

Fachhochschule Aachen  
Campus Jülich

Fachbereich: Medizintechnik und Technomathematik  
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# Secure Multi-Party Computation for Decentralized Distributed Systems

Masterarbeit von Frederic Klein

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Frederic Klein .....  
Unterschrift

## Abstract

Abstract...

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# Chapter 1

## Introduction

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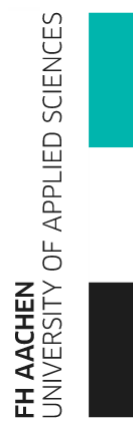


Figure 1.1: The FH Logo





# Chapter 2

## Foundation

### 2.1 Gamification and Serious Games

### 2.2 Distributed Systems

### 2.3 Secure Multi-Party Computation (SMPC)

Protocols

Frameworks

Differential Privacy

### 2.4 Wireless network technologies

Wireless Local Area Networks

Wi-Fi/802.11

Wireless Personal Area Networks

Bluetooth

Bluetooth Smart/Bluetooth Low Energy

Wireless Networks in Hospitals

### 2.5 Case Study: "The Hygiene Games" System

# Chapter 3

## Research

### 3.1 Applicability of SMPC Protocols in Decentralised Systems

Analysis of Key Factors: Computing Power, Network Data Rates and Duration of Connection

### 3.2 Effectiveness of SMPC Protocols in Sparse Networks

Maintaining anonymity

Strategies for Aggregation of Participants in Sparse Networks

### 3.3 Applicability and Requirements Analysis for the Hygiene Games

## Chapter 4

## Conclusion

# References

- [1] John Doe. *The Book without Title*. Dummy Publisher, 2100.

# Appendix A

## Some name

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