*Software Requirements Specification*

Version 1.0 – 8th April 2023

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*Hardhat Enterprises – Breaking Captcha 2023*

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# 1. Introduction

## 1.1. Purpose

The purpose of this Software Requirements Specification (SRS) document is to outline the requirements for the development of the Breaking Captcha tool. Breaking Captcha is a software tool that is intended to automatically complete the reCAPTCHA questions that a user inputs to it. It will primarily be used as a research tool, to discover the weaknesses of CAPTCHA and make them more secure.

## 1.2. Intended Audience

This document’s intended audience are the development team and those involved in the testing and deployment of the Breaking Captcha tool.

## 1.3. Intended Use

Breaking Captcha is intended to be used as a tool to make the process of completing reCAPTCHA questions automated. Completing reCATPCHAs will be vital to our team’s research and discovery of CAPTCHA flaws.

## 1.4. Product Scope

Breaking CATPCHA is a software tool with the main goal of automatically completing Google reCAPTCHAs for research purposes.

## 1.5. Definitions and Acronyms

reCAPTCHA: a Google security feature requiring users to prove their humanity before being allowed access to certain websites.

Breaking Captcha: the in-development software tool used to automatically complete Google reCAPTCHAs.

# 2. Overall Description

## 2.1. User Needs

The primary user need for Breaking CAPTCHA is to have the tool automatically complete reCAPTCHA questions. This will be done for research purposes and will save time and effort for the user, especially if the user must complete many reCAPTCHAs.

## 2.2. Assumptions and Dependencies

Breaking CAPTCHA assumes that users will have stable internet connectivity and are receiving Google reCAPTCHAs from appropriate websites.

# 3. System Features and Requirements

## 3.1. Functional Requirements

Breaking CAPTCHA should work with a variety of reCAPTCHA questions, including text, images, voice, and video.

## 3.2. External Interface Requirements

Breaking CAPTCHA should be compatible with all main web browsers including Chome and Safari.

## 3.3. System Features

- MongoDB – NoSql DB –

Breaking CAPTCHA should use a simple, user-friendly interface.

Breaking CAPTCHA should save previously completed CAPTCHAs in a database for future uses.

## 3.4. Nonfunctional Requirements

Breaking CAPTCHA should maintain a high level of accuracy when completing reCAPTCHAs.

Breaking CATPCHA should complete reCAPTCHA swiftly and efficiency.

Breaking CATPCHA should be able to handle multiple reCAPTCHA questions simultaneously?

Breaking CAPTCHA should ensure its own security and those of its users.

# 4. System Constraints

## 4.1. Time Constraints

The development team must ensure that the product is developed within the time period of ?? This is to ensure the needs the users are met.

## 4.2. Technical Constraints

Breaking CAPTCHA must be developed using suitable technology to ensure it is both effective and efficient in solving reCAPTCHA questions.

## 4.3. Resource Constraints

Optimising the use of available resources such as handover documents will help ensure the successful development of the Breaking CAPTCHA tool.

# 5. Performance Requirements

## 5.1. Maximum Response Time

Ideally the maximum response time for a completed reCAPTCHA question will be under 10 seconds to provide a seamless experience for the user.

## 5.2. Simultaneous Users

Breaking CAPTCHA should ensure that multiple users can utilise the tool simultaneously, this will ensure the tool’s scalability.

## 5.3. Minimum Accuracy

Breaking CAPTCHA should maintain a great level of accuracy of 90% or higher? when completing reCAPTCHAs to provide correct results to the user.

# 6. Quality Attributes

## 6.1. Reliability

Breaking CAPTCHA must be reliable in its ability to complete users reCAPTCHA questions as well as providing the results.

## 6.2. Maintainability

The Breaking CAPTCHA tool should ensure it remains up to date with the latest reCAPTCHA questions.

## 6.3. Scalability

The number of simultaneous users should not impact the tool’s performance and the Breaking CAPTCHA team should accommodate for a large volume of users.

## 6.4. Usability

The tool should be easy to use, with a simple user-friendly interface.

## 6.5. Security

Breaking CAPTCHA should comply with any protection laws regarding data and ensure it supply’s its users with a secure environment.

## 6.6. Portability

The Breaking CAPTCHA tool should run on multiple devices to ensure its portability.

# 7. User Documentation

## 7.1. User Manual

Breaking CAPTCHA should supply a manual that describes its features and functionality.

## 7.2. FAQs

An FAQ section should be made available to answer the questions asked frequently.

## 7.3. Troubleshooting

A trouble shooting section should be made available in a later stage to help users resolve any issues they may come across??

## 7.4. Tutorials

A tutorial section should be made available to users to ensure they are guided through the process of using Breaking CAPTCHA??

## 7.5. Online Help

In a later stage Breaking CATPCAs development, an online help may be included??

# 8. Training Requirements??

## 8.1. User Training

## 8.2. Certification Requirements

# 9. Maintenance and Support??

## 9.1. Technical Support Requirements

## 9.2. Software Updates

## 9.3. System Backups

# 10. Legal Requirements

## 10.1. Data Privacy Laws

## 10.2. Copyright Laws

## 10.3. Accessibility Regulations