- **Problem Statement Number** - CK146
- **Problem Statement** - CAPTCHA/alternative solution for Visually impaired
- **Team_Id** - PUH20343
- **Team Details:** -

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Synopsis Abstract

In our project we have 3 different types of captcha. (create any one CAPTCHA)

Captcha tests for majorly security purpose but we can't see about visual impaired user the human capacity for logical thought. To pass, click on icon which is shown to users. They must select a valid icon which is display in text.

For vision impaired users it is great alternative. It also has deciphering garbled sounds users answer a simple question.

In the current version selection requires use of a mouse on a desktop computer or touch on a portable device such as a tablet or smartphone. User must have to click or touch to the 'play icon' therefore It is also an alternative for visual impaired users.

We also have another idea like gamestic captcha and puzzle captcha.

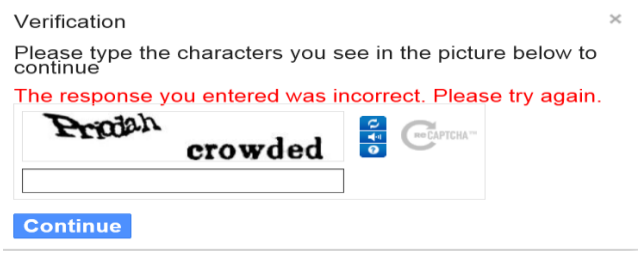
Gamestic captcha - requires the user to drag the drumsticks to the drum to prove that they are, human.

Puzzle captcha uses a variation of classic puzzle captchas, in which users have to drag and drop picture elements into the correct position.

Literature Review/Existing Innovation-technology to address related to your problem :

Various approaches have been employed over many years to distinguish human users of web sites from robots. The traditional CAPTCHA approach asking users to identify obscured text in an image remains common, but other approaches have emerged. All interactive approaches require users to perform a task believed to be relatively easy for humans but difficult for robots. Unfortunately, the very nature of the interactive task inherently excludes many people with disabilities, resulting in a denial of service to these users. Research findings also indicate that many popular CAPTCHA techniques are no longer particularly effective or secure, further complicating the challenge of providing services secured from robotic intrusion yet not easily accessible to people with disabilities

Ex.



But due to this many people with impaired visualization are unable to guess the CAPTCHA
So, for them we are designing CAPTCHA where they can easily input CAPTCHA code just by identifying the name. In this they will get the name of the OBJECT in simple and bold format which they can read properly and below that they will get the image of that object and they have to select the right image according to the name. And once they select the right image the CAPTCHA will be verified and will get approved.

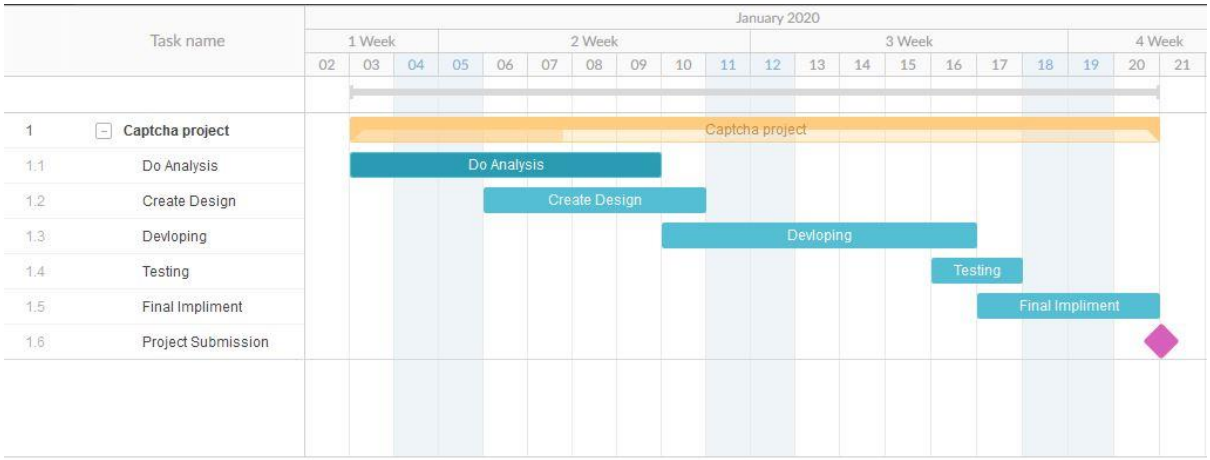
Approach Towards the Problem:

Our approach is that we are going to create a CAPTCHA i.e. a Visual CAPTCHA in which a person with the impaired eyes can also verify the CAPTCHA. For that we are creating a software in which there will be a name of the object written in plain and bold font and in effective colours so the person can read it
properly and below that line there will be some images of the objects in a very clear view so that they can select the right image according to the name and verify the CAPTCHA correct.

