

Personalised technical accessibility training

CSUN 2020

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Digital Accessibility Sensei



@RavenAlly



A different take on ally training

- Players
- Problems
- Proposal
- Plan
- Execution
- Outcomes



Players



2014: Gisele Mesnage sues Coles





Source: bit.ly/abc-gisele-coles

2017: Coles launches Quiet Hour



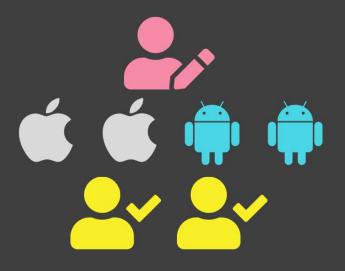


Source: bit.ly/abc-coles-quiet-hour

Coles Digital



Accessibility manager 2 accessibility analysts



App team:

- 1 business analyst
- 4 developers
- 2 testers



Intopia



Allison

Training design and delivery



Ricky

Content creator



Problems



"A whole day of training is too long"



"Not enough time for activities"



"High quality content, low recall"



Managing different personalities



Wide spread of a11y knowledge



Proposal



Train the Coles app team

Multiple, shorter sessions

Role- and tech-specific content

1:1 or small group delivery

Reference materials



Plan



1. Modular syllabus



Business Analyst syllabus

- 1. What is digital accessibility?
- 2. Personas
- 3. Assistive technology awareness
- 4. Application-level requirements/test cases
- 5. Component-level requirements/test cases
- 6. Page-level requirements/test cases

Tester syllabus

- 1. What is digital accessibility?
- Personas
- 3. Assistive technology hands-on familiarisation
- 4. Application-level requirements/test cases
- 5. Component-level requirements/test cases
- 6. Page-level requirements/test cases
- 7. Accessibility tools



2. Module topics



Accessible development - All platforms

- Interaction
 - Touch target size and margins
 (https://www.nngroup.com/articles/touch-target-size/)
 - Support for multiple/different input devices
 - Interactive elements receive focus only
 - No keyboard trap
 - o Focus order
 - o Interaction trigger timing (e.g. keydown vs keypress)
 - Configure text fields to show most relevant keyboard
 - o No change of context on element focus or value change
 - Combine adjacent links with same destination (image + text)
 - No auto page refresh
 - Managing timeouts
 - Pointer gestures and cancellation
 - o Accessible tooltips, submenus, popup dialogs
 - Motion-based inputs/outputs
- Understanding
 - o Localisation
 - Read order
 - o Label form controls (including context+ for screen readers)
 - o Related form field grouping
 - o Image labelling (decorative, meaningful)

- Meaningful link text (including context+ for screen readers)
- Notifications (persistent, location, correct markup, announcement)
- o Errors (persistent, location, correct markup, announcement)
- Unique page titles
- Heading markup
- o Containers, landmarks, status messages markup
- Element roles, states, properties (including form field metadata)
- Multimedia content
 - o Don't auto-play audio/video
 - Limit animation auto-looping, respect user settings for animated transitions (https://intopia.digital/articles/firefox-adds-support-css-prefers-reduced-motion/)
 - o Independent volume controls
 - No narrative audio conflict with assistive technology
 - o Auto-updating/animated content management
- Customisation
 - Text resizing and spacing
 - Progressive functionality support
 - Device/window orientation
 - Responsive layout



3. Project plan

#5 - Accessibility tools



Coles ally training project p	ıan																																						
												July																	Α	ugu	st								
		11 1	2 13	14 1	17 18	19	20 21	24	25 2	6 27	28	1 2	2 3	4	5 8	9	10	11 1	2 15	16	17 1	8 19	22	23 2	24 2	5 26	29	30 3	1 1	2	5	6 7	8	9	12 13	3 14	15	16 19	20 2
Reference materials																																							
Phase One: Prepare material for #1 group session	Ricky																																						
Phase Two: Prepare material progressively two weeks ahead	Ricky	6	6 6	4	6 6	6	6 6	6	6 6	6	6	6 6	6	6	6	6	6	6	6 6	6	6 6	6	6	6	6 6	6													
Lesson plans, activities, demonstrations, worked examples	Allison		8 8	6	8	6	6 6	5	6	6	8	5 8	6	8	5	8	4	4	8 3	4	4 (8	3	6	4 6	6	3	4	8 6	8	5	-	6		5		6	5)
Group sessions (all participants)				+			+	\vdash							+				+			+		+										\vdash	_	+		+	
Participant kickoff	Allison																																						
What is digital accessibility, Personas	Allison			2																																			
Live app demonstration, Q&A	Allison							2																															
Face-to-face mentoring - BA (1 participant, 2hr/session)	Allison						+	\vdash			\Box				+				+								Н					+		\vdash	+			+	
#1 - Assistive technology awareness							2																																
#2 - Application-level requirements									2																														
#3 - Component-level requirements (2 sessions)										2		2																											
#4 - Page-level requirements													2																										
#5 - Overflow, AMA, wrap-up/retro				\perp			4								2				1																_			-	
Face-to-face mentoring - Dev (4 participants, 2 hr/session)	Allison			\vdash				\vdash			\Box				+				+													+			+	+		+	
#1 - Assistive technology awareness																	4	4																					
#2 - Accessible development - all platforms (3 sessions)																			4	4	4 2	2	4	2	2	2													
#3 - Accessibility tools																									4	2													
#4 - Overflow, AMA, wrapup/retro				\perp											-				1								4	4						\Box	4			-	
Face-to-face mentoring - Test (2 participants, 2 hr/session)	Allison														+																			\Box	_				
#1 - Assistive technology hands-on familiarisation (2 sessions)																													2		2								
#2 - Application-level test cases																																	2						
#3 - Component-level test cases (2 sessions)																																			2		2		
#4 - Page-level test cases																																						2	

