SMART INDIA HACKATHON

SIH Internal Hackathon

Team : I am not a Robot

Netaji Subhas University of Technology

TEAM

- **Background:**

  4^{th} year students from Netaji Subhas Institute of Technology

- **Vision/Mission:**

  Providing a Universal Medium of Authentication for Mankind

TEAM : I AM NOT A ROBOT

Team Members

1. Astha Mehta (Team Leader)
2. Abhishek Vanjani
3. Anjali Jain
4. Manish Devgan
5. Satyam Gupta

PROBLEM

- **Problem Statement:**
- Designing a CAPTCHA Authentication Process for Visually Impaired People
- **Organisation:** Dte of IT & Cyber Security, DRDO
- **Domain Bucket:** Miscellaneous
- **PS Number:** CK146

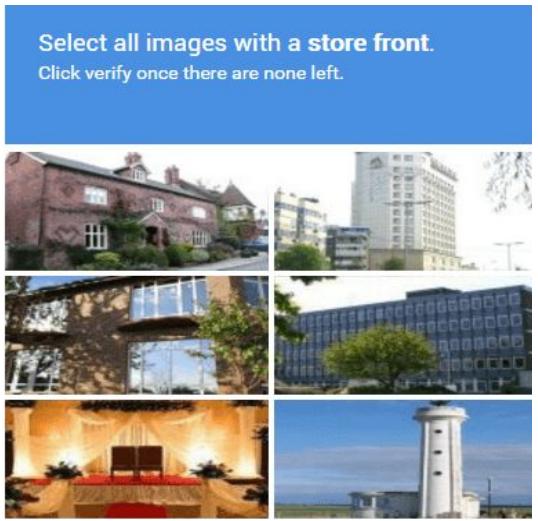
- **Pain Points:**

  Visually Impaired are completely Reliant on Others for filling forms, doing UPI payments and making payments which requires CAPTCHA.

TRENDS

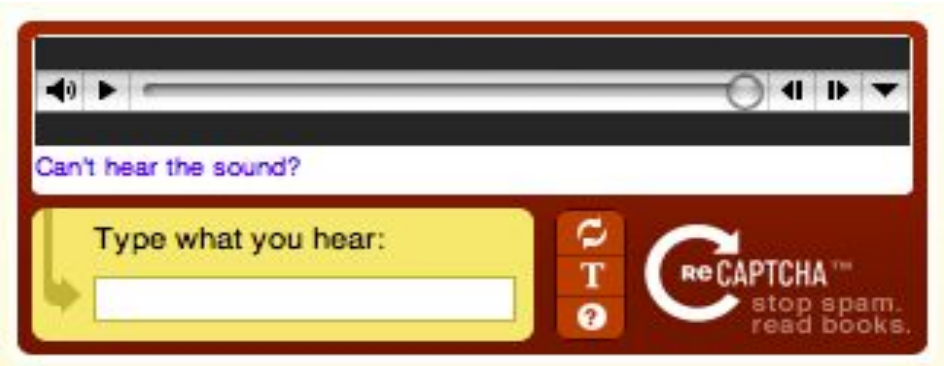
Image CAPTCHA

Can’t be viewed by the Visually Impaired



Audio CAPTCHA

Difficult to Decipher because of Background Noise



SOLUTION

- **PROPOSITION**

  Designing an Easily Integrable SDK (for Android, iOS both) for enabling Morse Code driven CAPTCHA while Form Filling.

- **VALUE TO USER**

  Visually impaired users will be able to handle CAPTCHA in:

