Notice of the Final Oral Examination
for the Degree of Master of Science

of

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BSc (Universidad Politécnica Salesiana, 2009)

“LivelyViz: An Approach to Develop Interactive Collaborative Web Visualizations”

Department of Computer Science

Monday, December 19, 2016
10:00 A.M.
Engineering and Computer Science Building
Room 468

Supervisory Committee:
Dr. Ulrike Stege, Department of Computer Science, University of Victoria (Co-Supervisor)
Dr. Chris Upton, Department of Biochemistry and Microbiology, UVic (Co-Supervisor)
Dr. Rick McGeer, Department of Computer Science, UVic (Member)

External Examiner:
Dr. Kin Fun Li, Department of Electrical and Computer Engineering, UVic

Chair of Oral Examination:
Dr. Rebecca Grant, School of Business, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

We investigate the development of collaborative data dashboards, composed of web visualization components. For this, we investigate the Lively Web as development platform and provide a framework for developing web collaborative scientific visualizations. We use a modern thin-client approach that moves most of the specific application processing logic from the client side to the server side, leveraging the implementation of reusable web services. As a web application, it provides users with multi-platform and multi-device compatibility along with enhanced concurrent access from remote locations.

Our platform focuses on providing reusable, interactive, extensible and tightly integrated web visualization components. Such visualization components are designed to be readily usable in distributed-synchronous collaborative environments. As use case we consider the development of a dashboard for researchers working with bioinformatics datasets, in particular Poxviruses data.

We argue that our thin-client approach for developing web collaborative visualizations can greatly benefit researchers in different geographic locations in their mission of analyzing datasets as a team.