



**University
of Victoria**

Graduate Studies

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

of

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BSc (Icesi University, 2009)

“Regulations in Software Engineering”

Department of Computer Science

Thursday, August 18th, 2016

10:00 am

Engineering and Computer Science Building
Room 468

Supervisory Committee:

Dr. Margaret-Anne Storey, Department of Computer Science, University of Victoria (Co-Supervisor)

Dr. Allyson F. Hadwin, Department of Educational Psychology and Leadership Studies, UVic (Co-Supervisor)

External Examiner:

Dr. Marco Aurelio Gerosa, Department of Computer Science, University of Sao Paulo

Chair of Oral Examination:

Dr. Lynda Gagné, School of Public Administration, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies

Abstract

Collaboration has become an integral part of software engineering. The widespread availability and adoption of social channels has led to a culture where developers participate and collaborate more frequently with one another. While collaboration in software engineering has been studied extensively, models and frameworks have been characterized for their descriptive nature with usually not action-oriented mechanisms that allow us to improve our interactions or guide the development of the technological support needed for collaboration. This research starts by borrowing constructs from the theory of regulated learning in the learning science domain, adapting and extending them as a model of collaboration for software engineering: the Model of Regulation. This model was formed to describe and improve collaboration practices in modern collaborative software development projects. The model provides a vocabulary for comparing and analyzing collaboration tools and processes. Specifically, the model helps to capture how individuals self-regulate their own tasks and activities, how they regulate one another, and how they achieve a shared understanding of project goals and required tasks. In this thesis, I present the Model of Regulation as a new theoretical framework of collaboration for software engineering and use it to analyze features of a collaborative tool, gain insights into an open-source software development community and to create an instrument that investigates about collaboration practices and tool support in units of collaboration (e.g., group, project, community).