  1. UPI Payments
  2. Form Filling
  3. Net Banking
  4. E-Commerce

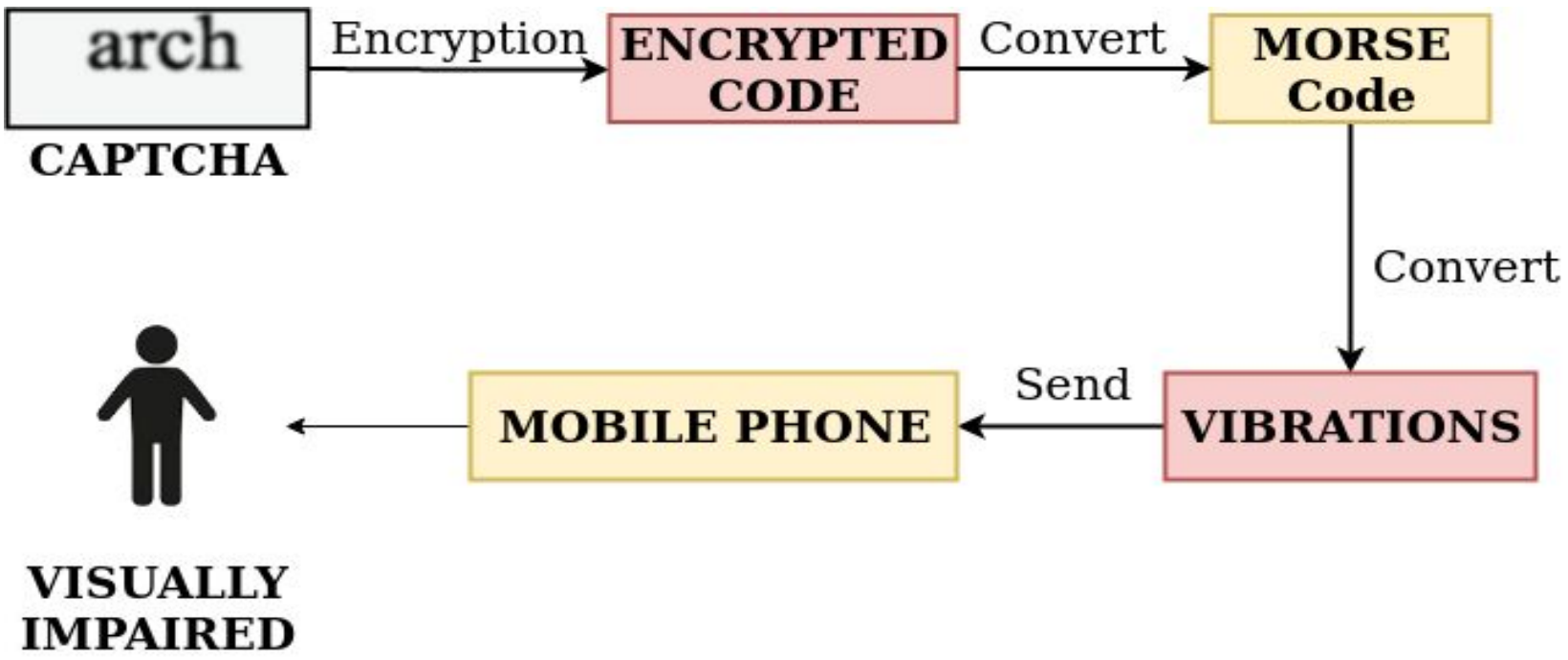
MARKET SIZE

- 20% of the World’s Visually Impaired live in India.
- Around 5% of the Indian population is Visually Impaired which makes it 40 million people.
- Around 100 people in every square km are Visually Impaired.

MARKET VALIDATION

Validated by someone who has been involved in Computer and Technology for the last 30 years and has been facing this issue

PRODUCT ARCHITECTURE

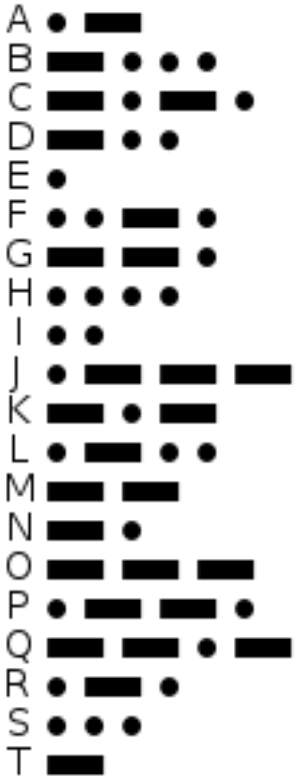


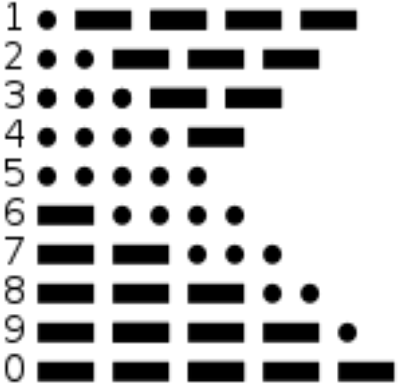
ENCRYPTION

- CAPTCHA is encrypted through SIT (Secure IoT).
- SIT – Lightweight Encryption algorithm.
- Provides security comparable to AES.
- Ensures that only way to get CAPTCHA is through MORSE Code Vibration.

MORSE CODE

- Each character is represented in terms of **DOTS and DASHES**.
- Used in World War II for communication.
- Commonly used by Visually impaired for telecommunication.





PRODUCT ECOSYSTEM

- Can be extended to any platform that uses CAPTCHA for authentication and secure transaction.
- Provides unlimited opportunities in different dimensions like UPI Payments, Form Filling, Net Banking, E-Commerce etc.
- Easily Portable
- Requires Low Maintenance

BUSINESS MODEL

- **OPPORTUNITIES**
- Can be integrated with all sort of applications like payment authentication and navigation which requires authorisation.

- **SOURCE OF REVENUE**
- Two different environments:
- 1. TEST Environment: Limited number of API calls.
- 2. PRODUCTION Environment: Need to buy subscription to ensure seemless working.

FINANCIAL MODEL AND PROJECTIONS

- **INVESTMENT TO DEVELOP**
- Small team of people working on developing and improving the service for various platforms.

- **ASSUMPTIONS**
- 1. No assumptions, completely real time.
- 2. Anyone can learn Morse Code through the tutorial provided in the application.

STRENGTHS OF TECHNOLOGY

- No need of bulky Software.
- No additional Hardware required.
- Easily accessible through mobile phones.
- Portable.
- SIT Encryption is secure and widely accepted.
- Vibrations can’t be obfuscated

RISKS

- Generated CAPTCHA is secured using SIT (Secure IoT).
- No encryption standard is 100% secure and there is chances of risk.