Title: Study the effects of ads and redirects in delays in loading Web pages.

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- Goal / Motivation

Advertising networks are an important part of publishers' business plans. Modern rich websites contain many ads in different formats which overall impacts on page load time. A single redirect causes browser to process an additional HTTP request before rendering the page. The page load time has a direct correlation with customer satisfaction, so we want to study the effects of ads and redirects in loading web pages.

- Methodology

We plan to start by measuring the page load times of various websites from the Alexa.com without any ad blocker and with ad blocker and compare them over any single web browser and then we plan to compare them with different web browsers over different networks. In the similar way, we plan to measure the time taken to redirect to a particular page from different domain names over different devices.

- Initial Hypotheses

Our initial hypothesis is that usually the pages with ads take a lot of time to load compared to the ones without ads, because there is a lot of extra HTML, CSS, Javascript and Images to be loaded. If we open a website in a mobile then it gets redirected to the mobile version which increases the page load time.

- Initial Reference:

1. https://support.performancefoundry.com/article/189-how-do-ad-networks-impact-my-site-load-time
2. http://sandboxseo.com/redirects-affect-page-load-time/

- Evaluations:

Performance Metric:
1. Ads: Adblock vs normal
   a. Number of Requests by resources type (HTML, CSS, Scripts, Images)
   b. Weight (bytes downloaded) by resources type
   c. Page load speed (first byte / start render / visually complete / fully loaded)
2. Redirects: number of redirects in .htaccess file, incremental redirect time (based on redirect chains), mail server redirection, mobile browser redirection.

Evaluation Tools: how will you get familiar with these tools
1. https://developers.google.com/speed/docs/insights/v4/getting-started
[Note: we may slightly change the used evaluation tools and methodology based on more concrete hypothesis.]