DrupalCon
SEATTLE **2019**
APRIL 8-12

Mobile Accessibility
The good, the bad and the ugly

pz.tt/drupalcon19

@accessibilityoz

AccessibilityOz

Meet our team

- Dyslexia
- Moderate vision impairment
- Epilepsy
- Migraines
- Severe vision impairment
- Physical impairment
- PTSD
- Crohn's Disease
- Multiple Sclerosis
- Cerebral Palsy

It's not just about vision impairments

About our services

Audits

Mobile Testing

Building Websites

CMS

CMS Testing

Accessibility Design

Video Accessibility

User Testing

OS/browser Testing

Consultation

Accessible Testing

AccessibilityOz

About our products

OzART

OzWiki

OzPlayer
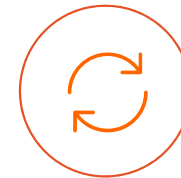
Accessibility Voices

Factsheets

More information: www.accessibilityoz.com

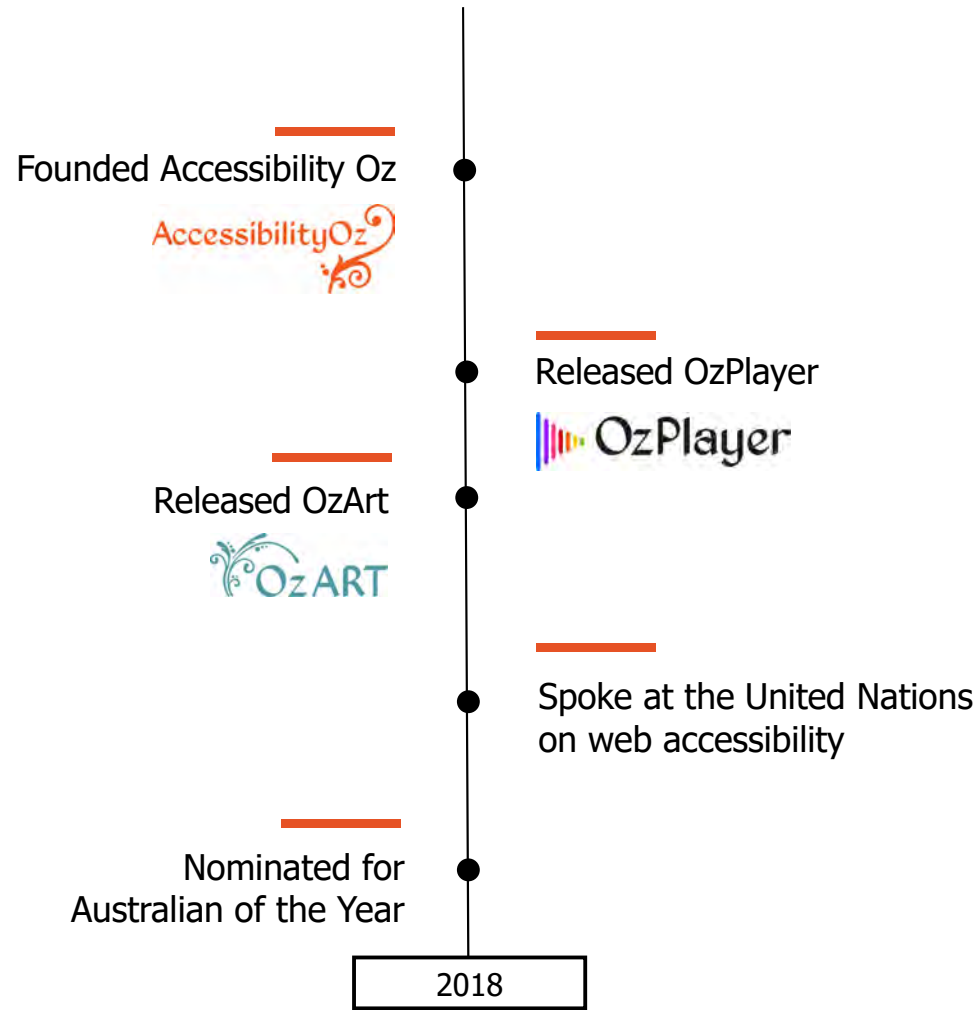AccessibilityOz

About Gian

1998

Worked on first accessible
website in Australia

Created Australia's first automated
accessibility testing tool

Invited Expert to W3C
WCAG2 Working Group

Worked on Melbourne 2006
Commonwealth Games

Managed Usability and
Accessibility Services at Monash
University

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AccessibilityOz

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AccessibilityOz

Founded Accessibility Oz

Released OzPlayer

Released OzArt

Spoke at the United Nations
on web accessibility

Nominated for
Australian of the Year

2018

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WCAG2

WCAG2 success criteria are applicable to mobile, however, not all aspects of mobile accessibility are specifically covered by WCAG2. For example, although WCAG2 requires sites to be accessible to the keyboard user, it does not specify that it should also be accessible to the touchscreen user.

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WCAG2.1

WCAG2.1 builds on this and addresses more criteria related to touch screen (pointer gestures), sensors and small screen devices, however it still does not cover all user needs related to mobile accessibility.

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Mobile accessibility features

Native screen readers
- TalkBack (Android)
- Narrator (Windows)
- VoiceOver (iOS)

Volume control

Haptic keyboard

Visual, auditory and vibrational notifications

Text-to-speech / speech recognition

Zoom

AccessibilityOz

System accessibility settings

- Font size
- Touch and hold delay
- Screen rotation
- High contrast
- Assistive touch
- Mono audio (left / right balance)

AccessibilityOz

Mobile Usage

Mobile vs desktop usage
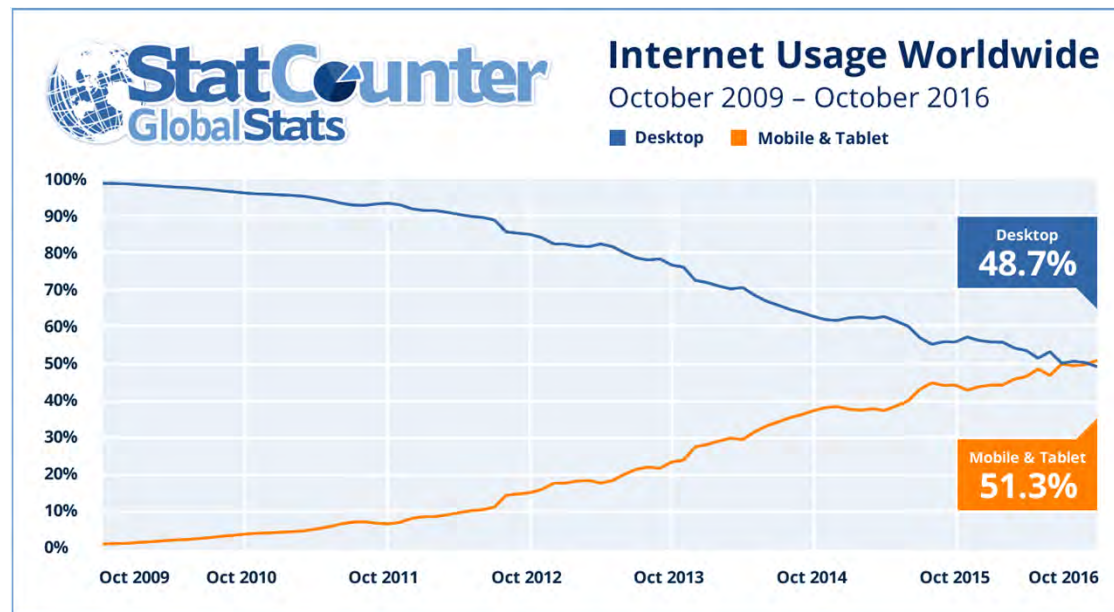
Mobile screen reader usage

Mobile Screen Reader Usage

100%	
75%	
50%	
25%	
0%	

12% 67% 72% 82% 69% 88%

Jan 2009   Dec 2010   May 2012   Jan 2014   July 2015   Oct 2017
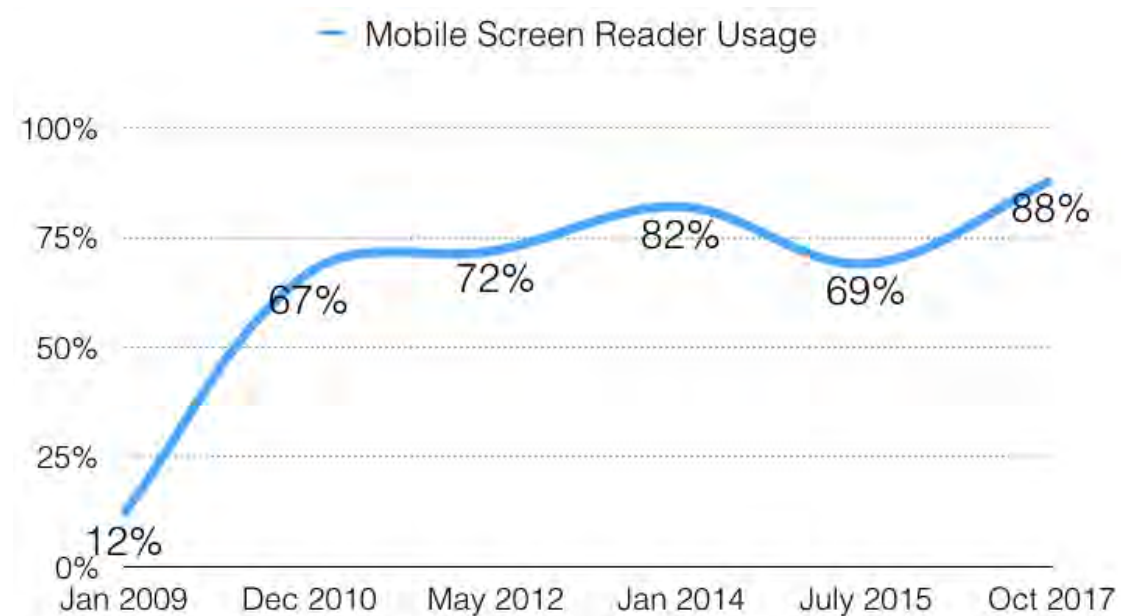
AccessibilityOz

Mobile Accessibility Fails

Auto-play and movement

Movement that can't be stopped

Fails:

2.2.1 Timing
Adjustable
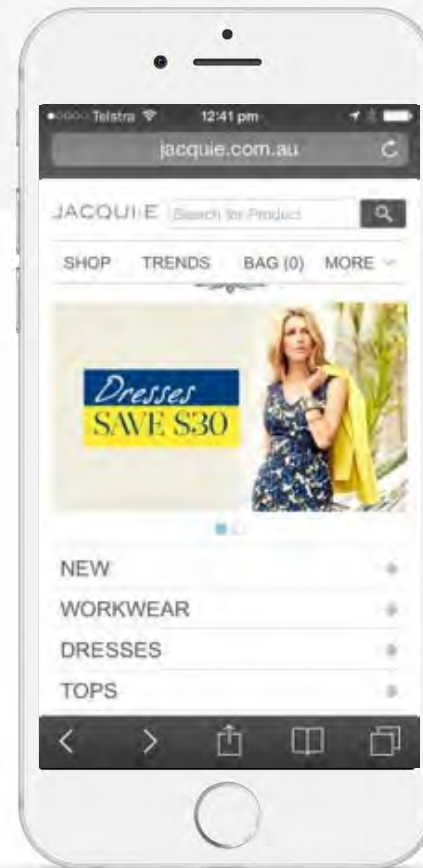
AccessibilityOz

Traps

Hover trap

Fails:

