Software From the Inside Out: Reverse Engineering As Method

NIKKI STEVENS, PhD

Postdoctoral Researcher, Data + Feminism Lab
Department of Urban Studies and Planning
MIT

How would our studies of software change if we could examine the code itself? What new forms of inquiry become available when we reduce the opacity of commercial software products?

In this talk, Stevens describes several processes of reverse engineering, a series of methods by which we can look inside software that we did not build. Throughout, they discuss opportunities for inquiry and theorization offered by penetration approaches, as well as some common ethical and legal considerations. Stevens grounds the theory with case studies from Android applications, Internet of Things products, and the US criminal legal system. Ultimately, they argue that reverse engineering is a key method for the humanistic and social studies of software, and will have implications for scholars and practitioners interested in software's role in social change.

Nikki Stevens is a critical technology researcher, software practitioner, and open-source community leader. Their research demonstrates that data infrastructures—data models, databases, data structures—are locations in which software harms can be incubated, exacerbated, or ameliorated. Using mixed methods, including historical analysis, reverse engineering and speculative design, Stevens excavates technical practices, linking them to aspects of contemporary structural oppression. Their first monograph, *Abolitionist Engineering* (in progress), develops an approach to data structures that orients engineering practice towards alternative futures. In industry, Stevens led the architecture of products for billion-dollar corporations like Coca-Cola, Sony, and Instagram, and their work has won numerous awards, including at SXSW, the premier conference for new media. In open source, Stevens' work in the Drupal community earned them the Aaron Winborn Award and recognitions by Red Hat and The Linux Foundation. Their work has been supported by Google, Mozilla, and Microsoft.

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