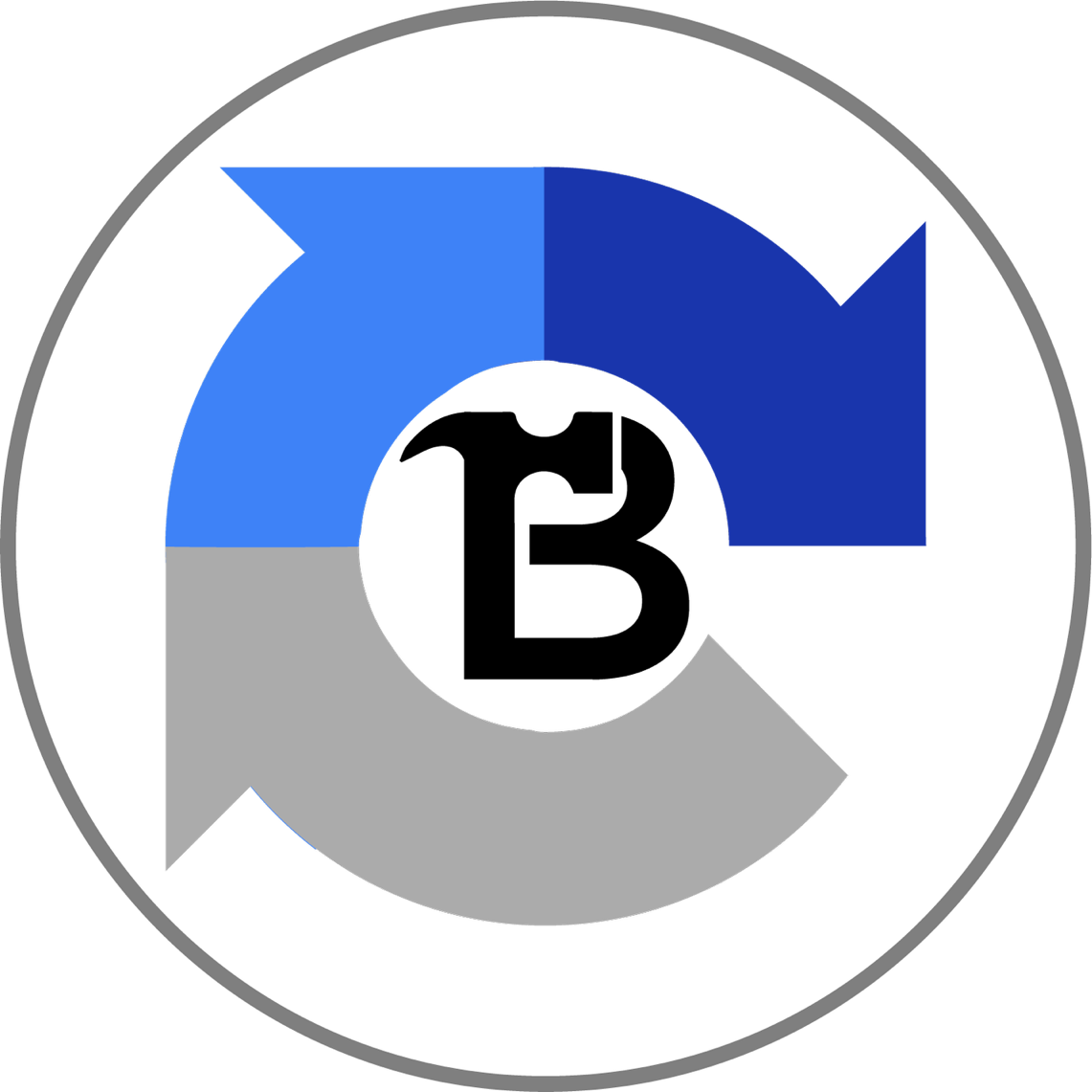
*Software Requirements Specification*

Version 2.0 – 27th April 2023



*Breaking Captcha – Hardhat Enterprises 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 input 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 Chrome and Safari.

## 3.3. System Features

Breaking CAPTCHA will utilise a NoSQL database specifically MongoDB to build the application.

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 agreed upon time period, ensuring the needs of 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

The development team must conduct training sessions for users to ensure they know how to use the tool effectively.

## 8.2. Certification Requirements

The development team must define certification requirements for users to ensure they have a good understanding of the tool's features and functionalities.

# 9. Maintenance and Support

## 9.1. Technical Support Requirements

The development team should define the technical support requirements for the tool to ensure users can receive technical support when they need it.

## 9.2. Software Updates

The development team should provide regular software updates and patches to ensure the tool remains up-to-date and functional.

## 9.3. System Backups

The development team must define backup and recovery procedures to ensure the tool's data remains safe and secure.

# 10. Legal Requirements

## 10.1. Data Privacy Laws

The development team must comply with data privacy laws to ensure users' data is protected.

## 10.2. Copyright Laws

The development team must comply with copyright laws and regulations.

## 10.3. Accessibility Regulations

The development team must ensure the tool is accessible to all users, including those with disabilities.