Frankfurt University of Applied Sciences

–Faculty of Computer Science and Engineering–

Using Non-Fungible Tokens to Track User Data Across Websites

What this paper is for (Abschlussarbeit zur Erlangung des ...)

Forschungsprojekt Winter Semester 22/23

Submitted by

Hendrik Gruber

Matriculation Number: 1458240

Advisor : Prof. Gabriela Alves Werb, Ph.D.

Hendrik Gruber: *Using Non-Fungible Tokens to Track User Data Across Websites*,
© Todo: 10.02.23

DECLARATION (ERKLÄRUNG)

Ich versichere hiermit, dass ich die vorliegende Arbeit selbstständig verfasst und keine anderen als die im Literaturverzeichnis angegebenen Quellen benutzt habe.

Alle Stellen, die wörtlich oder sinngemäß aus veröffentlichten oder noch nicht veröffentlichten Quellen entnommen sind, sind als solche kenntlich gemacht.

Die Zeichnungen oder Abbildungen in dieser Arbeit sind von mir selbst erstellt worden oder mit einem entsprechenden Quellennachweis versehen.

Diese Arbeit ist in gleicher oder ähnlicher Form noch bei keiner anderen Prüfungsbehörde eingereicht worden.

I hereby assure that I wrote the present work independently and that I did not use any other sources than those given in the bibliography.

All passages that are taken verbatim or correspondingly from published or not yet published sources are marked as such.

The drawings or images in this work were created by myself or provided with a corresponding source reference.

This work has not been submitted to any other examination authority in the same or a similar form.

Frankfurt, Todo: 10.02.23

Hendrik Gruber

ABSTRACT

Lorem ipsum ...

CONTENTS

1 INTRODUCTION 1
- 1.1 Motivation . . . 1
- 1.2 Goals . . . 1
- 1.3 Overview . . . 1

2 BACKGROUND INFORMATION 2
- 2.1 Blockchain . . . 2
- 2.2 Smart Contracts . . . 2
- 2.3 Non-Fungible Tokens . . . 2
- 2.4 Cryptocurrency Wallets . . . 2
- 2.5 Cookies . . . 2

3 PROBLEM STATEMENT 3

4 CURRENT STATE OF THE ART AND RELATED WORK 4
- 4.1 Current State of the Art . . . 4
- 4.2 Related Work . . . 4

5 METHODOLOGY 5
- 5.1 todo . . . 5

6 RESULTS AND DISCUSSION 6
- 6.1 Current State of the Art . . . 6
- 6.2 Discussion . . . 6

7 CONCLUSION AND FUTURE WORK 7
- 7.1 Conclucion . . . 7
- 7.2 Future Work and Path Forward . . . 7

Appendix

LIST OF FIGURES

LIST OF TABLES

ACRONYMS

NFT Non-Fungible Token

1 INTRODUCTION

1.1 MOTIVATION

1.2 GOALS

1.3 OVERVIEW

2

BACKGROUND INFORMATION

Overview of what blockchain is What are NFTs? Smart contracts What are Wallets? What are cookies? Privacy and policies What kind of user data is tracked online?

2.1 BLOCKCHAIN

2.2 SMART CONTRACTS

2.3 NON-FUNGIBLE TOKENS

2.4 CRYPTOCURRENCY WALLETS

2.5 COOKIES

3

PROBLEM STATEMENT

4 CURRENT STATE OF THE ART AND RELATED WORK

4.1 CURRENT STATE OF THE ART

Online Stores and NFTs / Wallets How is user data typically tracked online? Are there already nfts, sites, and tools to track data using nfts? Challenge of high entry barrier with nfts and wallets. A lot of nec- essary know-how

4.2 RELATED WORK

5 METHODOLOGY

5.1 TODO

6

RESULTS AND DISCUSSION

6.1 CURRENT STATE OF THE ART

6.2 DISCUSSION

7

CONCLUSION AND FUTURE WORK

7.1 CONCLUCION

7.2 FUTURE WORK AND PATH FORWARD

APPENDIX