

Fachhochschule Aachen

Campus Jülich

Fachbereich: Medizintechnik und Technomathematik

Studiengang: Technomathematik

Secure Multi-Party Computation for Decentralized Distributed Systems

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Frederic Klein
Unterschrift

Abstract

Abstract...

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Chapter 1

Introduction

Research has found that "this is a direct quotation" (Doe 2100a, p. 1). Doe (2100a, p. 1) found that "this is a direct quotation". On the other hand, if the direct quotation is paraphrased, we don't need the quotes; also we use pp. for multiple, consecutive pages (Doe 2100b, pp. 35-37).

In the above paragraph we used *authoryear* as citation scheme and add a descriptive footnote.¹

The Corporate Design section on the FH Aachen website, is rather disappointing. Using the website logo, we get a higher resolution (see figure 1.1) and use this logo for the title page.

Formulas are numbered continuously (compare 1.4) except for $x^2 + 5x + 6 = 0$.

$$x^2 + 5x + 6 = 0 \tag{1.1}$$

$$x^2 + 5x + 6 = 0 \tag{1.2}$$

$$\Leftrightarrow (2 + x)(3 + x) = 0 \tag{1.3}$$

$$\Rightarrow 2 + x = 0 \quad \vee \quad 3 + x = 0 \tag{1.4}$$

$$\Rightarrow x = -2 \quad \vee \quad x = -3 \tag{1.5}$$

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero,

¹authoryear complies with the Harvard Reference Style



Figure 1.1: The FH Logo (*FH Aachen Logo* 2016)

nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

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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

Doe, John (2100a). *The Book without Title*. Dummy Publisher.

— (2100b). *The other Book without Title*. Dummy Publisher.

FH Aachen Logo (2016). URL: <https://www.fh-aachen.de/fileadmin/template/pics/fh-logo-right.svg/>.

Appendix A

Some name

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.