Intro to Performance
This is going to be quick, so...

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- #wikimedia-perf
- Phabricator: tag with Performance-team
Why we worry about performance

Performant site  Happy users
Why we worry about performance

Performant site → Happy users

Performant site → Increased trust in the authority of the site
How we measure: Real User Monitoring

- Collect data from clients and aggregate[1]
- Track over time[2]
- Pros:
  - Shows us what actual users are seeing!
- Cons:
  - So many confounding factors: Client device; client geo; client connectivity.

[1] - You can see it for yourself: open DevTools in your browser, open a page, and then display window.performance in the Javascript console
How we measure: Synthetic Monitoring

- In a tightly controlled environment, take the same measurement over and over[^1]
- Track over time[^2]
- Pros:
  - Allows us to identify regressions or improvements, since variability is much lower
- Cons:
  - Doesn’t give us a “real” measure of performance

[^1]: We use a private [WebPageTest](https://webpagetest.org) instance for this
[^2]: [https://grafana.wikimedia.org/dashboard/db/webpagetest-alerts?refresh=5m&orgId=1](https://grafana.wikimedia.org/dashboard/db/webpagetest-alerts?refresh=5m&orgId=1)
(Some of) what we measure

● RUM
  ○ responseStart: measures the performance of our infrastructure
  ○ domInteractive: when the HTML page has been parsed, and the initial DOM created
  ○ First Paint: when the browser displays the initial DOM
  ○ loadEventEnd: custom event that gives the time of the onLoadComplete event
  ○ saveTiming: custom event that reports the time required to save an edit

● Synthetic
  ○ Start Render: when the page content begins to render on the screen
  ○ Fully Loaded: when the page has completely rendered (should be similar to loadEventEnd)
  ○ Last Visual Change: when any post-load visual changes have occurred
  ○ Speed Index: measure of perceived performance\[1\]

[1] - I really recommend checking out the description of Speed Index:
https://sites.google.com/a/webpagetest.org/docs/using-webpagetest/metrics/speed-index
Upcoming over the next 1-2 quarters

- Series of blog posts that give a detailed introduction to performance testing
- A self-paced training module on performance analysis
- Performance-testing-as-a-service
- Literature review of the existing research on Performance
- Collect Resource Timing info on slow page loads
Gaps

- Mobile apps
- Older browsers, which don’t support the Navigation Timing API
- No good way to get Speed Index on the client side
Resources

- https://www.mediawiki.org/wiki/Wikimedia_Performance_Team
- https://wikitech.wikimedia.org/wiki/Measure_Performance
- https://performance.wikimedia.org/
- https://developers.google.com/web/fundamentals/performance/rail