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

of

MADHAV MALHOTRA

BTech (Maharishi Dayanand University, 2010)

“Peer Alerting Lifeline: A Study of Backend Infrastructure for a Crowdsourced Emergency Response System”

Department of Computer Science

Tuesday, December 18, 2018
10:00 A.M.
Engineering Office Wing
Room 230

Supervisory Committee:
Dr. Yvonne Coady, Department of Computer Science, University of Victoria (Supervisor)
Dr. Sudhakar Ganti, Department of Computer Science, UVic (Member)

External Examiner:
Dr. Stephen Neville, Department of Electrical and Computer Engineering, UVic

Chair of Oral Examination:
Dr. Colin Bradley, Department of Mechanical Engineering, UVic

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

Opioid users are an at-risk community. Risk of opioid overdose among substance users has increased tremendously in the last decade. Many factors, including adulterated drugs and hesitation in calling emergency response services, have led to many individuals not receiving the required harm reduction treatment, during an overdose incident. The problem is further compounded by the fact that many users are using alone in private residences and hence, no support mechanisms are available for them to assist them in case of an overdose situation. To circumvent this scenario, citizen training in Naloxone, an overdose harm reduction drug, has been promoted. However, there lies an essential communication gap between the citizens who have the training and the Naloxone kit and an active overdose event. Many at-risk communities may face the same challenge, especially if they are at risk of social isolation and voluntary/involuntary self-harm.

Through our work, we wish to mobilize change in such at-risk communities, by studying the backend infrastructure of a crowdsourced emergency response system, called as a Peer Alerting Lifeline. The system would be responsible, for connecting peer responders, to an actual emergency event. Specifically, in the case of substance overdose, this would allow Naloxone kit holders to be informed of an overdose event in their vicinity and respond to the same. We aim to study the design infrastructure of such a system.