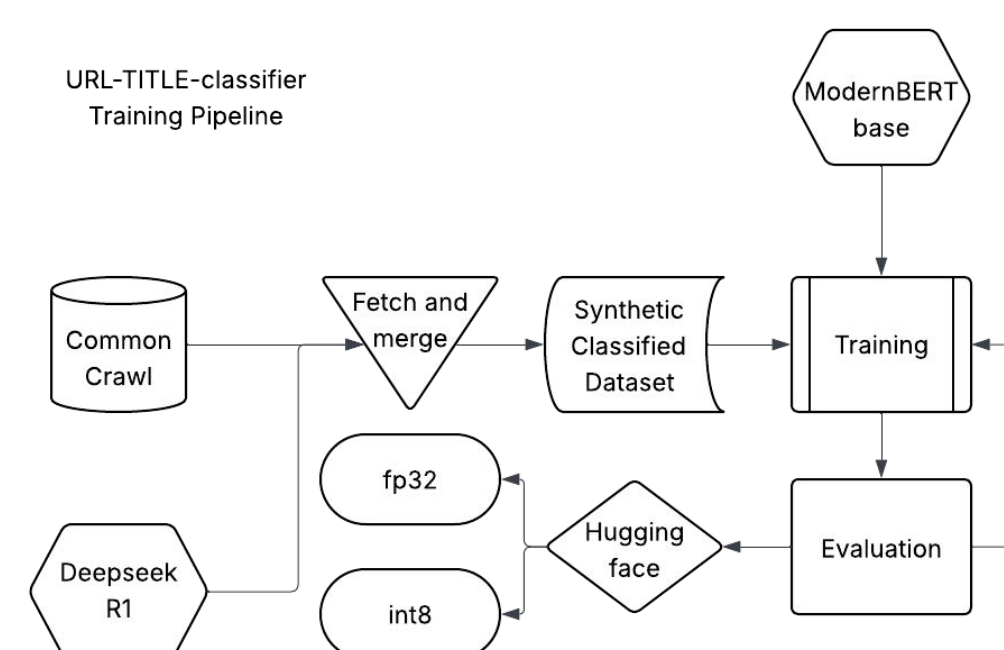
Frontend & Backend: React chosen for seamless integration with the Firefox WebExtension framework

Machine Learning: Transformers.js, enabling in-browser topic classification without server dependencies

Browser API: Firefox WebExtension APIs for retrieving browsing data

Version Control & Testing: GitHub + Jest for reliable collaboration and quality assurance

