UNIVERSITY OF TARTU
Institute of Computer Science
Cybersecurity Curriculum

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Cyber security risks in telepresence robotics and their mitigation

Master's Thesis (21 ECTS)

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Cyber security risks in telepresence robotics and their mitigation

Abstract:
Telepresence robotics (TPRs) have become increasingly popular, particularly in higher education systems, as they enable users to remotely partake in events. However, this increased usage also presents potential security risks specific to TPRs, such as remote connection, cyber-physical presence, and live video and audio feed. Current risk assessment models do not adequately address these unique concerns, leading to a gap in understanding and mitigating TPR-related risks. This thesis aims to develop a new risk assessment model tailored to TPRs, incorporating existing frameworks such as RSF, CIA, OCTAVE A, ISO27005, and NSMROS. By identifying and validating potential risks through case studies and expert interviews, the study seeks to propose mitigation strategies with an emphasis on user data security. Ultimately, this research will provide organizations utilizing TPRs with a better understanding of security risks and effective solutions to protect their systems and users.

Keywords: Cyber security, risk assessment, telepresence robotics

CERCS:

Acronyms

Contents

1 Introduction

Test problem?

2 Title of Section 2

Short description of what this section is about

2.1 Title of Subsection 1

Some text... **10.1007/s10270-019-00718-z**

Appendix

I. Glossary

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