WCAG2.1
2.5.1 Pointer
Gestures

Cannot close
zoomed-in section

AccessibilityOz

On-screen keyboard trap

Cannot dismiss
keyboard

AccessibilityOz
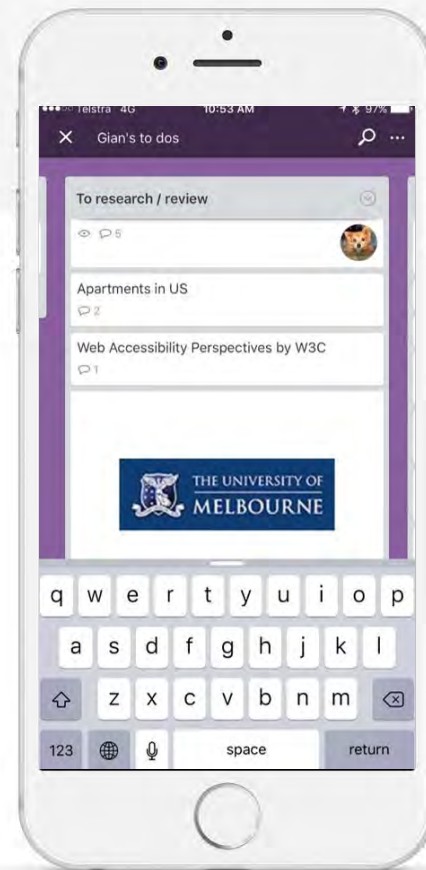
Screen reader swipe trap

Cannot change or close page, access keyboard or go back
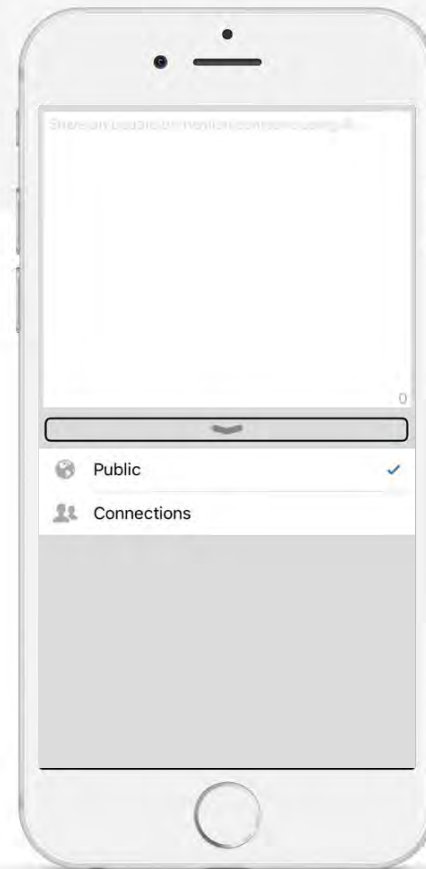
AccessibilityOz

Touch trap

Cannot move the screen unless you activate the up arrow
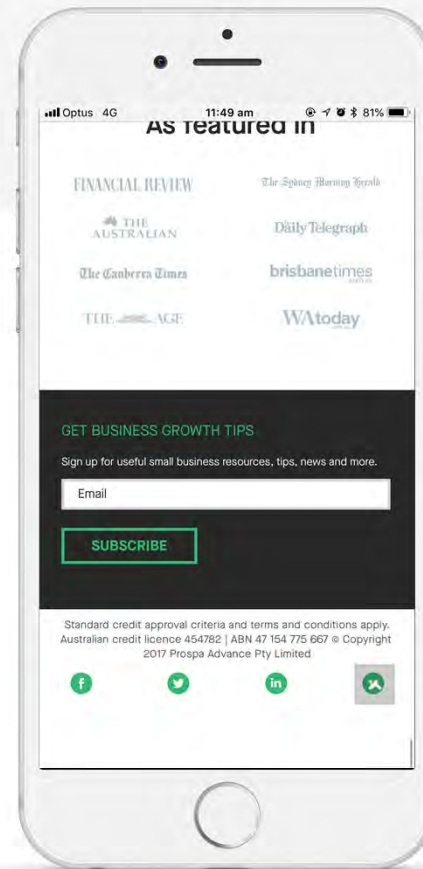
AccessibilityOz

Touch trap

Unless you decide to add another feature...

AccessibilityOz

Zoom trap

The zoom of doom
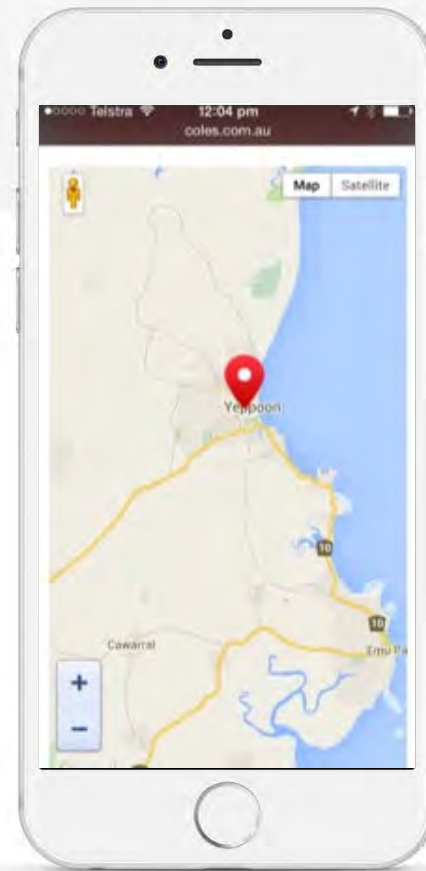
AccessibilityOz

Broken functionality

Test All The Things

Fails:

1.1.1 Non-Text Content
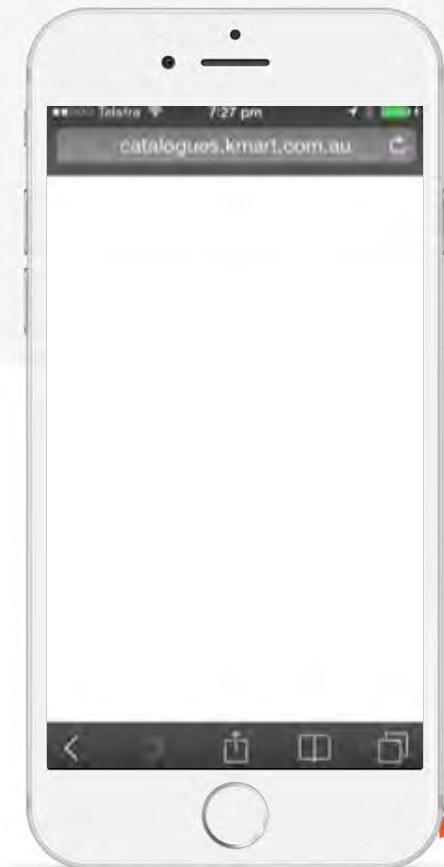
Test with real devices

I don't feel safe giving you my credit card details…
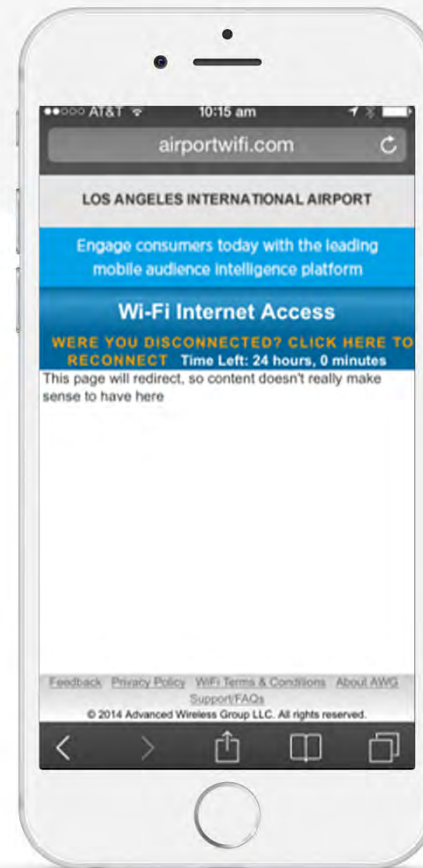
AccessibilityOz

Test with real devices

I should be able to buy a Mac on the Apple store on my iPhone…
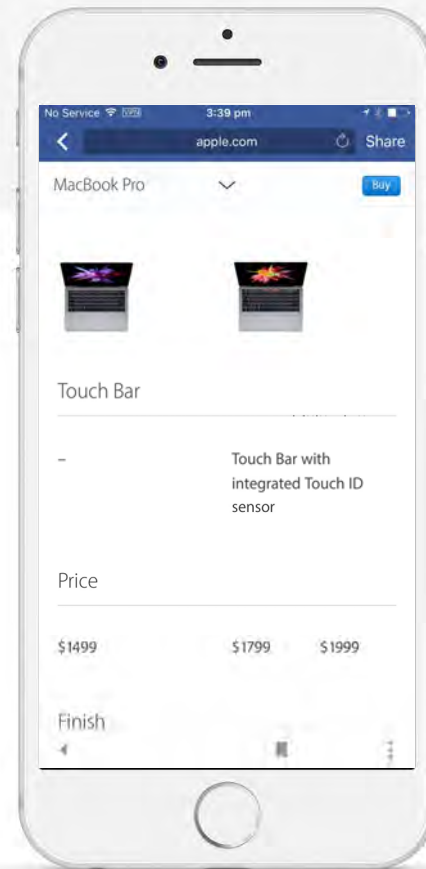
AccessibilityOz

Test with real devices

Not a good look
for a tech
conference...

AccessibilityOz

Broken functionality

Don't offer things
you can't provide
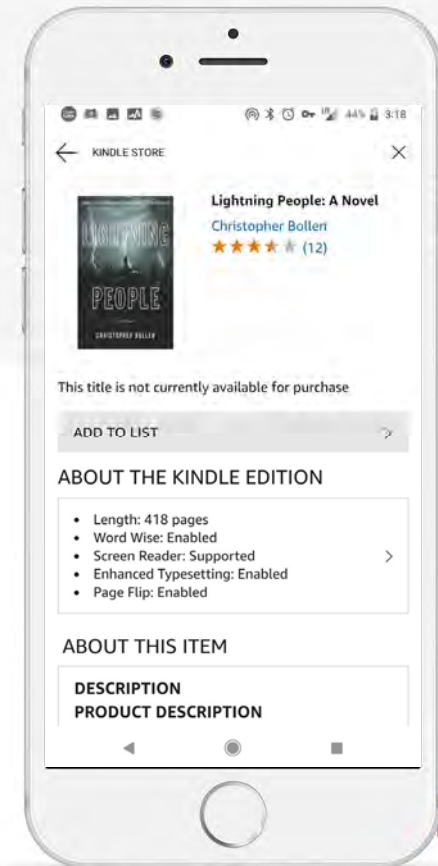
Problematic functionality

PDFs

Fails:

1.1.1 Non-text content
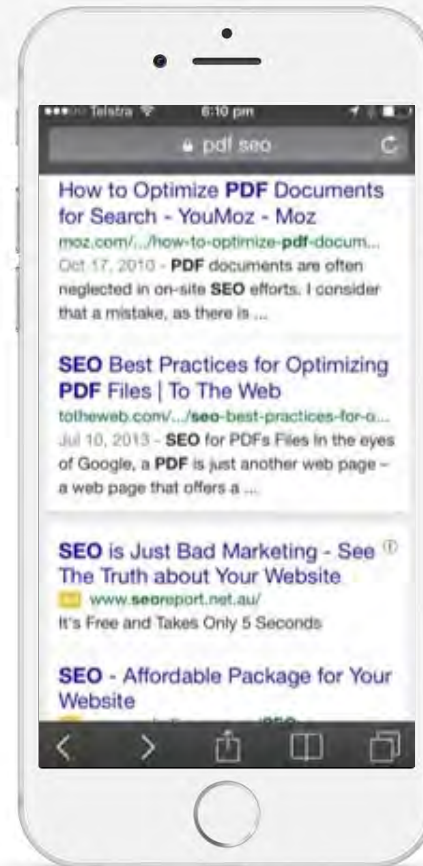
PDFs

Which would you prefer?
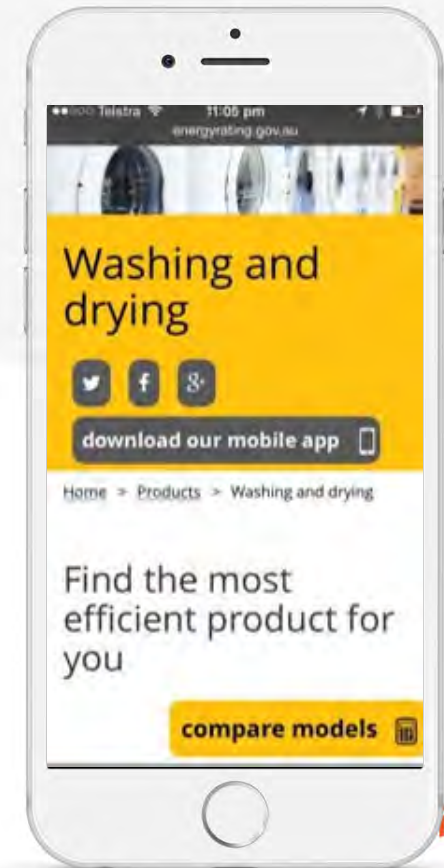
Larger file sizes + slower connection **equals** longer download + increased data usage

