

# Master-Thesis

Security Evaluation of Multi-Factor Authentication in Comparison  
with the Web Authentication API

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## 1 Introduction

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special contents, but the length of words should match the language.

## 2 Two-factor

Wording: Two-Factor Auth vs Two-Factor Verification

### 2.1 SMS

#### 2.1.1 introduction

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special contents, but the length of words should match the language.

#### 2.1.2 How does it work technically

todo

#### 2.1.3 pros

1. Every mobile is capable of receiving SMS (from old Nokia’s ranging to new iPhone Xs)
2. No apps required, works everywhere (worldwide)
3. easy to use

#### **2.1.4 cons**

1. Relies on the SS7 security, which is broken
2. SMS eavesdropping is very easy
3. Forward phishing attacks are possible, too
4. Mobile phone trojans can intercept all incoming SMS
5. costs millions for bigger companies (each SMS is charged)

## **3 WebAuth**

### **3.0.1 Questions - To resarch**

1. How does the Authenticator talk to the browser
2. How does the Authenticator store the keys

## List of Figures

## Listings



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