Building a Better Web Browser

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Abstract
Web browsers are defining increasingly rich APIs for networking, multimedia, and local storage. This is good in the sense that web applications can now approach the sophistication of traditional desktop applications. Unfortunately, in the race to add new browser features, discussions about clean interface design are often relegated to second-class status. The result is browsers that are difficult to make robust and secure. Browsers execute so many important applications, and expose so much complex functionality, that they should be treated as operating systems. I will discuss the implications of this claim, using case studies to motivate some core abstractions that browsers should export. I will also discuss some research challenges for building the next generation of browsers.

Biography
James Mickens is a researcher in the Distributed Systems group at Microsoft's Redmond lab. His current research focuses on datacenter storage systems for large-scale computation. He also studies the client-side of web applications, designing new ways to improve their performance, reliability, and security. Mickens received a bachelor's degree in computer science from Georgia Tech, and a PhD in computer science from the University of Michigan. During his stay at Michigan, he was notorious for scheduling his thesis defense in the early hours of the morning so that nobody would attend it. This technique, popularly called "The Mickens Gambit," is now banned in 36 states.