Inconsistent functionality

Inconsistent functionality

Fails:

3.2.4 Consistent Identification
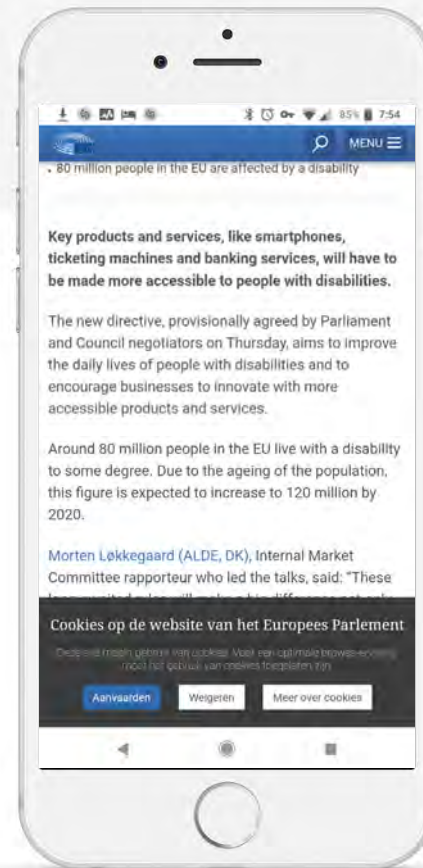
AccessibilityOz

Providing information

Providing information

Please do contact us
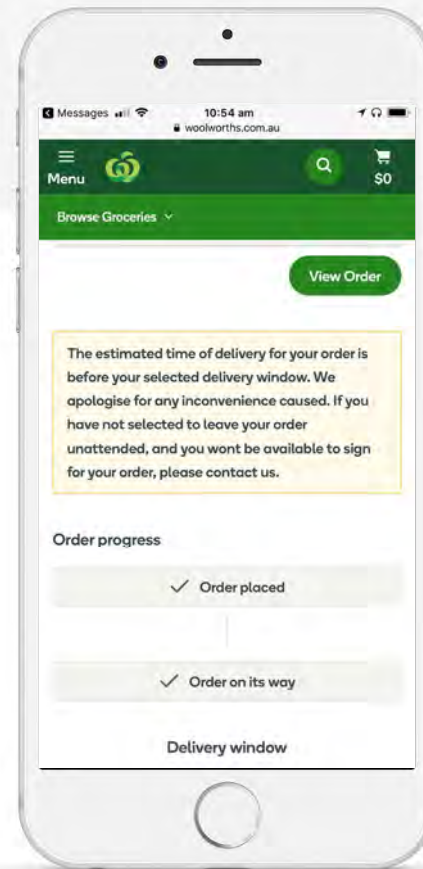
AccessibilityOz

Text size, text flow and zoom

Text size

Fails:

1.4.4 Resize text

AccessibilityOz
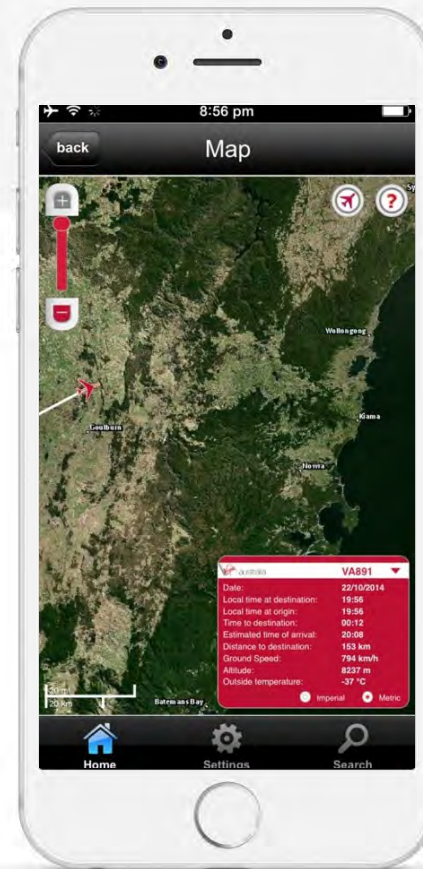
Text size

Inheriting text size from the system

Text size

Fails:

2.4.4 Text size

Test All The Things

Fails:

1.4.4 Resize Text
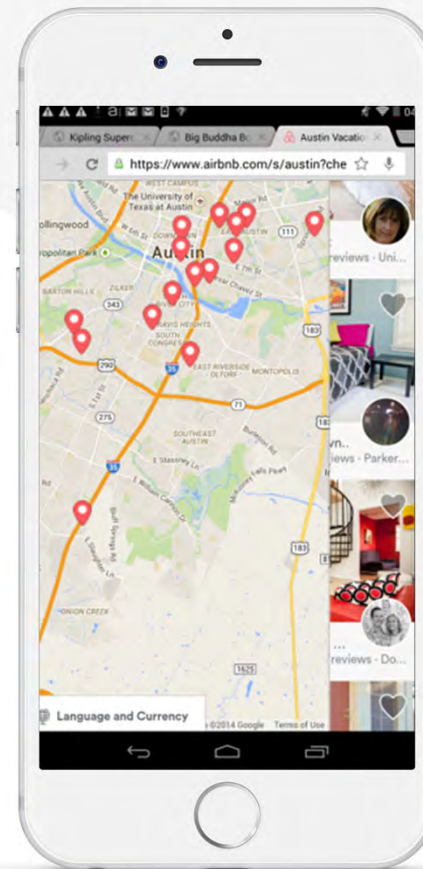
AccessibilityOz

Fine. I'll just use the desktop version then…

Remember your users!

Fails:

3.3.3 Error Suggestion

AccessibilityOz

Zoom

Upload and Notifications disappear at 200%
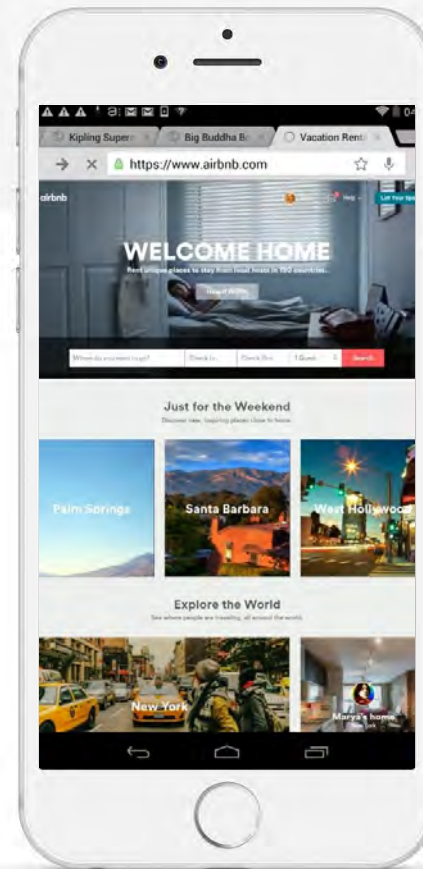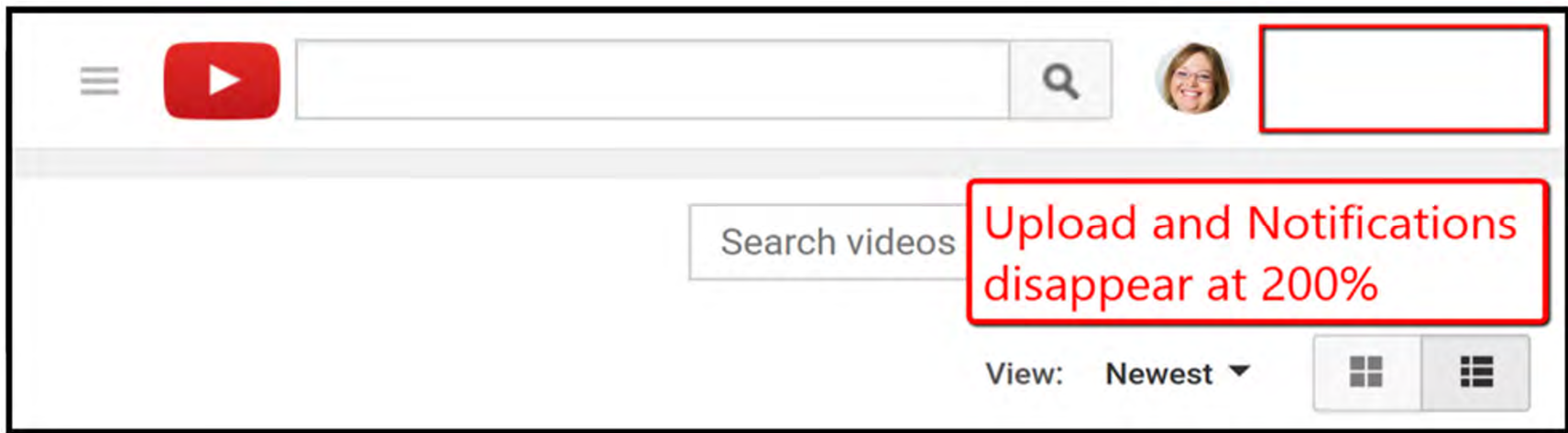
AccessibilityOz

Text reflow

Fails:

WCAG2.1

1.4.10 Reflow
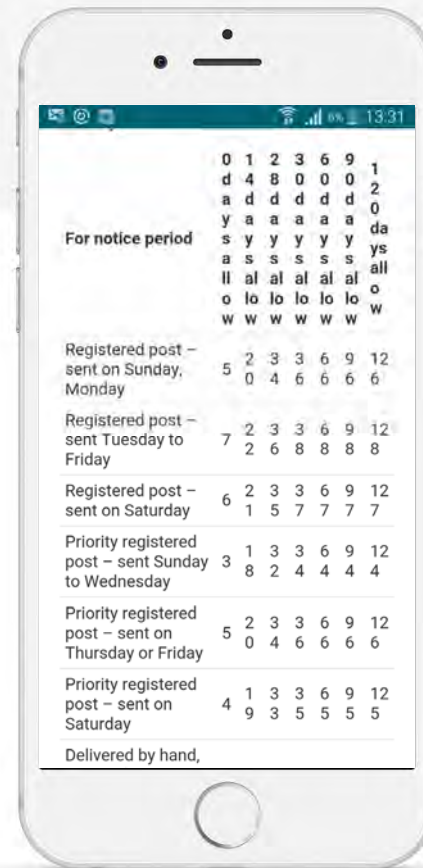
AccessibilityOz

Focus order and meaningful sequence

Indicating additional functionality

Surely there is a way to repeat the song…
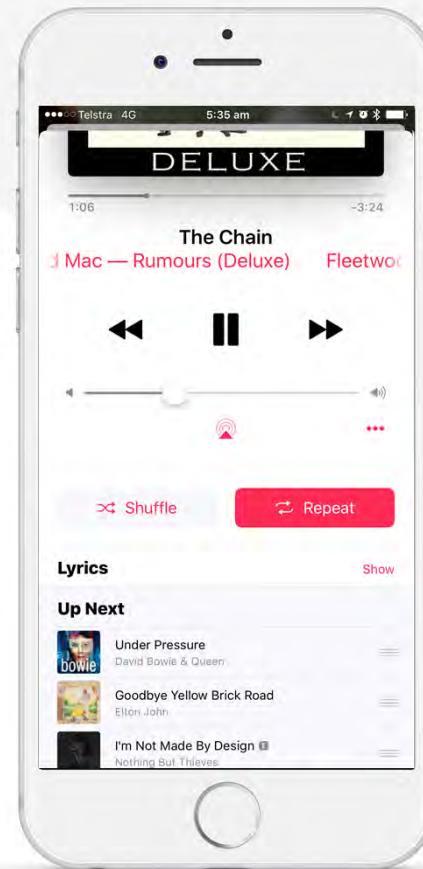
Meaningful Sequence

