



Innovative CAPTCHA

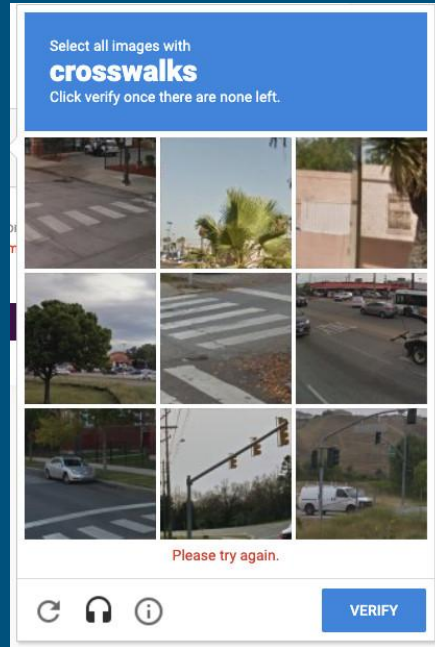
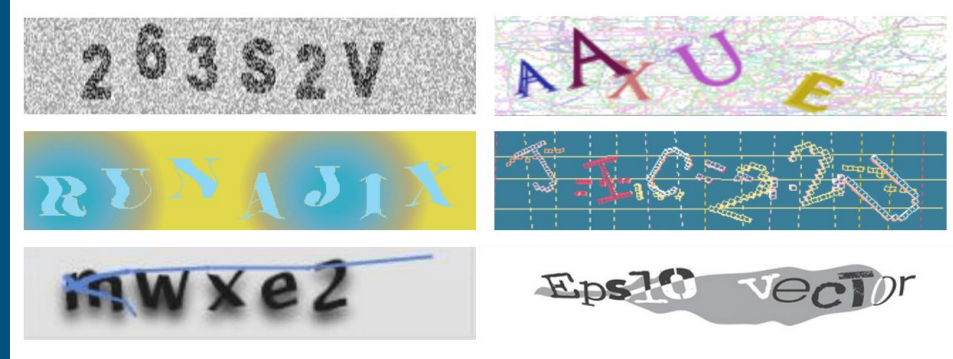


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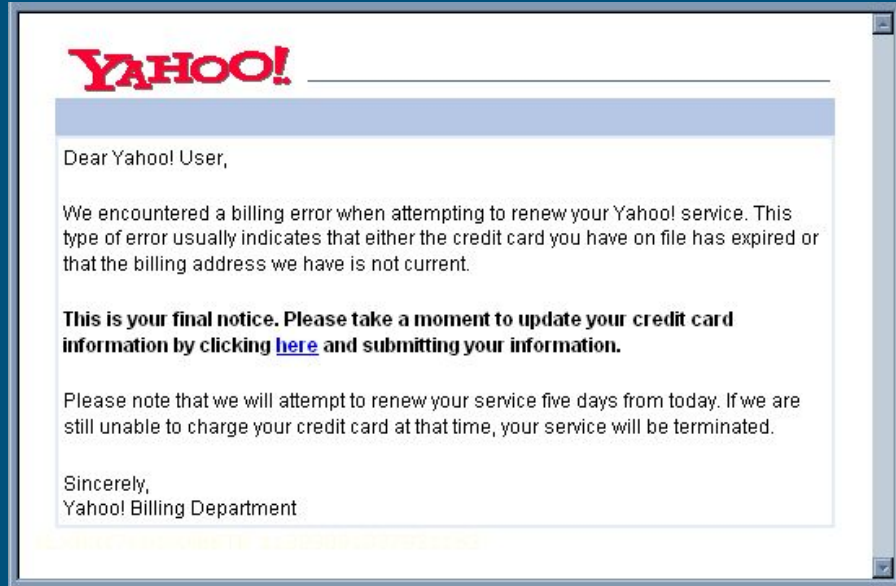
What is CAPTCHA ?

- CAPTCHA stands for Completely Automated Public Turing test to tell Computers and Humans Apart.
- I'm confident many of us have encountered them and solved many tests.



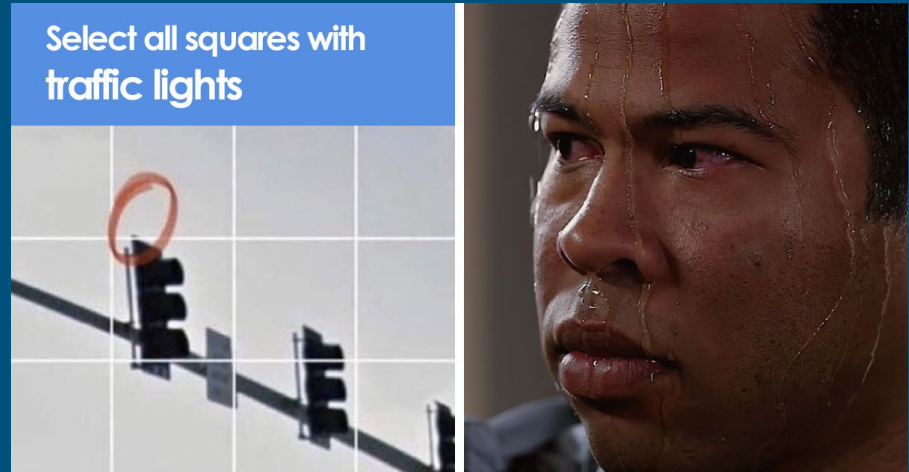
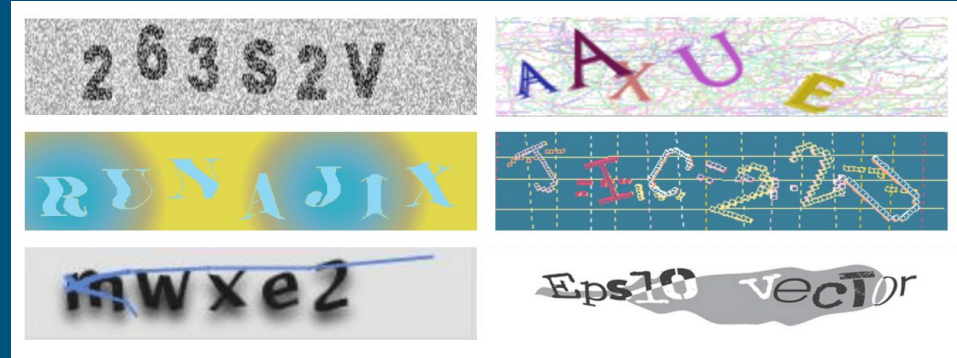
Why was CAPTCHA made?

