To make the world's information universally accessible and useful

Android for Everyone

Accessibility in Mobile

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Make Tech Inclusive.
Make Inclusive Tech.

Kim Arnett @kaydacode

More users!

Risk Management

WHY?

Better for Everyone

The right thing to do

Accessibility is not only a “nice” thing to do, your app quality increases as you make it more accessible.

Victoria Gonda @ttgonda

Types of Disabilities

- Motor Impairments
  - May use a hardware device - Accessibility Switch - to control the app or accessibility menu
- Cognitive Impairments
  - May use Action Blocks to set up routines
- Visual Impairments
  - May use increased text size, Braille keyboard, or TalkBack
- Deaf and Hard of Hearing
  - May use Closed Captioning, Live Transcribe or Live Captioning

If you open your accessibility settings, you'll find even more options that folks might use on their device

What are the Web Content Accessibility Guidelines and why do they matter for mobile?

Learn more

How to test your app for accessibility Learn More

- User and Manual testing
- Analysis Tools
  - Accessibility Scanner
  - UI Automator Viewer
  - Lint
- Automated Testing
  - Espresso and Robolectric

Consistency

Touch Targets Learn More

The recommended size for each interactive UI element's focusable area, or **touch target size**, is at least 48px by 48px.

This does **not** mean the UI element's visible area must be at least 48px by 48px.

This can be achieved with padding and height / width or minHeight / minWidth.

paddingTop + height/minHeight + paddingBottom ≥ 48dp
paddingStart + width/minWidth + paddingEnd ≥ 48dp

PS - what does minHeight do? Just adds padding to meet the required height

Color Contrast Learn more

Slides: 5.88 : 1

AA Compliance requires at least a requires **4.5 : 1** for regular text and **3 : 1** for large text

7.62 : 1 **3.92 : 1** **2.38 : 1**

How do I meet these requirements and stick to my theme?
Use Material Color Palettes!
How do I check my colors? There are lots of tools online!

Labels (and hints) Learn more

The basics of adding labels is that each UI element in your app includes a description that describes the element's purpose.

We do this using `contentDescription` although we get some for free - we do not need to provide a description for `TextView` because Android Accessibility automatically announces the text as the description.

Some best practices: Use the right UI element, don’t include the UI element in the description, descriptions should be unique, skip over decorative effects

Localized, Concise, descriptive

There’s a lot to think about with Labels

Does it need a label? It depends but generally...

TextView: No

EditText: Include a hint

Text Button: No

ImageButton: Yes

ImageView: Maybe

Is it a decorator?

Can it be skipped?

Do they make more sense together?

Should it be grouped?

How will it be read?

Does it include numbers or abbreviations?

There are a lot of tools to help

There are many UI attributes to help build an accessible UI (learn more)

```
labelFor
screenReaderFocusable
accessibilityHeading
```

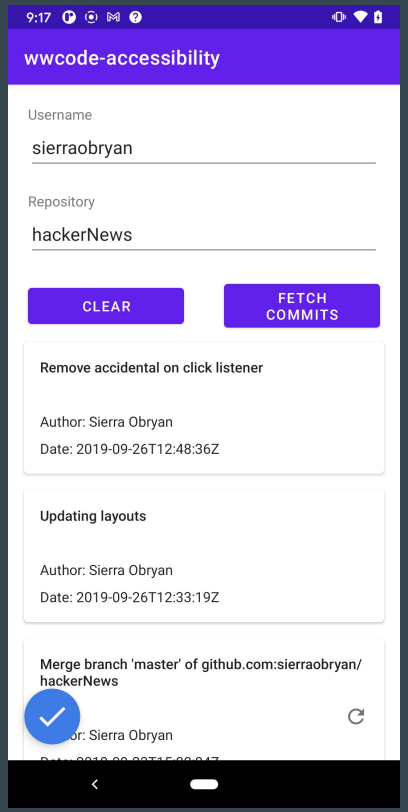
A TtsSpan is a special type of span that can pass in metadata to give contextual information about the string. This information can help Text to Speech correctly pronounce a text element

123456789 TYPE_DIGIT

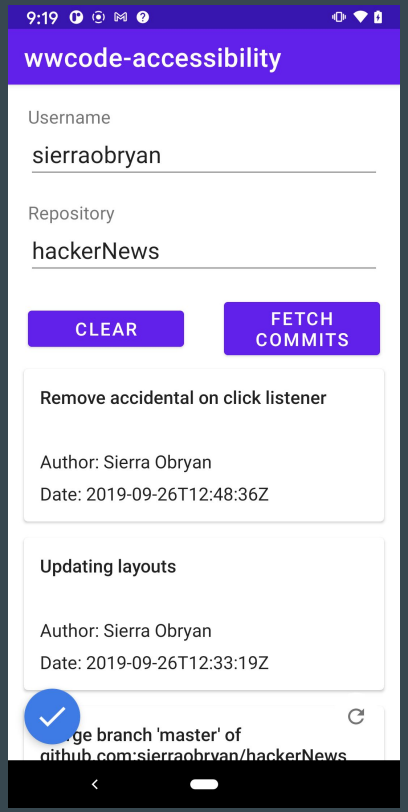
“1 hundred 23 million 4 hundred 56 thousand 7 hundred 89” vs
“1 2 3 4 5 6 7 8 9 ”

Think about (different) Displays Learn more

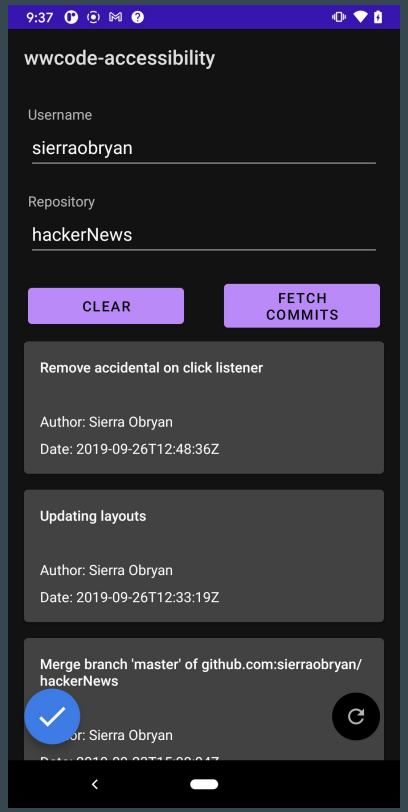
Normal



Large Text



Dark Mode



What else?

- Custom Views and Accessibility APIs
  - Swipe to delete
  - Actions
  - Spans with link
  - Custom Alerts
- Other Media

What's next?

The Web Content Accessibility Guidelines are set to be updated in 2021

what does that mean for mobile?

Draft 1 was published in late January

where do I learn more?

Android Accessibility by Tutorials! by Victoria Gonda

We talked about a lot of XML

what about Jetpack Compose?

Jetpack Compose: Accessibility

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Thank you!

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Where to find me?

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