Fails:

1.3.2 Meaningful Sequence

AccessibilityOz
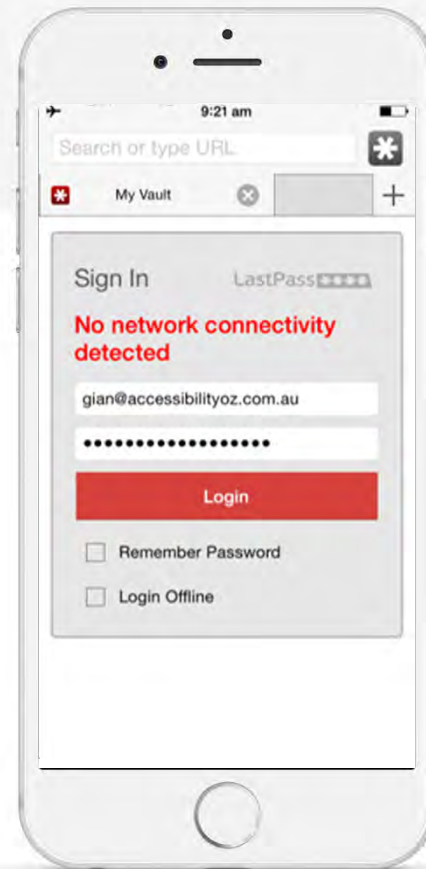
Meaningful Sequence

Fails:

1.3.2 Meaningful Sequence

AccessibilityOz

Actionable items

Activating on the down event

WCAG2.1

2.5.2 Pointer
Cancellation
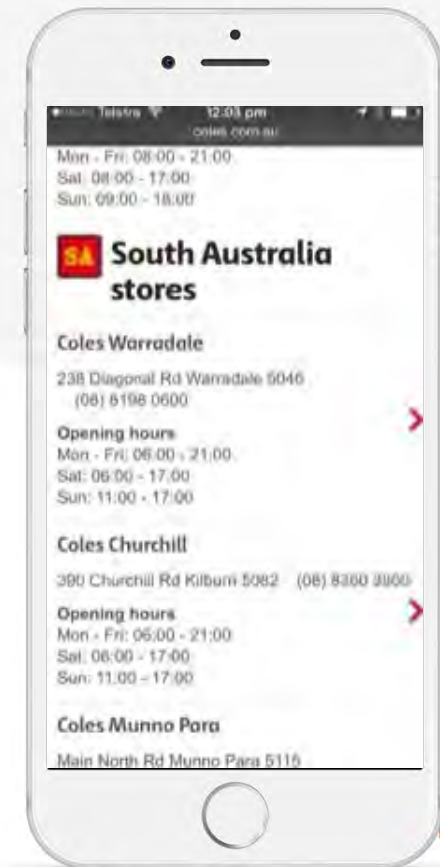
Inactive space between touch targets

In mouse versus finger, the mouse always wins…
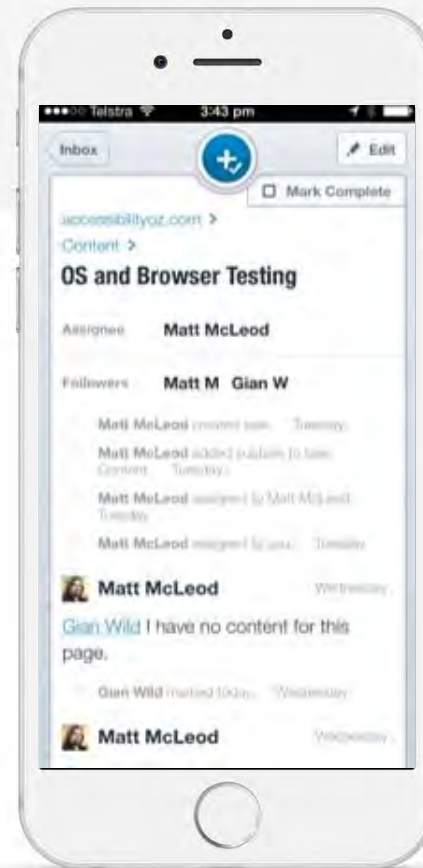
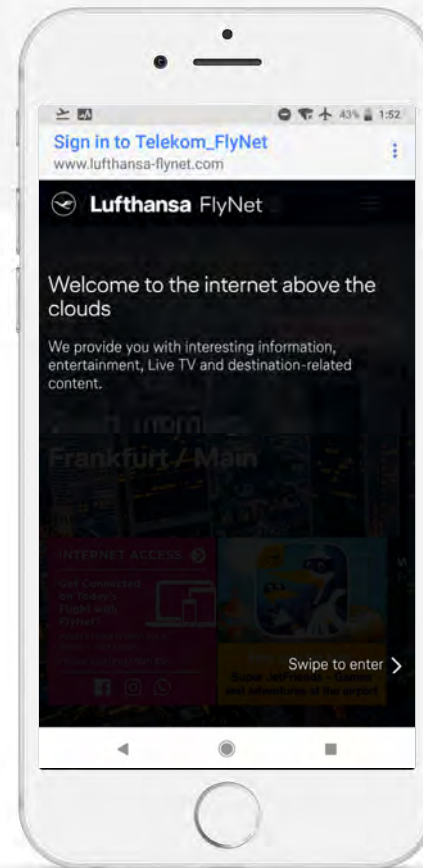AccessibilityOz

Swipe

Fails:

WCAG2.1

2.5.1 Pointer Gestures

AccessibilityOz

Colour

Colour contrast

Fails:

1.4.3 Contrast (Minimum)

AccessibilityOz
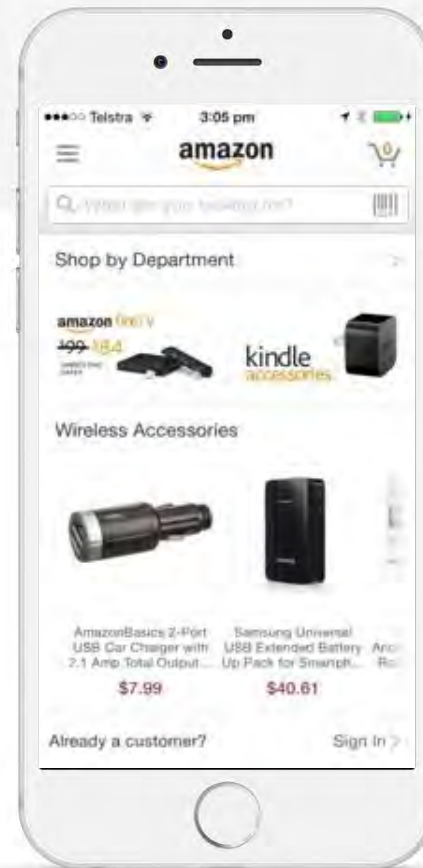
Non-underlined links

Fails:

1.4.1 Use of Color

Killer Network
Manager Suite

Version: 1.1.69.1774

Release Date: 2017-04-07

Comments: The Killer Network Manager is now considered an archived release, we recommend updating to the Killer Control Center software suite. Includes Killer Network Manager software and drivers for Killer E2200, E2400, Wireless-N and Wireless-AC 1525/1535/1435.

Operating Systems: Windows 7, Windows 8.1, Windows 10 64-bit and 32-bit

Release Notes: View Release Notes

Download

Alternate Download:
KillerSuite_1.1.69.1774_Win7_Win81_Win10.

AccessibilityOz

Use of colour

Fails:

1.4.1 Use of Color
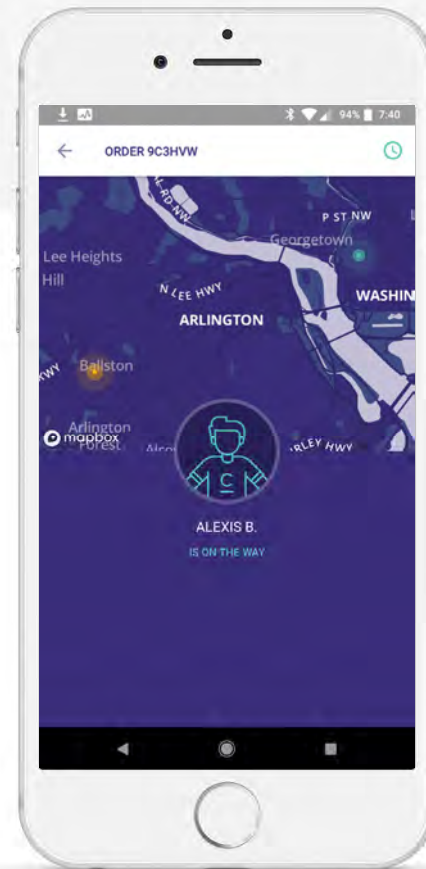
AccessibilityOz

Indicating actionable items

Fails:

1.3.1 Info and Relationships

1.4.1 Use of Color

1.4.3 Contrast (Minimum)
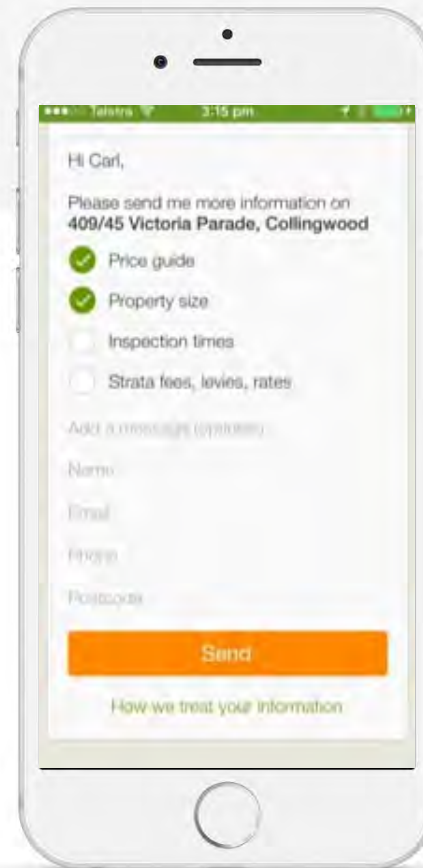
AccessibilityOz

Use of colour

Fails:

1.4.3 Color Contrast
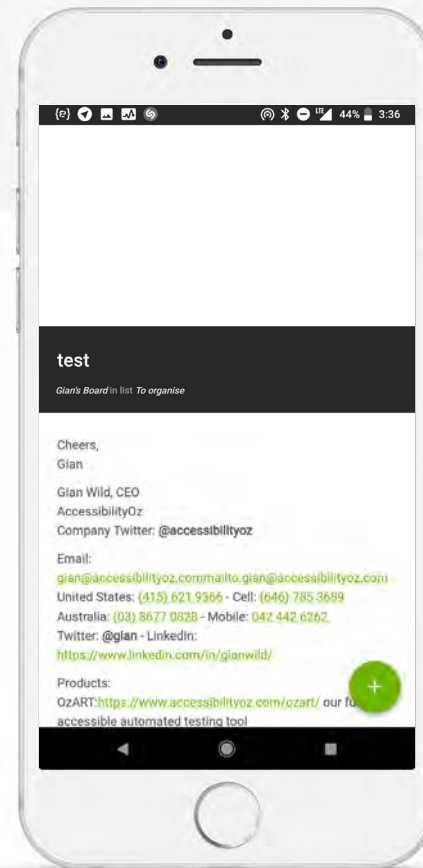
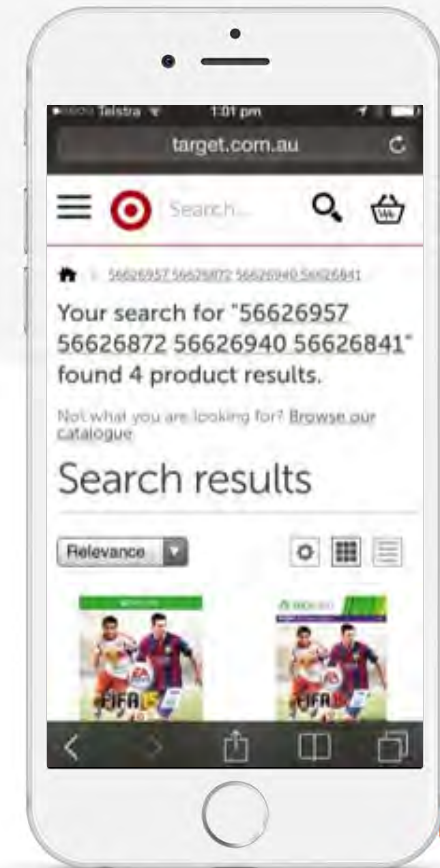AccessibilityOz

Lack of testing

Capitalisation

Impossible for screen reader users...