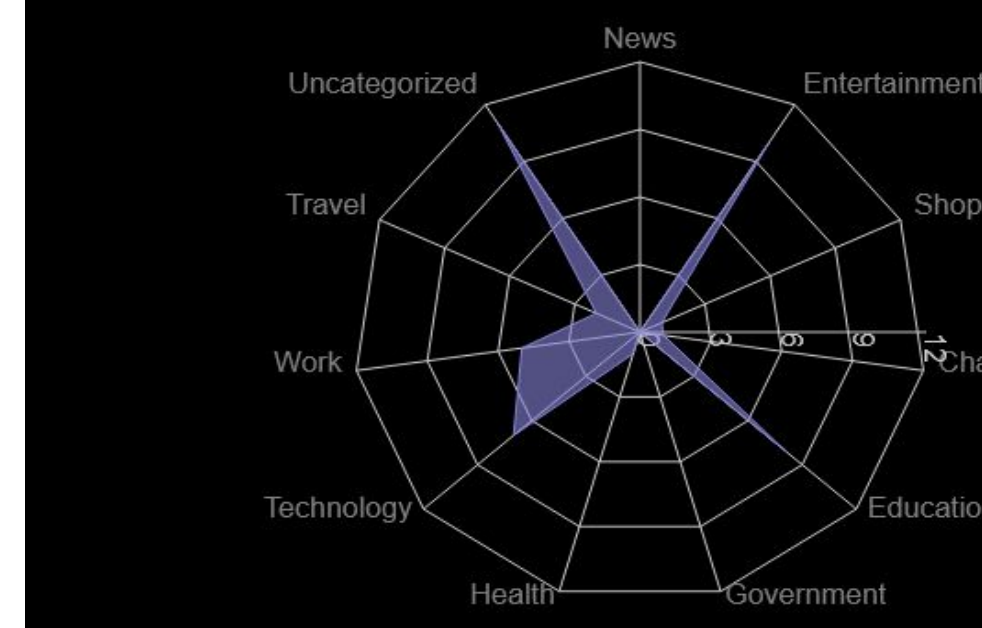
F1 score: 0.917 **Hamming Loss:** 0.083



Results

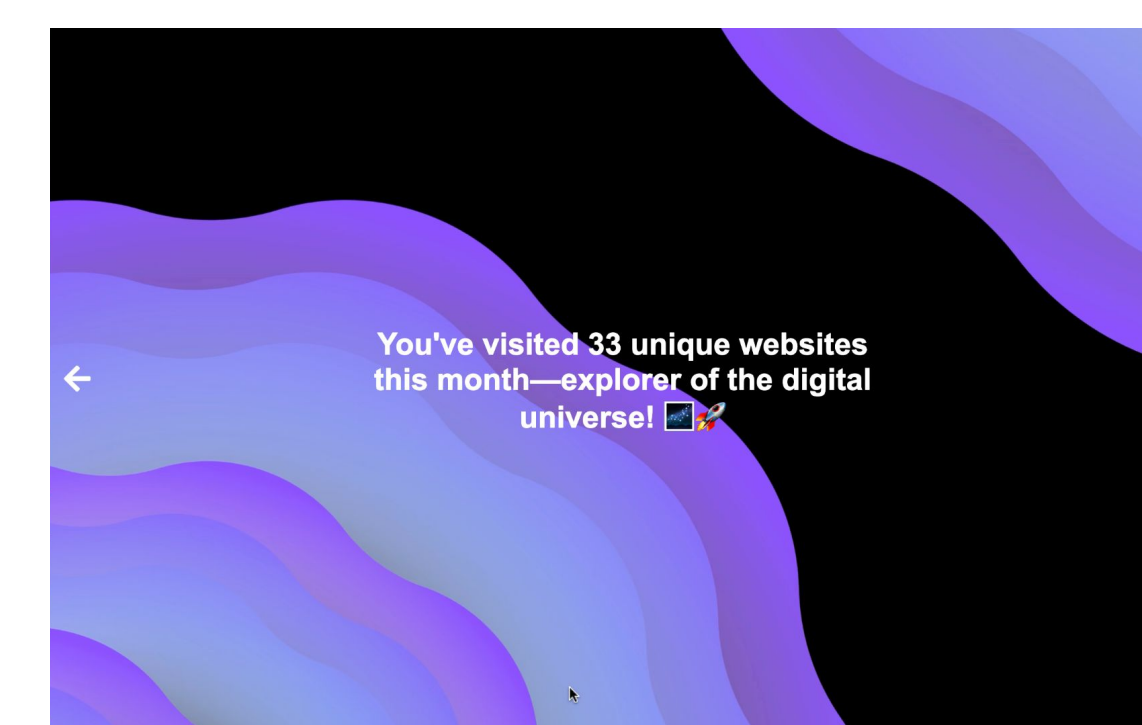
We produced a fully functional Firefox browser extension that takes in a user's browsing history and automatically generates detailed daily, weekly, and monthly reports. The extension categorizes browsing data, visualizes trends, and presents summaries about user behavior. It includes interactive charts, a variety of prompts, and fallback handling for missing data.

Here's how your categories stack up 📊

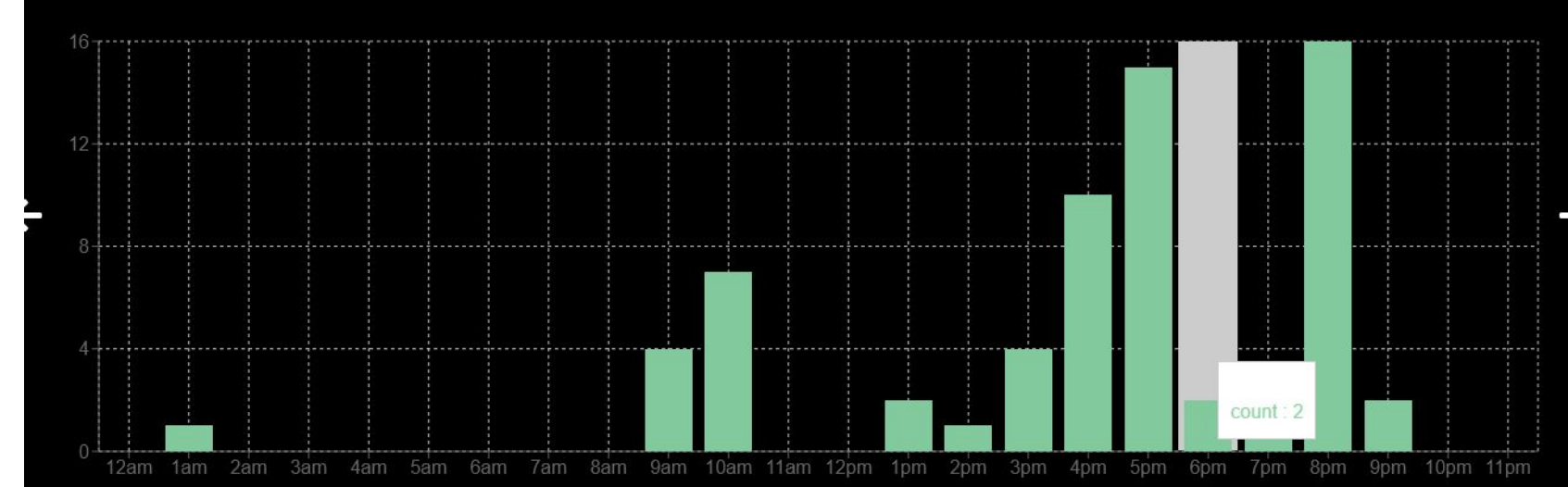


We categorized websites using both their URL and page title, allowing us to group them into different content types. Then we generated a radar chart to illustrate the user's activity patterns across these different categories.

We designed a rotating set of prompts that automatically fill in user specific data, like the number of unique websites visited, in order to generate engaging and personalized summaries.



Your browsing activity by hour 🕒



Browsing timestamps were used in order to see the behavior for times of day a user is online

Conclusions

Throughout this project, we gained hands on experience with building a production ready browser extension and integrating local AI models for private data analysis. We learned how to navigate real world challenges like asynchronous data handling, designing for user experience, and maintaining functionality without relying on cloud-based tools. Most importantly, we saw the value of user-first design, balancing privacy, utility, and interactivity in a tool that helps people understand their digital habits.

Thank You

Merci to Tarek and the Mozilla AI team for your guidance, feedback, and belief in privacy-first innovation. His support helped Firefox Recap come to life.