***Mini Project***

***on***

***“Captcha Generation”***

***by***

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**CHAPTER 1**

**INTRODUCTION**

The Internet has become an inseparable entity in our everyday lives. Every aspect of our life has become digital and every activity has become online. The Internet can be used in both progressive and destructive ways. Every activity on the internet is kept track of and each step is a footprint we leave behind. At times like this, where we are all isolated and yet connected online, the activities carried out through the web have increased exponentially because of which a huge amount of traffic is generated. This prompts a suspicion if the entity logged in a website is a person or a bot. This is where the CAPTCHA comes into play.

CAPTCHA stands for Completely Automated Public Turing test to tell Computers and Humans Apart. In other words, CAPTCHA determines whether the user is real or a spam robot. CAPTCHAs stretch or manipulate letters and numbers, and rely on human ability to determine which symbols they are.

CAPTCHAs were invented to block spammy software from posting comments on pages or purchasing excess items at once. The most common form of CAPTCHA is an image with several distorted letters. It is also common to choose from a variety of images where you need to select a common theme.

The internet and computers are actually made up of a unique coding language. Computers find it difficult to understand languages because of the strange and intricate rules human languages take on, along with slang that humans use.CAPTCHA is used on a variety of websites that want to verify that the user is not a robot. First and foremost, CAPTCHA is used for verifying online polls. In 1999, Slashdot created a poll that asked visitors to choose the graduate school that had the best program for computer science. Students from the universities Carnegie Mellon and MIT created bots, or automated programs to repeatedly vote for their schools.

These schools received thousands of votes, while other schools only hit a few hundred. CAPTCHA came into play so that users could not take advantage of the polling system.

Another use of CAPTCHA is for registration forms on websites such as Yahoo! Mail or Gmail where people can create free accounts. CAPTCHAs prevent spammers from using bots to create a plethora of spam email accounts.

Ticket websites such as TicketMaster also use CAPTCHA to prevent ticket scalpers from over purchasing tickets for large events. This allows legitimate customers to purchase tickets fairly and keeps scalpers from placing thousands of ticket orders.

Lastly, web pages or blogs that contain message boards or contact forms use CAPTCHA to prevent spammy messages or comments. It does not prevent cyberbullying, but does prevent bots from posting messages automatically.

**1.1 PROBLEM STATEMENT**

Generation of captcha using C to confirm if the user is a person or a spam robot.

**1.2 PROBLEM DESCRIPTION**

As the internet is a powerful tool based on the user and the intention it is used, it is crucial for the system to be aware if it is being operated by a human or a spam robot. As the name suggests, using Captcha is an efficient way to tell apart between a computer and a human. Since humans possess the ability to read slightly distorted or tilted letters unlike the computer, Captcha can be used before entering a website to prevent any undesirable actions.

**CHAPTER 2**

**REQUIREMENT ANALYSIS**

**2.1 SCOPE:**

In today’s digital era, the internet is flooded with various types of websites already, and new ones are popping in every day in huge numbers. It’s estimated that there are more than 1.25 billion websites on the web. Each website has a different purpose but website owners would want their website to be free of spam content and to achieve that goal, Captcha is the first step.

**2.2 OBJECTIVES:**

1. Generation of slightly distorted random letters for human users to identify and confirm their authenticity.
2. To make the website spam free.

**2.3 SOFTWARE:**

Visual Studio Code

Windows operating system

**2.4 PROJECT OUTCOMES:**

1. This project provides the captcha for the user.
2. New captcha is generated every time with random letters.

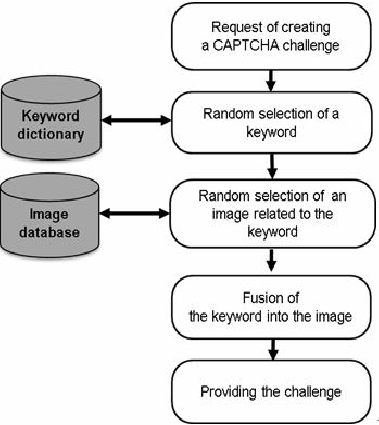
**CHAPTER 3**

**RESEARCH**

In the digital world we live in, every content we need can be found online and anything we feel the need to share can be uploaded online too. We have progressed to a time where even typing into search tabs have become outdated and clicking pictures to find details about a product has become normal. Although all the information is available online, it is all categorized and put into websites to provide ease during every web search. Any web page which consists of user input in any form like the content of the web page, comment, user credentials, etc,. is vulnerable to be spammed. In order to maintain websites free from spams, using captcha can be helpful in a fundamental way.

**CHAPTER 4**

**TEST PLAN**



**CHAPTER 5**

**TEST CASES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TEST CASE ID** | **TEST CASE OBJECTIVE** | **EXPECTED OUTPUT** | **ACTUAL OUTPUT** | **STATUS** |
| 1 | To press any key except escape to generate new captcha | New captcha is generated.  Eg: cg8ykr | New captcha is generated.  Eg: cg8ykr | Pass |
| 2 | To press any key except escape to generate new captcha | New captcha is generated.  Eg: ur5dev | Captcha doesn’t change.  Eg: cg8ykr | Fail |
| 3 | To press escape to exit | Exit the captcha generation screen. | Generates another captcha | Fail |
| 4 | To press escape to exit | Exit the captcha generation screen. | No change occurs | Fail |
| 5 | To press escape to exit | Exit the captcha generation screen. | Exits the captcha generation screen. | Pass |

**CHAPTER 6**

**EXPECTED RESULTS**

From this project, the user can assure the website owner that it is a human who has entered the site and not a spam robot. This helps the website to stay clean by protecting email addresses from scammers, protecting website registrations, protects online polling, protects against email worms/junk mail, prevents dictionary attacks, prevents comment spamming on blogs, etc,. All these provide a plausible way to keep the data safe in general.

**CHAPTER 7**

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