The Nexus between Accessibility and Security

Governance, Preparedness, Commitment

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What we will discuss today

- Why should we talk about the need for Security and Accessibility at the same time?
- What do we mean by the "Nexus" of Accessibility and Security?
- Sharing versus securing
- The different directions that accessibility and security are going
- Passwords and CAPTCHA
- The need for Multifactor Authentication that is Accessible
- Protecting Critical Infrastructure
- Protecting Medical and Financial Data

The need for a dual conversation…

The benefits of Accessibility
The benefits of Security
The benefits of Accessibility AND Security at the same time.

Greater
Accessibility

Greater
Security

Using Laggards to test the Nexus

Never underestimate our older people – they have great clarity over the important things in life.

Clarity to understand how much security we need

Clarity to see what accessibility is workable.

Fully appreciating the changes we are making as technology becomes more embedded in our lives

The case of CAPTCHA – and two step verification

CAPTCHA

Older People:
Vision
Hearing
Deafness
Colour
Background-Noise
Bots:
Dictionary attacks

CAPTCHA is a simple Turing test – but it has limited access for people with vision impairment

Re CAPTCHA

Select all images with an orange.
-
But try not to select images because they have the colour orange

Select all images with an
Orange.

Report a problem

Verify

Not easy for Vision Impaired.
Doesn't pass the WCAG test.
Some guessing based on partial understanding can assist a Bot to make an "informed" guess.
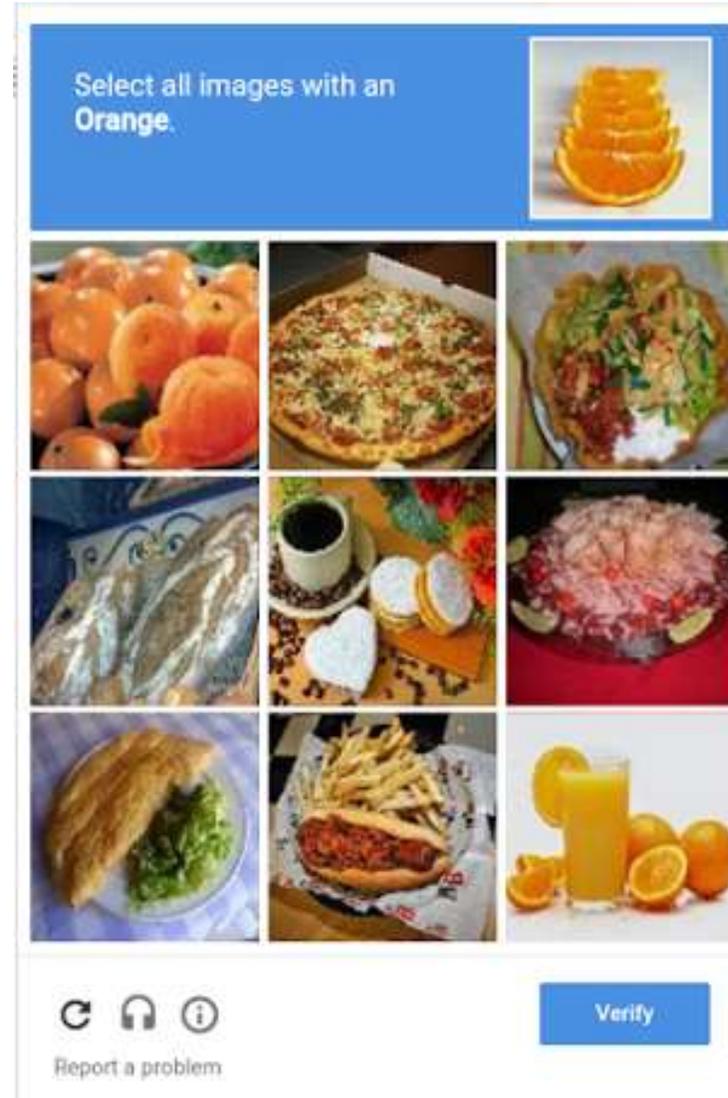
Why would we want people with vision impairment to access secure systems?

Its not the 39 Million people in the world who are blind that are the challenge.

Its the 940 Million people in the world with Vision Impairment who many people misjudge

The number is rising

Some of us are in the room right now

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The Impact of Security & Accessibility growing apart

Poor Accessibility in Australia affects over 1.5 Million older Australians in terms of their usage of online banking systems, aged care, and superannuation funding.

The impact can be directly measured in terms of those people who end up by relying on others to help them to access online services such as banking.

It's a form of **Financial Elder Abuse**. In Australia increasingly larger numbers of Older Australians rely on someone else to assist them with their banking, or their online shopping. Many of these helpers take advantage of older people and give themselves access to an older person's money and assets.

The whole process is often kick-started by something as simple as a Turing test – a simple CAPTCHA

A physical comparison of people's access and security…

When I can no longer place a key in the front door of my home, the access to that door ceases to be mine, and suddenly I need the help of others. The door, the house and the home are no longer secure assets to me.

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Passwords, Clones and Derivatives

How secure are your passwords?

Do you have too many passwords?

Can you remember all of your passwords?

How do you store all of your passwords?

Do you trust your passwords stored on someone else's system?

The Growing Culture of Password Neglect

Fluffy

Fluffy1

Fluffy27

Fluffy1952

Fluffy1981

Yffulf1

The impact of password security where choice and access are limited

Not just older people – but many others cannot remember their passwords.

How do we make password security more accessible? We allow people to make choices – we don't force them into using passwords that they cannot remember or to use passwords that they will be forced to write down or record somewhere that is insecure.

Security is built on trust

For example an older person will "trust" themselves to remember a password of their choosing.

If you force them to trust in a "pass keep" system on a phone, then they are forced to "trust" their information – on someone else's system.

The Use of Passphrases

Using a system to remember your password.

Using your brain rather than writing things down

Do you rely on paper? A place on your computer, tablet or smartphone.

Deploying a Passphrase and using Mnemonics

How do we convince people in Government to combine security and accessibility?

It involves an embedded approach

How do we make websites more accessible? We can just add on the accessible parts at the end… or can we?

The truth is that in the area of web development there are now two things that we cannot afford.

The first is that we cannot afford to ignore people with Accessibility needs
The second is that we cannot afford to treat accessibility as an add on – it needs to an embedded approach. Elements of the web design that are incorporated into the structure from the very beginning.
The third is developing an agreed culture of trust. Banks trust mandatory IT systems whilst old people trust people and face to face exchanges about information – any new systems developed in the name of e-government MUST play to the strengths of the users –rather than their weaknesses.

An embedded approach to security and accessibility

"The answer lies in the strategic acquisition and placement of accessibility-ready personnel throughout the organisation."

To do this we need three strategic changes.
1. Adoption and agreement of the rules and guidelines (eg WCAG 2.0 but more)
2. An acceptance of Accessibility as a key skill set for IT Professionals (Not an add on)
3. A transition to making everyone in IT a Professional. (Not some but all)

Conclusion

What is the solution to the gap growing between security and accessibility?

Trust - Professionalism – Training - Culture