Difficult for all users...

AccessibilityOz
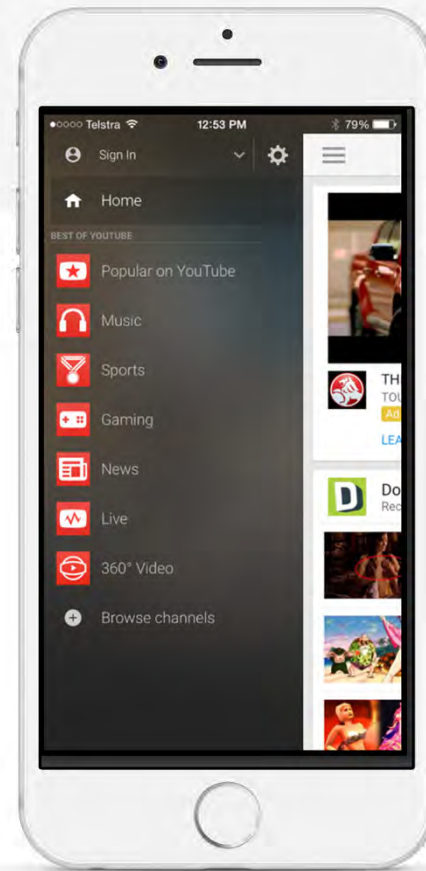
Expected behaviour

Um, what was that?

Expected behaviour

Let me just input that into the Uber app...

AccessibilityOz

Expected behaviour

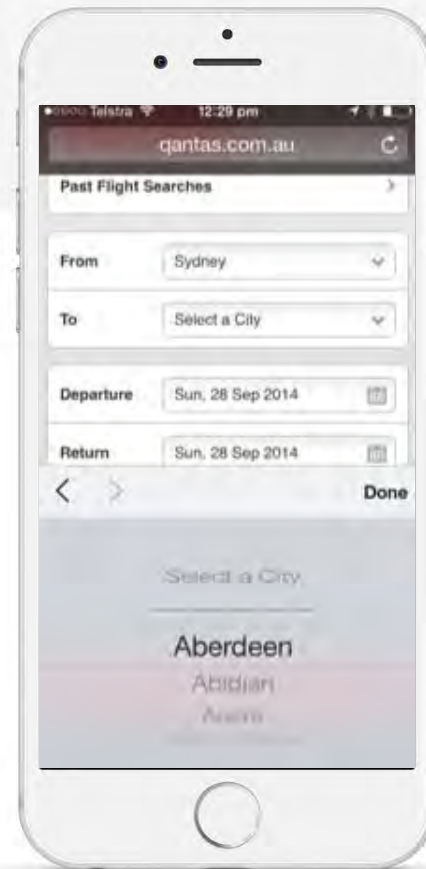At least pick the side of Australia that everyone lives on...
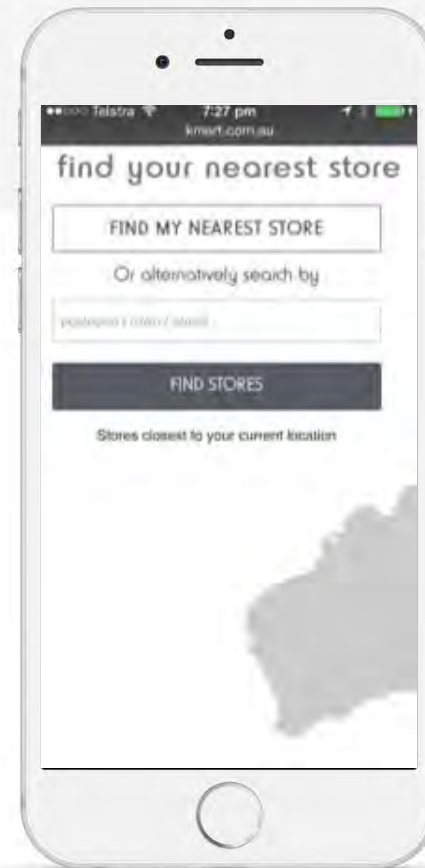
Useless errors

Fails:

3.3.1 Error identification

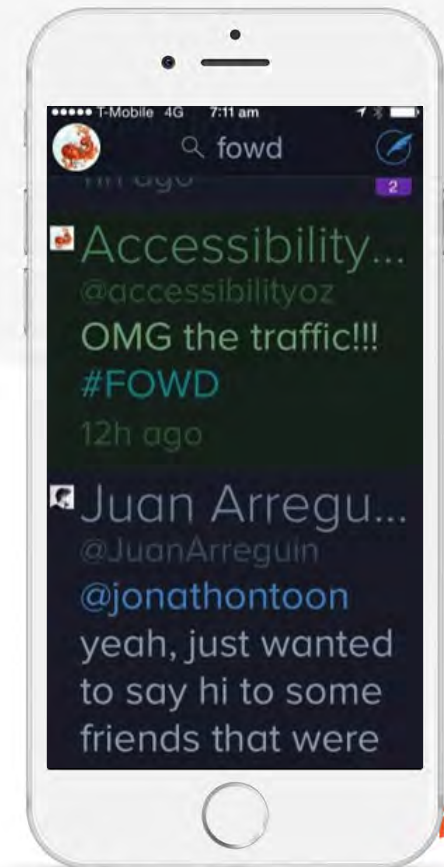AccessibilityOz

Test with real devices

12 seconds is a
long time
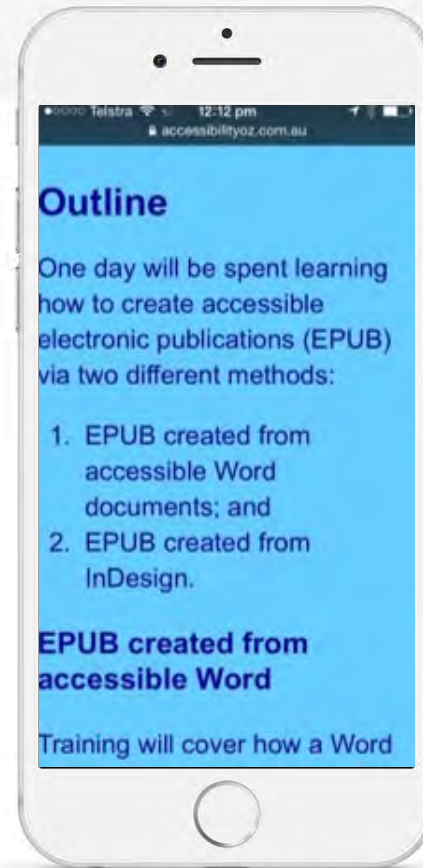
AccessibilityOz

Correct implementations

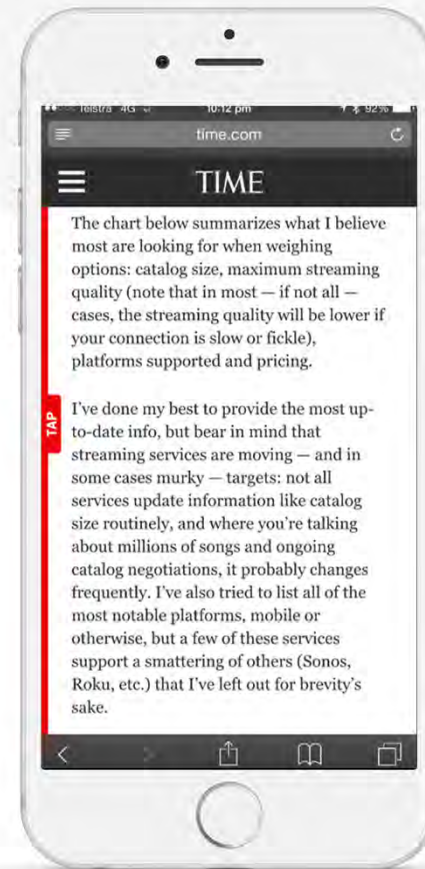# Give the users what they want

Size and colour support
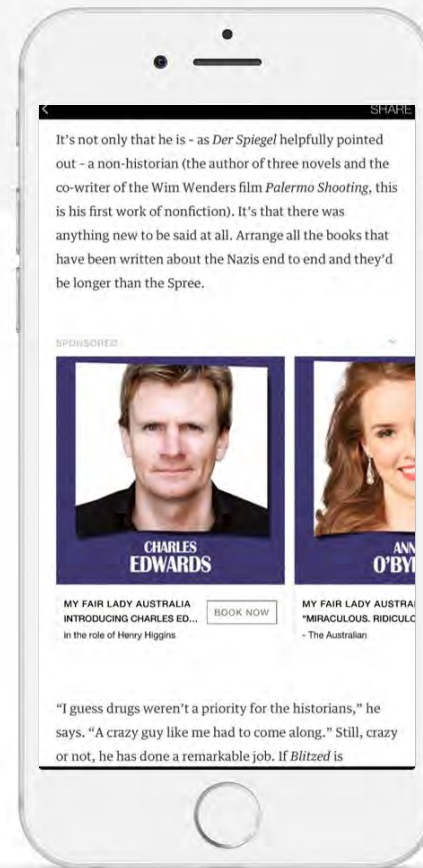
Give the users what they WANT

Size and colour
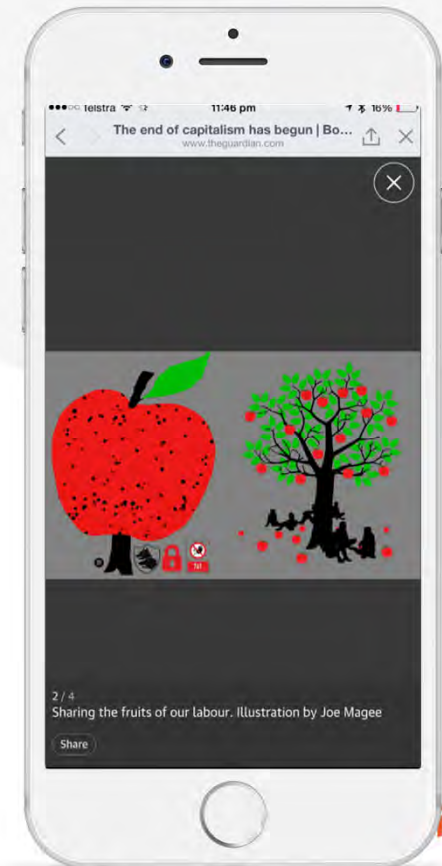support

Indicating functionality

But wait – there's more!

