MSR 2012 Keynote:
The Evolution of the Social Programmer

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Social media has revolutionized how humans create and curate knowledge artifacts [1]. It has increased individual engagement, broadened community participation and led to the formation of new social networks. This paradigm shift is particularly evident in software engineering in three distinct ways: firstly, in how **software stakeholders** co-develop and form communities of practice; secondly, in the complex and distributed **software ecosystems** that are enabled through insourcing, outsourcing, open sourcing and crowdsourcing of components and related artifacts; and thirdly, by the emergence of socially-enabled **software repositories** and collaborative development environments [2].

In this talk, I will discuss how software engineers are becoming more "social" and altruistic, defying the old-fashioned stereotype of the solitary and selfish programmer [3]. I conjecture that media literacy and networking skills will become just as important as technical skills for creating, curating and managing today's complex software ecosystems and software knowledge [4]. Furthermore, these skills will expand who can participate in the design and evaluation of software, broadening the perspective of who is a software developer.

I will also discuss the influence of social media and social networks on software development environments and repositories. I propose that social media is responsible for the shift from a software repository as a "space" that stores software artifacts, to a "place" where developers learn, reuse, share and network [5]. A space-to-place transformation is evident when we compare Eclipse with Jazz [6], SourceForge with GitHub [7], traditional software forums with Question and Answer websites such as StackOverFlow [8], and the role of blogs [9] and wikis [10] as a new "place for documentation".

The convergence of software tools with social media naturally influences the information that can be mined from software repositories, challenging not only the questions that motivate these mining activities, but also the very definitions of what comprises a software repository or even a software programmer [4]. Finally, I will suggest that it is imperative to consider both the positive and negative consequences of how programming in a socially-networked world might impact software quality and software engineering practices. As Marshall McLuhan eloquently said, *"If we understand the revolutionary transformations caused by new media, we can anticipate and control them; but if we continue in our self-induced subliminal trance, we will be their slaves."* [11]

BIOGRAPHY

Margaret-Anne Storey is a Professor of Computer Science at the University of Victoria and a Canada Research Chair in Human Computer Interaction for Software Engineering. Her research goal is to understand how technology can help people explore, understand and share complex information and knowledge. She conducts research on collaborative software development, program comprehension, biomedical ontology development, and learning in web-based environments.

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