PICATCHA

User Experience | Security | Advertising
Context: CAPTCHAs

• A **test** that distinguishes between humans and computers.

• Essential for web security and anti-spam.

• Used on blogs, sign-ups, contact forms, ecommerce sites, etc.
Where do you see CAPTCHAs?

• Comments on Blogs
• Contact Forms
• Sign-ups/Forgot Passwords
• eCommerce (Ticketing websites)
• Online Polls/Surveys
Problem: Usability

• CAPTCHAs are an awful experience (frustrating & annoying), this is worsened on mobile devices

• To improve security, CAPTCHAs are becoming harder
Problem: Security

Current CAPTCHAs can be easily broken

Step 1 - Processing an image

Step 2 - Segmenting an image

Step 3 - Recognition

B 4 K G J 8 H R
Problem is Huge!

- Publishers lose approx. 3-18% new users \(^1\)

- $25 Million Scam involving fraud purchase of tickets from Ticketmaster etc \(^2\)

- Hackers successfully broke Yahoo, Gmail and Hotmail CAPTCHA: 1-2 bogus accounts per second; \(~200\) K bogus accounts over a month \(^3\)

1. http://www.seomoz.org/blog/captchas-affect-on-conversion-rates
CAPTCHA Arms Race!

PayPal
Yahoo!
Hotmail
Amazon
phpBB
GMail
Rediff
Twitter
Facebook
More and more CAPTCHAs will be solved on mobile devices

Growth of mobile devices & mobile Internet
• Shift towards smartphones & tablet computers

Number of global mobile users projected to eclipse desktop users near end of 2013 at ~ 1.6B

Source: Mobile Internet Report, Morgan Stanley Research, 2009
Dilemma

• Making CAPTCHAs usable makes them insecure
• Making CAPTCHAs secure makes them unusable
• Mobile devices exacerbate the problem
Image Based CAPTCHA: Breakthrough

• Images are easy for people to recognize and hard for machines

• Replace text with images in CAPTCHAs
Initial Research

Chew and Tygar, 2004
Better but not good enough!

Microsoft Asirra; Elson, Douceur and Howell, 2008
Our Solution

- Security
- Usability
Business Opportunity

• Huge Market
  • Several Use Cases
  • ~200M+ text-entry CAPTCHAs are solved/day

• User Attention
  • Complete user attention while solving the CAPTCHA
  • Advertisers love focused user attention!
Eyeballs + User Attention = $$

Results in a very high Brand Recall!
What did we achieve?

• User Interface Design
• Ethnographic Studies
• Service Design
• Proof-of-Concept with working API
• Explored Business Potential
Thank you!

Select all images of “smart” people ;)

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