Designing for Curiosity-Driven Software Learning

**Introduction**

The versatility of feature-rich software makes them practically impossible to master – there is always the opportunity to learn something new, whether it would be a new software feature, or a new approach for a familiar task. While most research on software learnability has studied software learning that is driven by a necessity to complete a certain task (e.g., [1,3,4]), our research investigates software learning that is driven by a users’ curiosity and intrinsic motivation to expand their software skills. We investigate how to design and build tools to support different activities associated with the process, such as curiosity-driven exploration of software tutorials and reflection on curiosity-driven software learning.

**Supporting Curiosity-Driven Exploration of Software Tutorials on Social Media**

In our recent work [2], we found that professional digital designers often monitor social media, such as Twitter, curious about learning new software capabilities and the latest software techniques. Twitter is a great platform for such monitoring, as its users often share links to new and popular software tutorials. However, tweets do not provide designers with enough information to decide whether a tutorial has valuable knowledge and whether it is worth spending their time watching or reading it.

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We designed Switter – a Twitter client tailored for curiosity-driven software learning. Switter augments each tweet that shares a Photoshop tutorial with the list of Photoshop tools and commands mentioned in the tutorial. Switter also allows its users to navigate tweets that contain tutorials using an interactive replica of Photoshop’s interface. A weeklong field study with nine expert Photoshop users showed Switter’s utility for curiosity-driven software learning. Specifically, Switter helped participants to locate tutorials which might contain new knowledge, validate their existing knowledge, and learn new software skills and techniques.

**Supporting Reflection on Curiosity-Driven Software Learning**

As our next step in studying curiosity-driven software learning, we are investigating whether reflecting on one’s learning history could potentially direct their learning experience in the future. Imagine a designer whose morning routine involves looking through recently-posted software tutorials on social media, hoping to learn new software techniques. Our findings suggest that designers who are engaged in such curiosity-driven learning generally do not have defined learning goals and do not expect to learn much [2]. However, if the designer had the ability to reflect on their learning history, they might be able to identify exploration paths that led to tutorials that taught them new software techniques. Such insight might then improve the designer’s future curiosity-driven learning and increase their chances of learning something new. We aim to investigate how to design tools for reflection that could potentially direct designers in their curiosity-driven software learning, and improve their learning experience.

**About the Authors**

Volodymyr Dziubak is a 3rd-year Ph.D. student in the Computer Science Department at the University of Manitoba. Volodymyr’s research involves studying and supporting work practices of professional digital designers and artists, such as curiosity-driven software learning and inspiration seeking. Volodymyr previously he received his B.Sc. (2011) and M.Sc. (2013) degrees in Computer Science in Ukraine (his home country).

Before starting his Ph.D., he worked as an interaction designer in an online learning company in Netherlands.

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**References**