- Hotmail and Yahoo were very popular email service companies that allowed users to make free email accounts.
- Big issue is anyone can write a program to sign up for millions of accounts.

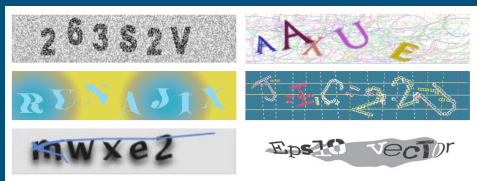


The problem?

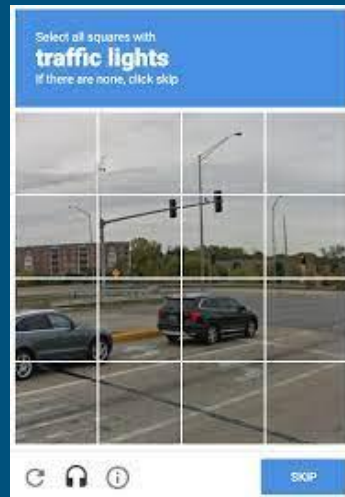
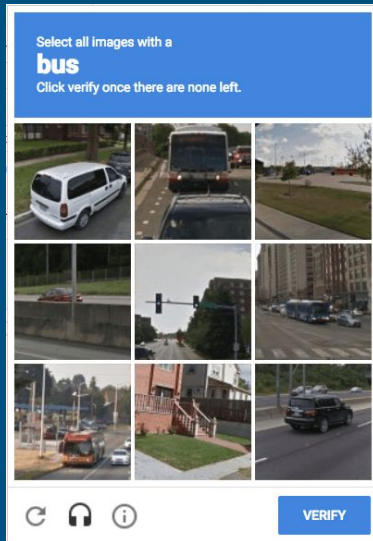
- Bots were able to solve the text based ones easier over time, that's why the tests started using distorted characters.
- Eventually, CAPTCHA was sold to Google in 2009 which led to reCAPTCHA v2, v3, and reCAPTCHA enterprise.
- Picture based CAPTCHAs take too much time



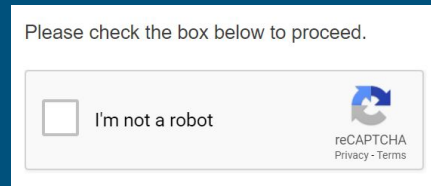
Prior Works



CAPTCHA



reCAPTCHA



reCAPTCHA v2

reCAPTCHA v3 ??

Why reinvent the wheel?

- reCAPTCHA costs money after a while.
- reCAPTCHA tests take too long to solve. Often times, frustrating.
- v2 and v3 require a score to set by the website owner or designer to determine whether or not to kick the user off. Scores are between 0 and 1.

We want to create a CAPTCHA that meets 3 requirements: fast, simple, and free.

Research

- What technology was used by bots to solve CAPTCHA ?

OCR (Optical Character Recognition) would have to be performed on the webpage. It's very labor intensive and as the webpage tracks the user's movement they would have been booted off.

- What is the average human reaction time?

0.25 seconds

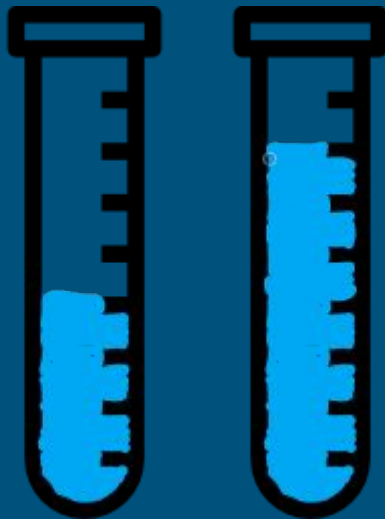
- Average time it takes to solve a CAPTCHA?

10 seconds

Our implementation

We wanted to create something that requires human input in a timely manner with images creating an obstacle for bots to complete.

Max time it takes to solve the CAPTCHA is 2 seconds.
Haven't had time to factor in slow reaction time feature.



Demo
