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She/Her/Hers

Analyzing Tactics and Developmental Trends of Open Source Malware

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COURSE DESCRIPTION

This course charts the development of the free culture movement by examining the changing relationship between authorship and cultural production based on a variety of factors: law, culture, commerce and technology. In particular, we will examine the rise of the concept of the individual author during the last three centuries. Using a variety of historical and theoretical readings, we will note how law and commerce have come to shape the prevailing cultural norms surrounding authorship, while also examining lesser known models of collaborative and distributed authoring practices. This background will inform our study of the rapid social transformations wrought by media technologies in the last two centuries, culminating with the challenges and opportunities brought forth by digital media, mobile communications and networked computing. Students will learn about the role of software in highlighting changing authorship practices, facilitating new business and economic models and providing a foundation for conceiving of open source, open access, participatory, peer-to-peer and Free (as in speech, not beer) cultures. The lecture instructor and advisor for this project is Doctor Amit Ray.

BACKGROUND

Free and Open Source Software (FOSS) is software that allows the user to use, read, edit, and redistribute the software's source code. The concept of FOSS was

popularized in the 1980s by Richard M. Stallman, a professor at Massachusetts Institute of Technology.

Many organizations and projects use different definitions of Free Software, or use the ambiguous term, “Open Source,” which creates inconsistency and interferes with the productivity in FOSS and Open Source communities. Additionally, FOSS is shrouded in controversy because of infighting and politically motivated licensing practices. Despite these obstacles, many FOSS communities are vibrant and thriving.

Notable FOSS projects include the Linux kernel, many BSD and Linux operating systems, the MySQL database and the Apache web server. The FOSS community is relevant today because of libre and privacy activists, passionate software developers, and a growing need for information transparency.

OVERVIEW

In this Honors option, I will use the readings in ENGL-450 to write articles on FOSS malware tactics, development, communities, and implementation. The articles will highlight the importance of FOSS in malware and cybersecurity, including things like documentation and collaboration. In addition, some articles will examine the social workings and economic development behind successful FOSS malware projects and communities.

My goal is to provide future students, faculty, and other interested parties with quality FOSS malware analysis, which will be used to improve the development and understanding of FOSS at Rochester Institute of Technology.

The development of this project will enhance my understanding of malware, FOSS, and the social and economic traits of FOSS malware projects. I will learn about the historical and social context of FOSS issues, and highlight their relevance in my research. This independent research project will help me become a better FOSS malware developer, help future students interested in FOSS malware, and assist the faculty interested in studying FOSS malware.

DELIVERABLES

I will use the course's weekly readings and assignments to write articles focused on open-source malware and open-source cybersecurity. The finished articles will be submitted to Wired Magazine, Cyber Defense Magazine, The Linux Journal, The Hacker News, opensource.com and my blog.

Near the end of the semester, I will create a presentation on the trends in open-source malware. I will present it to the class and to RITSEC. I will also submit this presentation to cybersecurity conferences although there is no guarantee I will be selected to present. The long-form version of my presentation will be around fifty minutes and will include a question and answer session.