AccessibilityOz
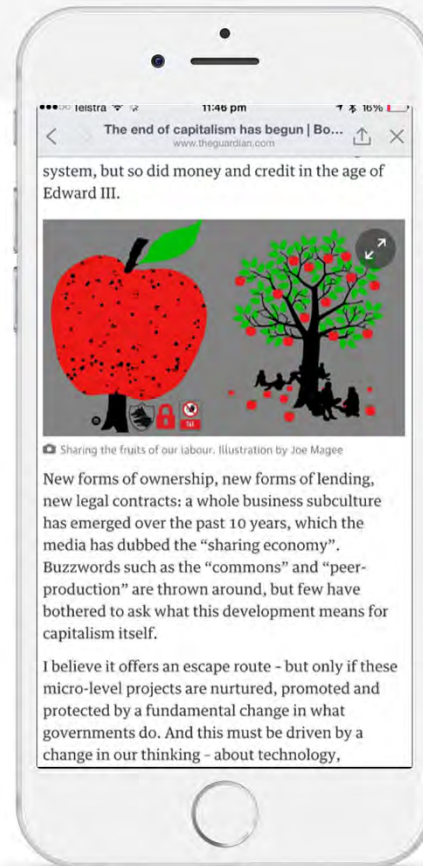
Indicating functionality

And more…

AccessibilityOz

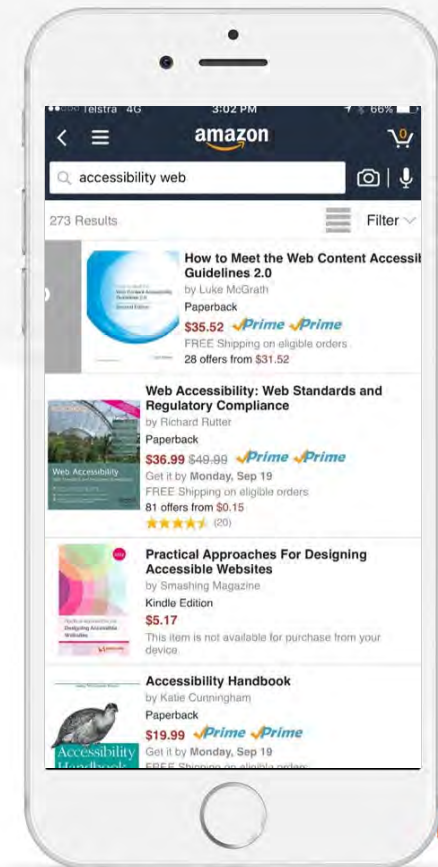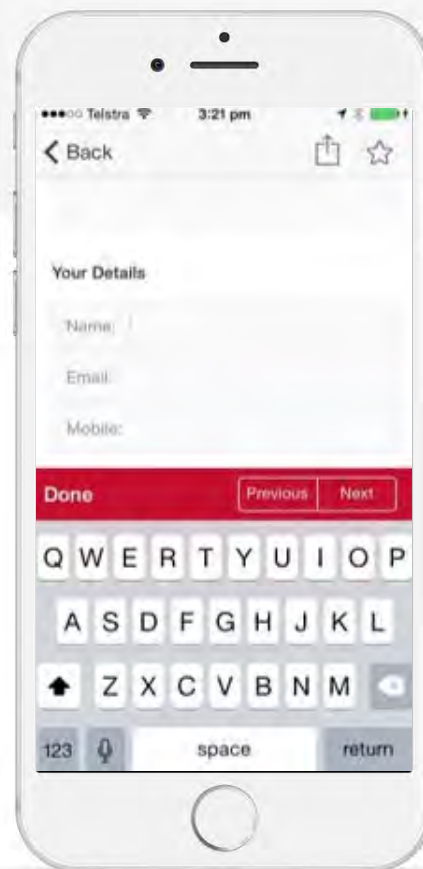# Indicating functionality

And more…

Indicating functionality

And more!
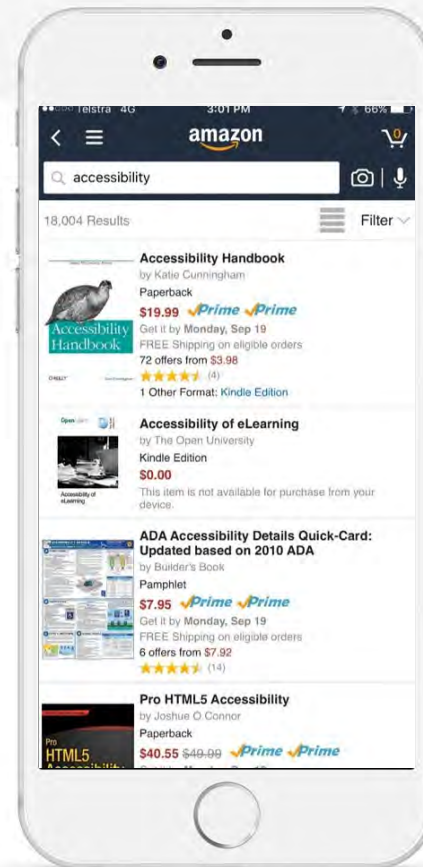
Keyboard support

Move on **and** dismiss!

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Keyboard

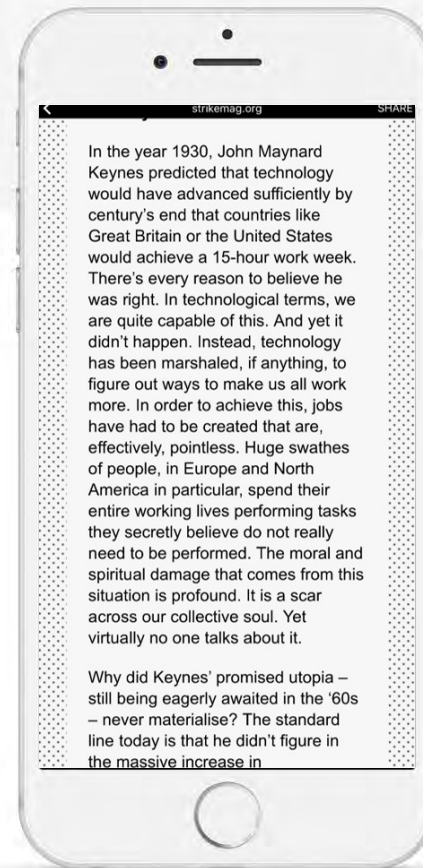Use your inputs wisely...

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Column width

Readable for people with dyslexia...

Easier for everyone.

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Mobile Testing Methodology

Mobile Testing Methodology Overview

Step 1: Identify what needs to be tested

- Identify devices
- Identify the site type and variations of the page
- If it is a responsive site identify the variations of the page

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Mobile Testing Methodology Overview

Step 2: Conduct mobile testing

- Critical mobile-specific interoperability
- Mobile-specific interaction
- Mobile assistive technology support
- Mobile and desktop relationship errors
- Non-specific mobile issues common to mobile

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Identify what needs to be tested

Five testing methods on mobile

- **Devices:** test on mobile and tablet devices
- **Devices with assistive technology:** test on mobile and tablet devices with assistive technologies
- **Simulators:** test on mobile and tablet simulators
- **Window:** test on different sized window on desktop
- **Desktop:** test on desktop

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Recommended devices & browser combinations

- iPhone, Safari
- iPad, Safari
- Android phone, Chrome
- Android tablet, Chrome

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Recommended assistive technology & devices combinations

- VoiceOver on iOS
- TalkBack on Android
- Keyboard on iOS
- Keyboard and switch on Android
- Zoom on iOS
- Magnification on Android

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Three types of mobile sites

Desktop web sites: that have only one display, whether viewed on desktop or mobile or tablet device
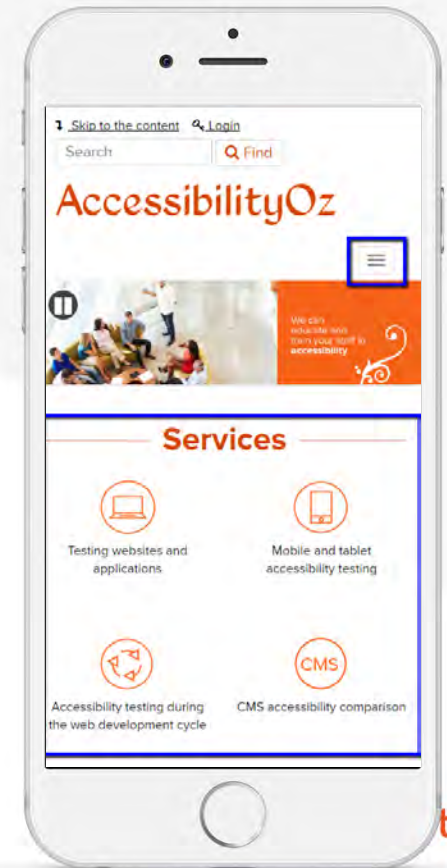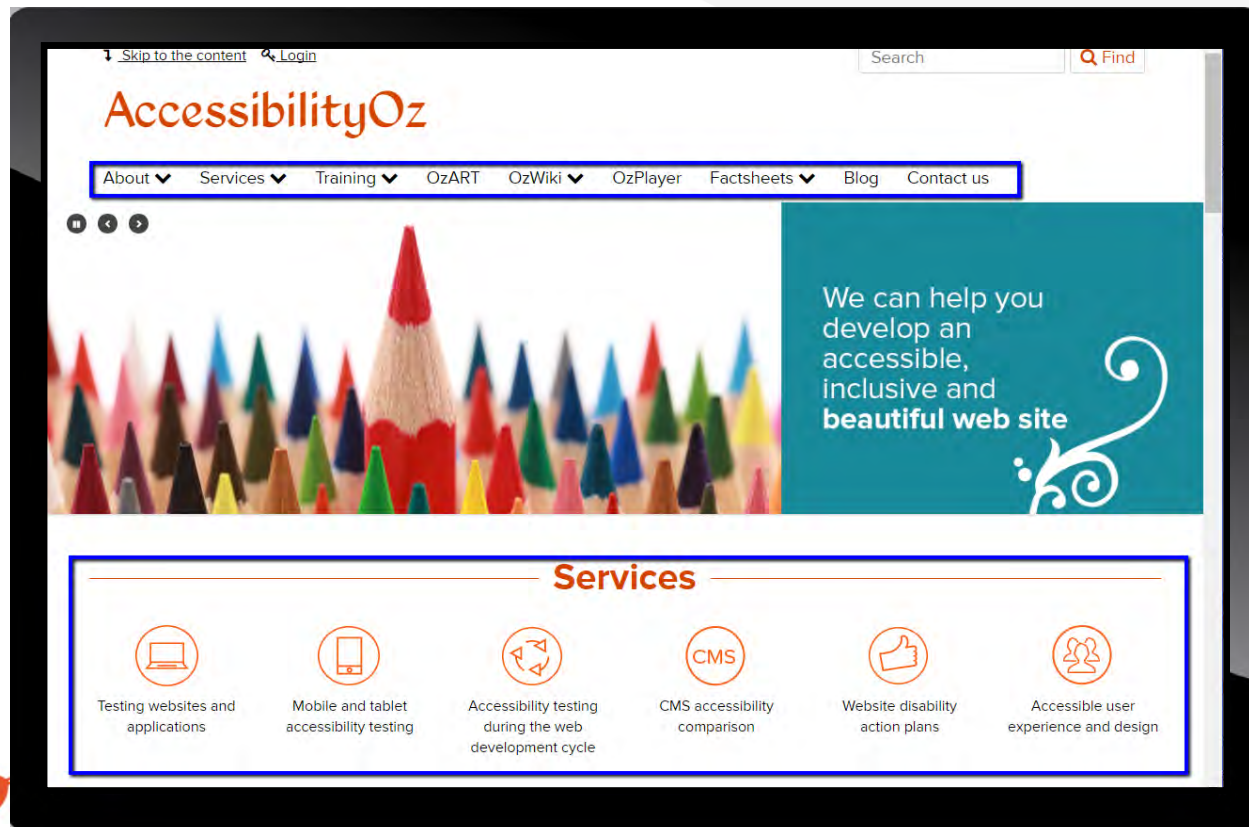
AccessibilityOz

