Team Name-1's&&0's

I.M.H.U.M.A.N.

(Captcha for visually impaired)

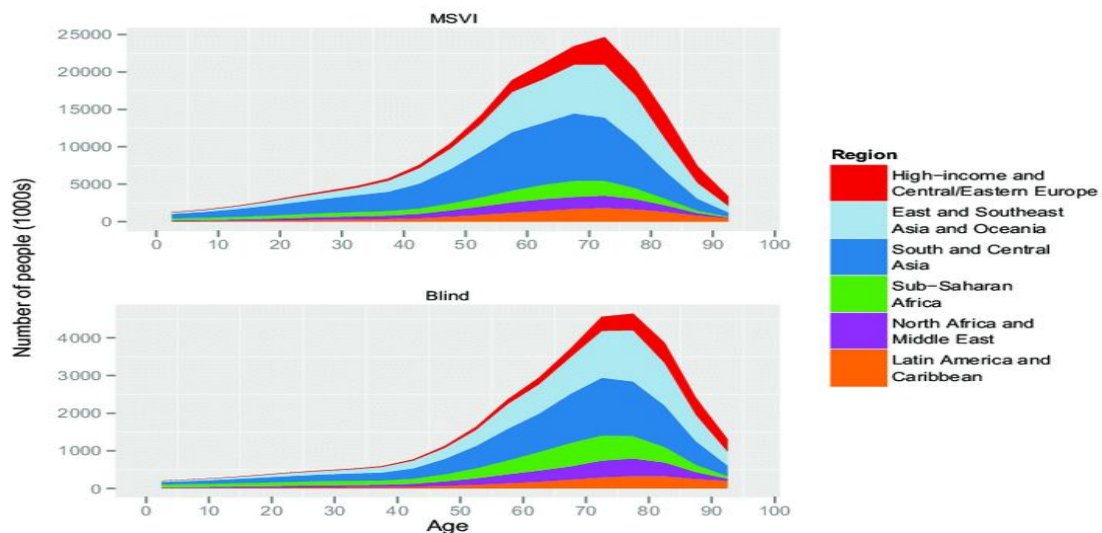## Team Member:

Samridhi Agarwal

Ritik Rawal

Objective:

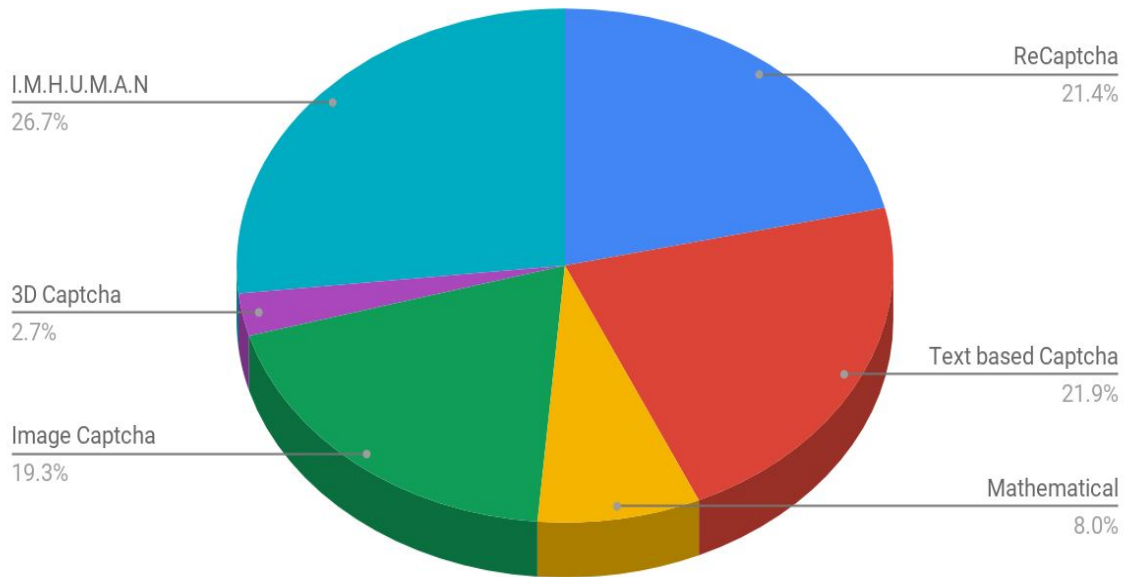Designing a CAPTCHA for visually impaired people.

Problem Statement:

Visually impaired citizens face a lot of problems with the CAPTCHA authentication process. In some of the applications OTP is given as an alternative but not with the rest of the apps. In some of the apps audio captcha is provided but many citizens find it difficult to decipher(language barrier). An effective solution for CAPTCHA or an alternative is required to address the problems faced by the visually impaired citizens.

Statistics:

- Graph showing the global population of blind persons and those with moderate and severe vision impairment by region and age.

● User convenience while using captcha.

Pie Chart Labels:
- I.M.H.U.M.A.N — 26.7%
- ReCaptcha — 21.4%
- 3D Captcha — 2.7%
- Text based Captcha — 21.9%
- Image Captcha — 19.3%
- Mathematical — 8.0%

Implementation/Solution:

● To overcome the above problem our team has come up an idea of using the environmental sounds(can be easily identify by anyone without any language barrier).

● Providing a better and convenient way for visually impaired people to be identified as human.

● Using audio merging techniques to differentiate the animal sounds among the noise.

● Providing a better user experience for desktops and handheld devices.

● It can be used by both visually impaired and discerning human beings.

Working:

The user has to identify whether the merged audio contains animal sounds or not.

To identify:

- **Desktop mode:**

    - **Space key-** If the merged audio contains animal sound.

    - **Any other key-** If the merged audio does not contain animal sound.

- **Handheld mode:**

    - **Right swipe-** If the merged audio contains animal sound.

    - **Left swipe-** If the merged audio does not contain animal sound.

Applications:

- **Technology Stack**

    - **Front End** - Semantic UI, HTML5, CSS3, EJS.

    - **Back End** - NodeJS, Express, JavaScript.

- **Dependency** - Web Audio API

Future Scope:

- Making CAPTCHA which can be easily embedded by any website.

- Adding authentication feature for hearing-impaired people.

Screenshot:

- **Handheld Device:**

- **Desktop:**