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School of Electrical Engineering
Degree Programme in Communications Engineering

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Master's Thesis
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ABSTRACT OF
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Espoo, English Date PLACE-HOLDER

Mari Nikkarinen

Abbreviations and Acronyms

	!Fixme **Any used acronyms** Fixme!
acronym	explanation

Contents

Chapter 1

Introduction

!Fixme

- **Introduction of security landscape**
- **Explanation of point of view taken**
- **Pointing out the importance of threat analysis**
- **Short overview of OneID and equivalent systems**

Fixme!

Chapter 2

Background

!Fixme **Needs a less generalized title.** Fixme!

2.1 Threat Analysis

!Fixme

- **Some history on threat analysis**
- **Research on the importance of threat analysis**
- **Some mistakes made in the past, as an example**
- **Previous research done on different threat analysis methods**

Fixme!

!Fixme **I'll write about "early history" when I find sources.** Fixme!

Baskerville [1] separates the different threat analysis methods used up until 1993 into three generations: the first generation starting from 1972, the second generation from 1981 onward and the third generation that was introduced in 1988.

The first generation relies heavily on check-lists composed by authorities in the field. The systems these first-generation methods were used on were much simpler than the ones in use now, and security analysis consisted of choosing the best option of a limited list of known components, instead of the wealth of options that developers currently have. They do not expect the analyst to have deep knowledge, as independent analysis is not needed. It was also more focused on hardware than software. [1]

The second generation came when the systems got too complicated for the first generation's check-list method. It relies on partitioning the system

into smaller components and then coming up with a solution that matches the functional requirements of each component. Secong generation methods are more complex, and the analysts need a higher degree of training, but does not rely on a set solution set and can be used in much more complex systems. [1]

Third generation relies on more abstraction compared to the second generation. Instead of partitioning the system into components like int second generation, the third generation relies on building abstract models of the systems, and using them as an aid in the analysis. These methods are most useful when designing the system, and the amount of training is even higher than in second generation. On the other hand, third generation solutions are more flexible and should lead to less conflict between security and usability. [1]

2.2 Authentication and Authorization systems

!Fixme

- **Some history again**
- **Common flows in systems**
- **Examples of different kinds**
- **Importance of good system and its security**

Fixme!

Chapter 3

Environment

!Fixme

- **OneID explanation goes here**
- **Scrubbed of everything secret**

Fixme!

Chapter 4

Methods

!Fixme

- **Explanation of STRIDE**
- **Introduction as the industry standard**
- **Either studies or an explanation on why there are few studies**
- **Introduction to other threat analysis methods**
- **Studies on them**

Fixme!
Threat modelling. [2]

Chapter 5

Implementation

!Fixme **Considering this is qualitative instead of quantitative research and there won't be "implementation" as such, this will definitely change its name.** Fixme!

!Fixme

- **Specifics of the analysis**
- **The generalization either here or spun off to its own chapter**

Fixme!

Chapter 6

Evaluation

!Fixme **How well did it go gets put here.** Fixme!

Chapter 7

Discussion

!Fixme **Insights about the work belong here.** Fixme!

Chapter 8

Conclusions

!Fixme Wrap-up here. Basically the whole thing in a nutshell. Written at the end. Fixme!

Bibliography

[1] Richard Baskerville. Information systems security design methods: implications for information systems development. *ACM Computing Surveys (CSUR)*, 25(4):375–414, 1993.

[2] Suvda Myagmar, Adam J Lee, and William Yurcik. Threat modeling as a basis for security requirements. In *Symposium on requirements engineering for information security (SREIS)*, volume 2005, pages 1–8, 2005.

Appendix A

First appendix

!Fixme **Any appendices here.** Fixme!