Example of a desktop site
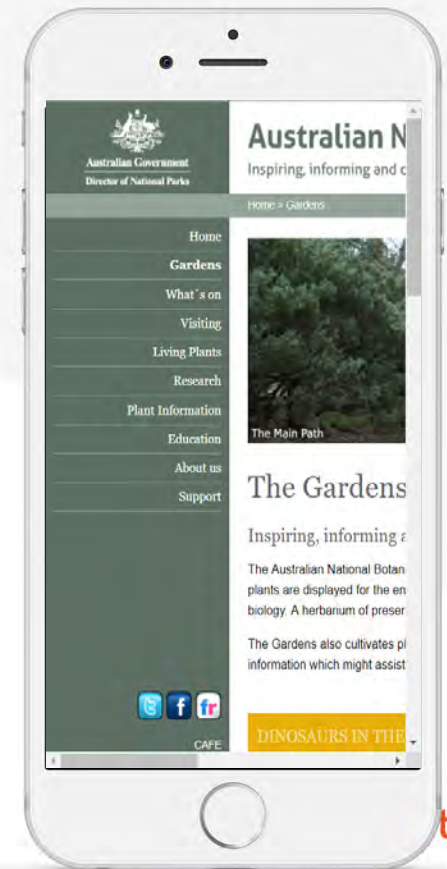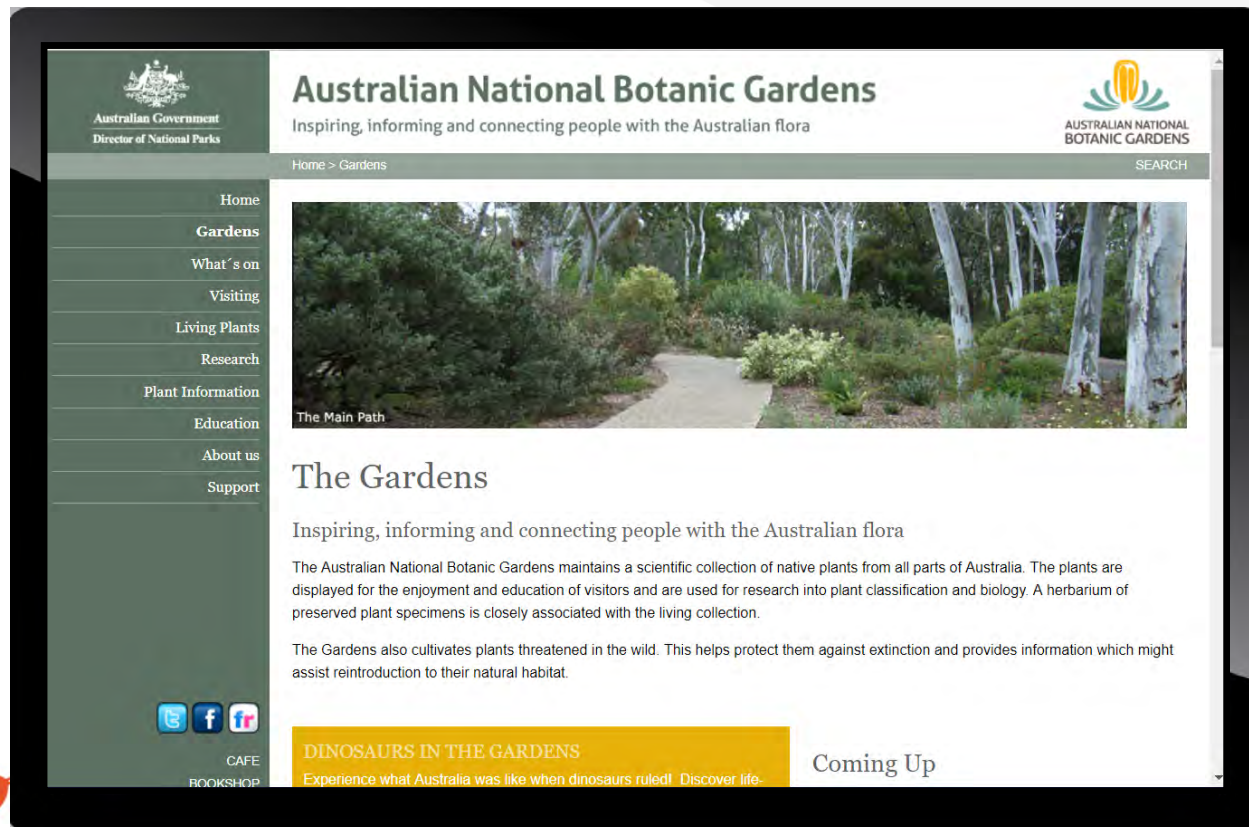
Three types of mobile sites

Responsive web sites: that change depending on the screen size or other feature as determined by the developer

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Example of a responsive site

m.dot sites: that have a particular display for mobile and tablet sites. The m.dot site must also be tested against the entirety of WCAG2, **in addition** to the standard www version of the site.

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Example of an m.dot site
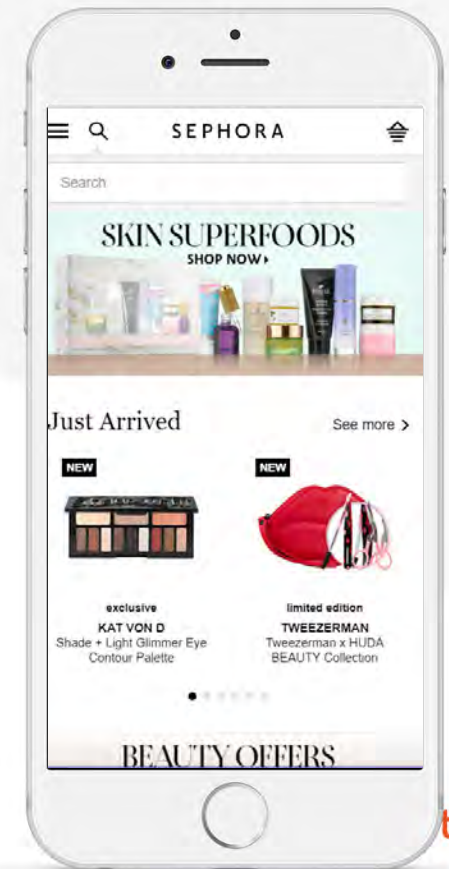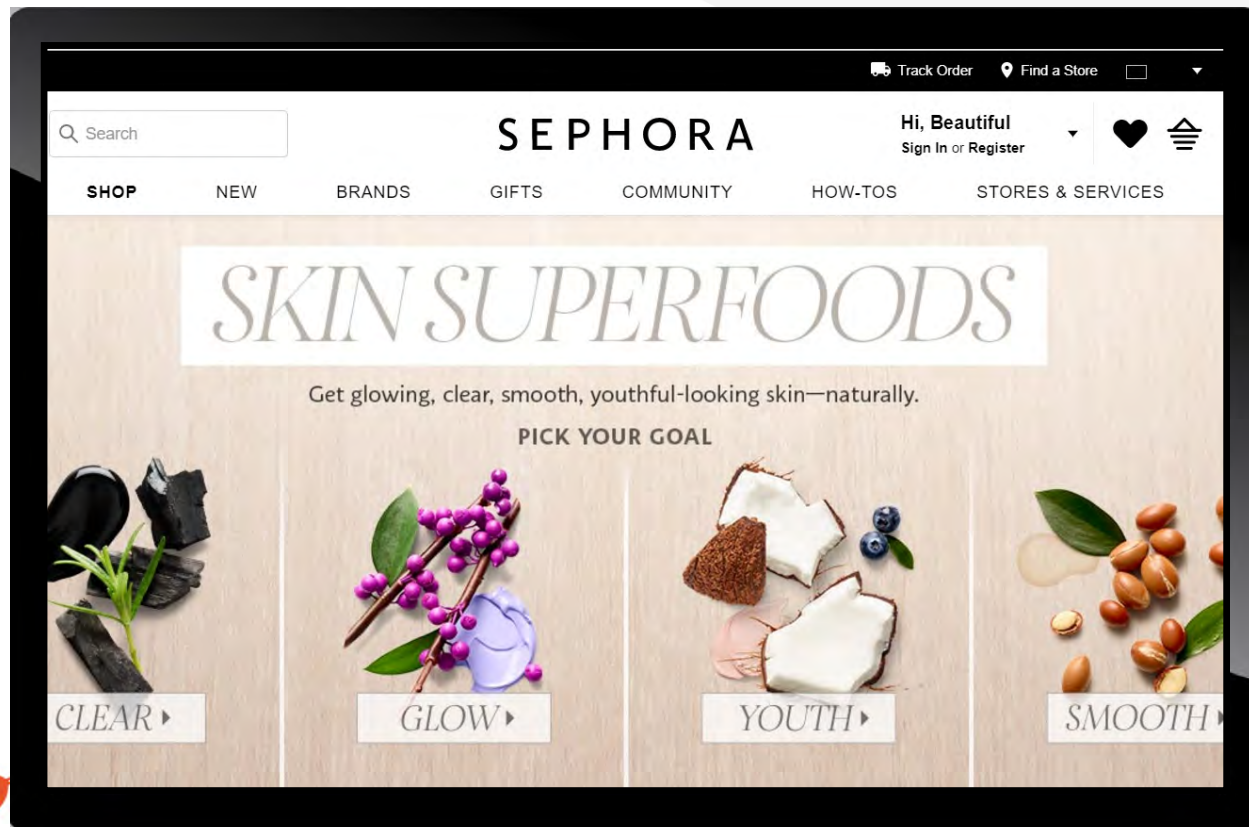
Variations of a page

It is important that **each variation of the page is tested** and that **all functionality is available on all variations of the page**.

The testing methods for responsive web site testing are dependent on whether there variations of the page.

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Variations of a page

Determine if there is:

- **Variation in content** included on the page; and

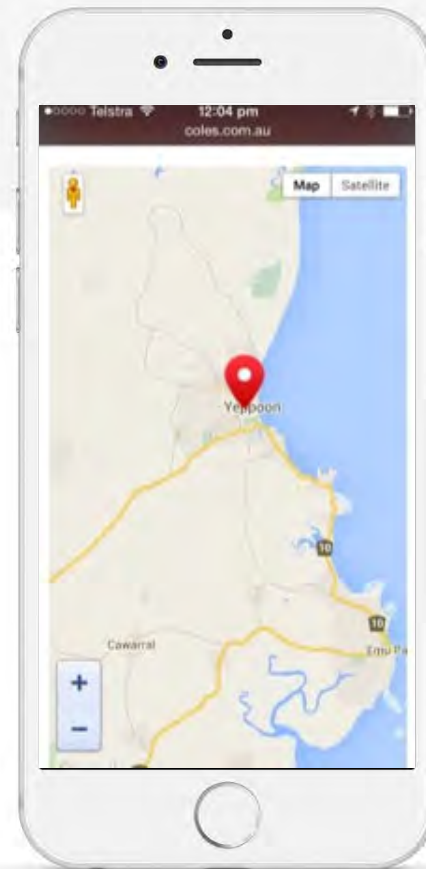- **Variation in the presentation** of components displayed.