4. Lesson plans



Session plan

Page-level requirements

Wednesday 3 July

Session goals

Discuss accessibility concepts that affect mobile apps at a page level:

- Relate concepts to personas/user groups/assistive technology, including relative importance/impact
- How/where to capture concepts as requirements
- · Is the concept/requirement generic or context-dependent?
- Which roles are affected by the concept/requirement (design, content, build, etc.)?
- How to communicate the concept/requirement to affected roles
- Minimum acceptance criteria vs best practice for the concept/requirement Does the concept/requirement apply in a native app context?

Attendees

Facilitator: Allison Ravenhall

Participant: Tim Jacobs

Prerequisites

Equipment

Page-level accessibility concepts

Markup

Read order (1.3.2 A)

Concept: Define a page content order that makes sense (i.e. definitions before usage) and reflects the layout. Need addressed: A page should make sense when read linearly, top-to-bottom. Content near the top shouldn't depend on something mentioned near the end (unless it's clearly flagged). Don't make users jump forward and back to figure things out.

coles

intopia

Goals

Attendees

Prerequisites

Equipment

Concepts, needs, techniques

Notes

Run sheet



5. Reference materials



"Design actions to happen on the up event and provide a mechanism to abort or undo the action. Developers should use the built-in, generic onclick events that happen on the up event by default. Only use the down event when the behavior is essential."

https://knowbility.org/blog/2018/WCAG21-252PointerCancellation/

Configure text fields to show most relevant keyboard

Concept: Present the most appropriate/relevant keyboard based on the expected data per form field.

Techniques

Web: Use input type attributes (email, tel (for whole numbers), number (for decimals), url) for text fields expecting a specific content type. Test date-related attributes (date, datetime-local, month, time, week) carefully across different platforms and assistive technology. Apply type="search" to search fields to increase compatibility with assistive tech. Apply type="password" to mask content. Apply type="text" when data format is unknown or is too generic.

iOS: Use the most specific keyboardType possible for text views. Reference:

https://developer.apple.com/documentation/uikit/uikeyboardtype

Android: Use the most specific InputType possible for EditText elements. Reference: https://developer.android.com/reference/android/text/inputType.html

Further Readina

Accessible Form Fields

BBC Accessibility Tutorials (1270 words)

"Where specialist HTML5 input types are well supported, it is advised they are used in place of the generic (and default) type="text". The number type, for example, helpfully restricts input to numerals, allows incrementation—typically by providing up and down buttons—and elicits the display of a numerical virtual keyboard."

https://bbc.github.io/a11y-tutorials/forms/

Supporting the keyboard for mobile

Devon Persing, Simply Accessible, February 2016 (1,300 words)

"Keyboard support means you have the freedom to use your hardware in the way that is most efficient and effective for you, which is really the whole point of inclusive design. But how do we get to keyboard accessibility for touch interfaces?"

https://simplyaccessible.com/article/mobile-keyboard-support/

Concepts

Impacts to users

Dev and test techniques

Links to WCAG 2.1

Curated articles for more context



Execution



A11y concepts, laws, personas





VoiceOver demo and Q & A with Scott Nixon



Solo / 2-person sessions

- Assistive technologies
- Site-level principles
- Page-level principles
- Component-level principles
- Tools
- Ask me anything, wrap up, retro



Statistics

- ~3 months
- 18 lesson plans
- 40 x 2 hour sessions
- 200+ pages of reference materials



Outcomes & reflections





Two full days of training, but spaced out in a timeline that allows me to actually absorb it – that was great.

Business analyst





I don't fall asleep even though it's an afternoon session so it must be engaging! I haven't been bored, that's where one-on-one helps.

iOS developer





Scott's session was so helpful, was very interesting to see the impact when we don't do our job well.

Android developer





Prefer training in pairs, hear different voices, sometimes I get a break, he can answer when I don't know the answer.

Not more than 4-5 people, would otherwise lose the opportunity to ask questions and get personal space.

Tester





Participants have a passion for accessibility, which is an ongoing shift in attitude and behaviours. This is also changing their team culture.

Coles post-program review



No one used the reference materials.



Not enough activities.



My time and their money



What next?



Let's chat



@RavenAlly