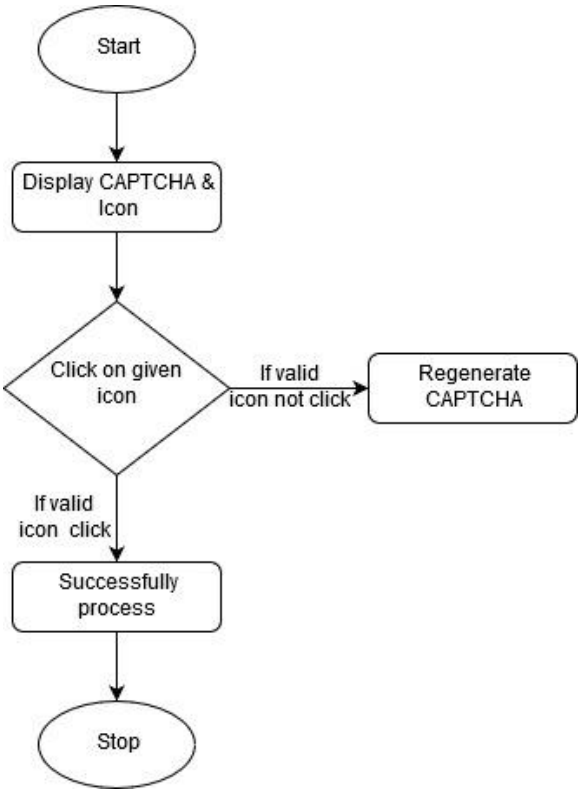
Due to this it will help many people who faces problem in CAPTCHA and cannot access the application or webpages due to CPATCHA. As, there is voice option in many of them but which is not much effective for hearing. So, this thing can help for verifying the CAPTCHA.

Roadmap & Flow Diagram To develop final solution

Roadmap Diagram



FLOW DIAGRAM



Tools & technologies to be used to solve the problem

1. PHP

PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.

2. **CSS**

   Css is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices, such as large screens, small screens, or printers.

3. **Bootstrap**

   Bootstrap is a framework to help you design websites faster and easier. It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels, etc. It also gives you support for JavaScript plugins.

4. **Jquery**

   jQuery is a lightweight, "write less, do more", JavaScript library.
   jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.

Challenges / Risk in implementing your Final Prototype

Basically in our project we just have to make the simple captcha but our major challenge is to make different icon and different things which we will include in our project.

In gamestic captcha we have to make different animation for the visual impaired persons and for puzzle captcha we have to include some outer module which user have to install into their browser.

In our project the main risk is visual impaired users must have to aware about this kind of thing. All website which have registration form they must have to include this captcha otherwise our project will not be work.

Possible outcome of your work

In our project we have 3 different types of idea for creating the captcha.

1. Icon captcha

In this we provide some icon to user and also give the icon name to easily identify the icon and solve the captcha

If user select right icon so successfully process otherwise it will regenerate the captcha.

We also provide the audio button if user click on the button it generates the question and user give answer in “Word” or “Number” format.

If user give right answer so successfully process otherwise it will regenerate the captcha.

Work done till date

In our project we have design some of the icons, buttons and input text for our captcha project.

We have also used some animations by using CSS and jquery.

Icons were randomly generating in the page by using PHP scripting language and it is related to the text which is also randomly generate.

We used mysql database for give the relation between randomly generated text and icons.

We also make the audio button for speak question which user can listen and give answer in the input text box.

There is one refresh button for regenerating the captcha.

Image / Screenshot of Solution (1)

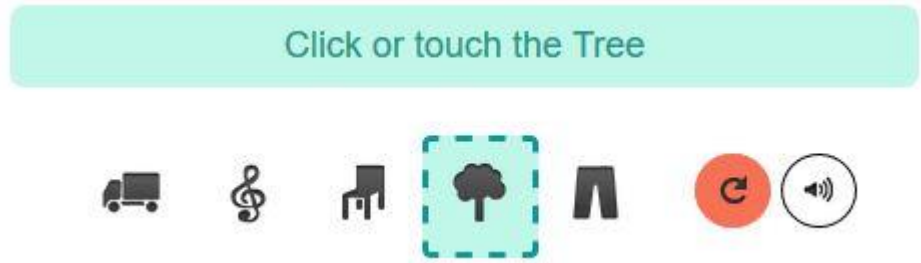


Image / Screenshot of Solution (2)