**Title:** Performance Optimization

**Description:** Perhaps one of the most arcane elements of web development is performance optimization, especially when it comes to the first part of a user’s experience: page loads. We’ll spend the bulk of this session exploring the key metrics around page speed and performance, then look at how we can boost those scores throughout our applications. Armed with this knowledge, we’ll look at a few case studies to see how we can use the tools we just discussed to solve each problem.

**Outline:**

1. Introduction
2. Understanding how the browser works
   1. Resource requests
   2. Painting
   3. Interaction
3. What should we be measuring?
   1. Time to First Byte
   2. First Contentful Paint
   3. First Meaningful Paint
   4. Time to Interactive
   5. Total Blocking
   6. Largest Contentful Paint
4. The PRPL pattern
   1. Push
   2. Render
   3. Pre-Cache
   4. Lazy Load
5. TTFB, and the road to tiny bundles
   1. Where have all the small bundles gone?
   2. Code-splitting
   3. Lazy-loading
6. Case Studies
   1. Slow API fetches
   2. Want at least two more
7. How @wedgekit/scripts helps our performance
8. Conclusion