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Agility and Openness: Lessons from Government IT and Process Innovation during Obama's Tech Surge

Robert L. Read

Public Invention

Corresponding author's Email: read.robert@gmail.com

Author Note: Robert L. Read, PhD, has been an entrepreneur and director at medium-sized software firms where he instigated and introduced Agile software methodologies. He was a Presidential Innovation Fellow in 2013, where he went on to co-found 18F and 18F Consulting. He is currently founding a nonprofit, Public Invention, to perform hardware invention in the public interest without seeking intellectual property.

Abstract: The Obama administration had a policy goal of “making government cool” embodied in the so-called “Tech Surge.” As part of this effort, it started three programs, the Presidential Innovation Fellows (PIFs), 18F, and the US Digital Service (USDS) that brought industry experts into government for temporary “tours of duty.” These people brought modern IT practices into the federal government, partially modernizing processes in government which traditionally lag the software industry. These methodologies include: Agile software development, open-source software, Human-Centered Design (HCD), rapid prototyping, protosketching, a focus on application programming interfaces (APIs), continuous integration and automated deployment. Adoption of these techniques within the federal government has been challenging but impactful. This paper discusses the history of that effort and its effectiveness, and draws some experiential “lessons learned.” We attempt to extend these lessons to engineering processes to any large organization.

Keywords: Software Engineering, Agile Methodologies, Rapid Prototyping, Open Source, Human-centered Design