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TECHNICAL CYBERSECURITY READINESS FRAMEWORK FOR THE HIGHER EDUCATIONAL VIRTUAL LEARNING ENVIRONMENT IN SRI LANKA

A Dissertation By

Ms. H.Ann Roshanie Appuhamy

UoW: W1852517 IIT: 20210263

Supervised by

Mr. Rathesan Sivagananalingam

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ABSTRACT

The increasing reliance on virtual learning environments in higher education calls for robust cyber security measures to safeguard sensitive data, ensure uninterrupted learning experiences, and protect against cyber threats. This research study aims to develop a Technical Cyber Security Readiness Framework tailored to the higher educational virtual learning environment in Sri Lanka.

The research begins with a comprehensive literature review, examining existing frameworks and best practices in cyber security for virtual learning environments globally. Drawing upon this knowledge, the research develops a framework specifically designed to address the unique challenges and requirements of the Sri Lankan higher educational context. The framework encompasses various aspects of cyber security. It provides a structured approach for institutions to assess their cyber security readiness and implement necessary measures to mitigate risks. An initial evaluation of the framework is conducted, assessing its effectiveness and applicability. Surveys, interviews, and technical assessments are employed to gauge the readiness of higher educational institutions in Sri Lanka. The evaluation identifies areas for improvement, such as enhancing awareness and understanding, strengthening security measures implementation, improving incident response capability, and upgrading infrastructure and technology. To address these improvements within the Minimum Viable Product (MVP) timeline, the research outlines specific steps, including collaboration with stakeholders, developing action plans, allocating resources, monitoring progress, and maintaining clear communication channels.

This research study provides valuable insights and guidance for higher educational institutions in Sri Lanka to establish and maintain a secure virtual learning environment. By implementing the Technical Cyber Security Readiness Framework and addressing the identified areas for improvement, institutions can enhance their cyber security posture and ensure a safe and protected learning experience for all stakeholders.

Keywords: Technical Cyber Security, Readiness Framework, Higher Education Virtual Learning Environment Sri Lanka, Cyber Security Measures, Network Security, Access Controls, Authentication Mechanisms, Data Protection, Incident Response