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Conduct mobile testing
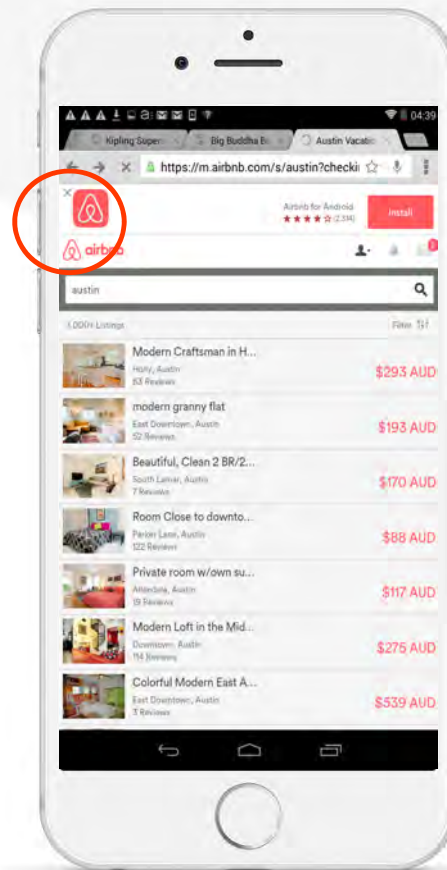
Critical mobile-specific interoperability

Traps:

- Hover

- On-screen

- Screen reader

- Touch

- Zoom

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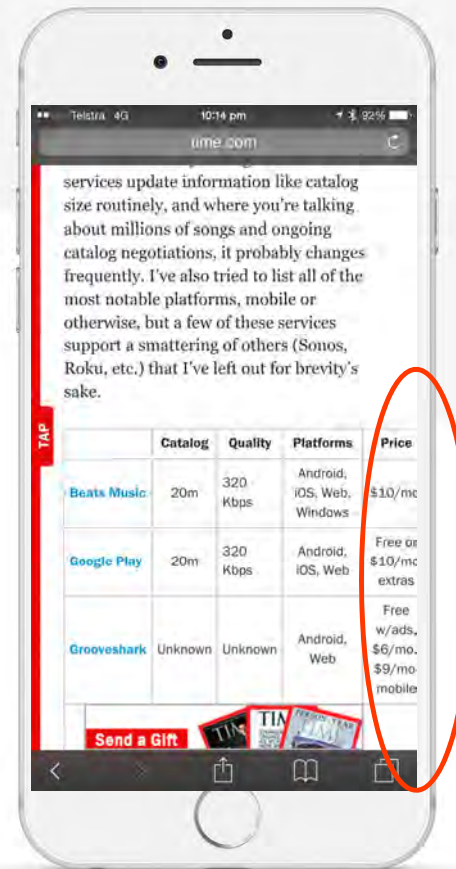
Mobile-specific interaction

- Orientation
- Motion Actuation
- Touch targets
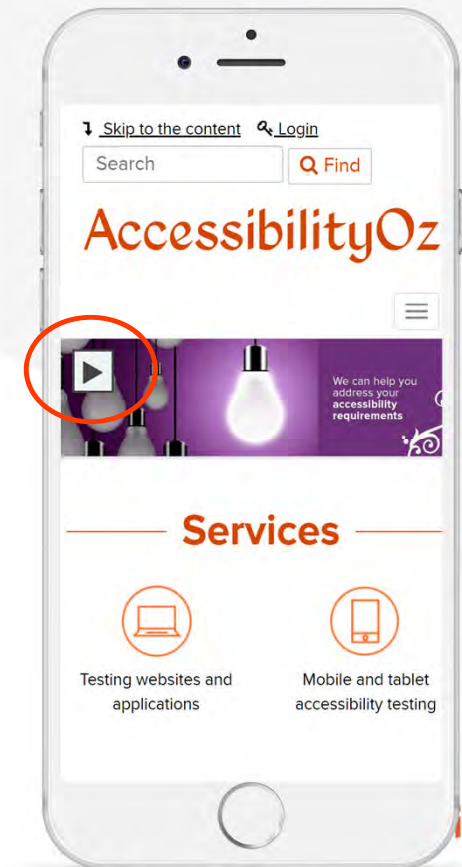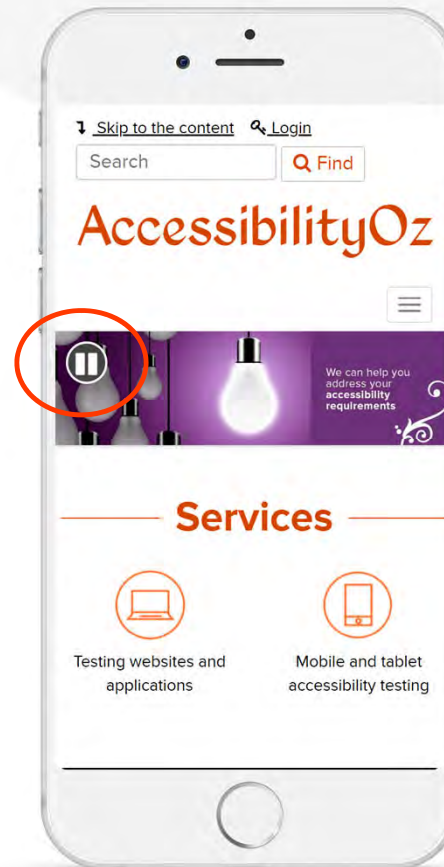- Inactive space

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Mobile-specific interaction

- Alternatives
- Keyboard
- Resize
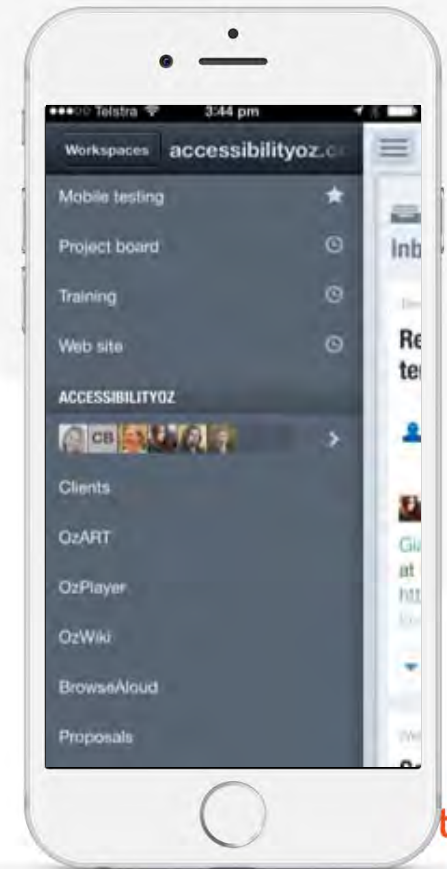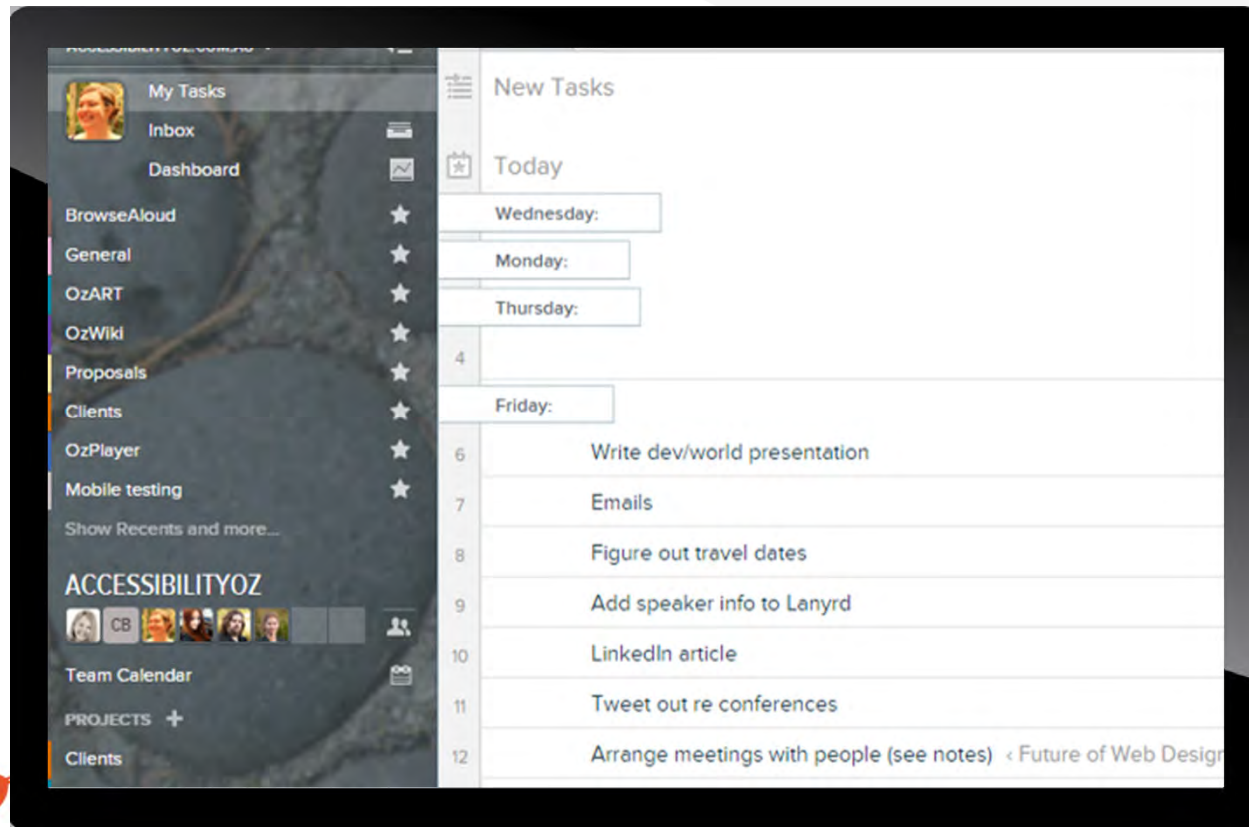- Navigational aids

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Mobile assistive technology support

- Changes of state
- Alternatives

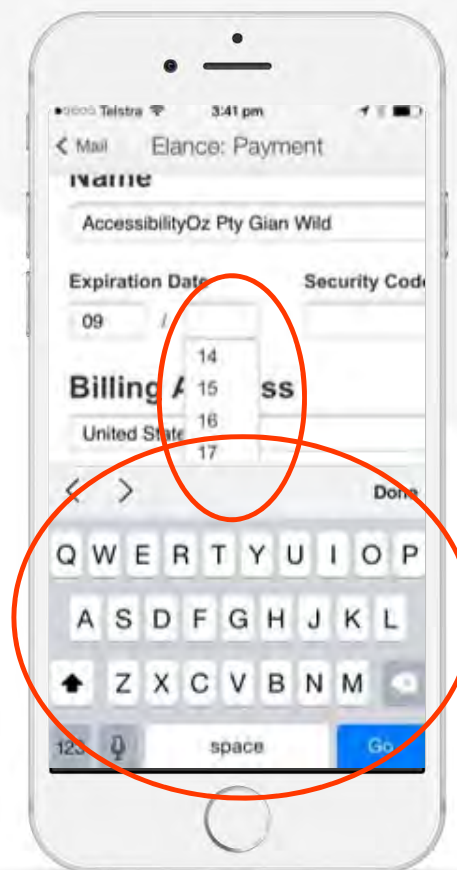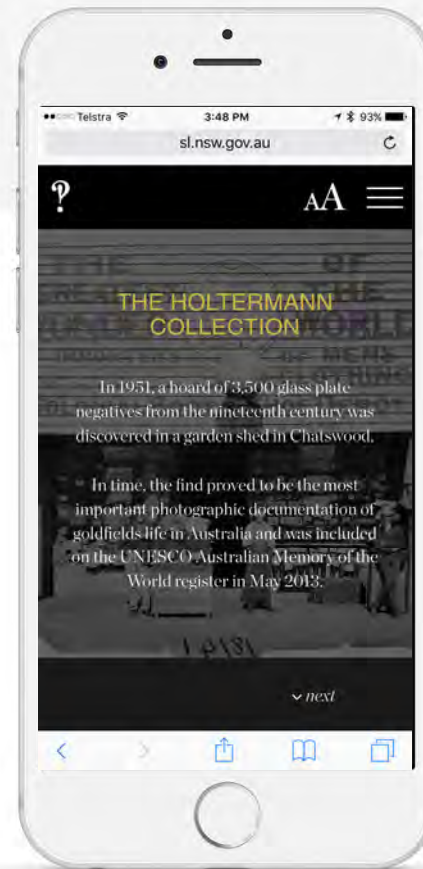# Desktop and mobile relationship errors

Non-specific mobile issues common on mobile

- Actionable items
- Audio and video
- Links
- Forms

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Non-specific mobile issues common on mobile

- Images
- Navigation
- Content

AccessibilityOz

Q&A

Australia, USA, Europe

enquiries@ accessibilityoz. com

+44 322 3966 6293

DrupalCon
SEATTLE **2019**
APRIL 8-12

Join us for
contribution opportunities

Friday, April 12, 2019

Mentored Contribution	First Time Contributor Workshop	General Contribution
9:00-18:00 Room: 602	9:00-12:00 Room: 606	9:00-18:00 Room: 6A

#DrupalContributions

What did you think?

Locate this session at the DrupalCon Seattle website:

http://seattle2019.drupal.org/schedule

Take the Survey!

https://www.surveymonkey.com/r/DrupalConSeattle

Thank you!