Universal Design & App Development

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Universal design tries to target everyone

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

—Ron Mace

The Center for Universal Design

Also known as: Design for All, e-inclusion, barrier free design, inclusive design

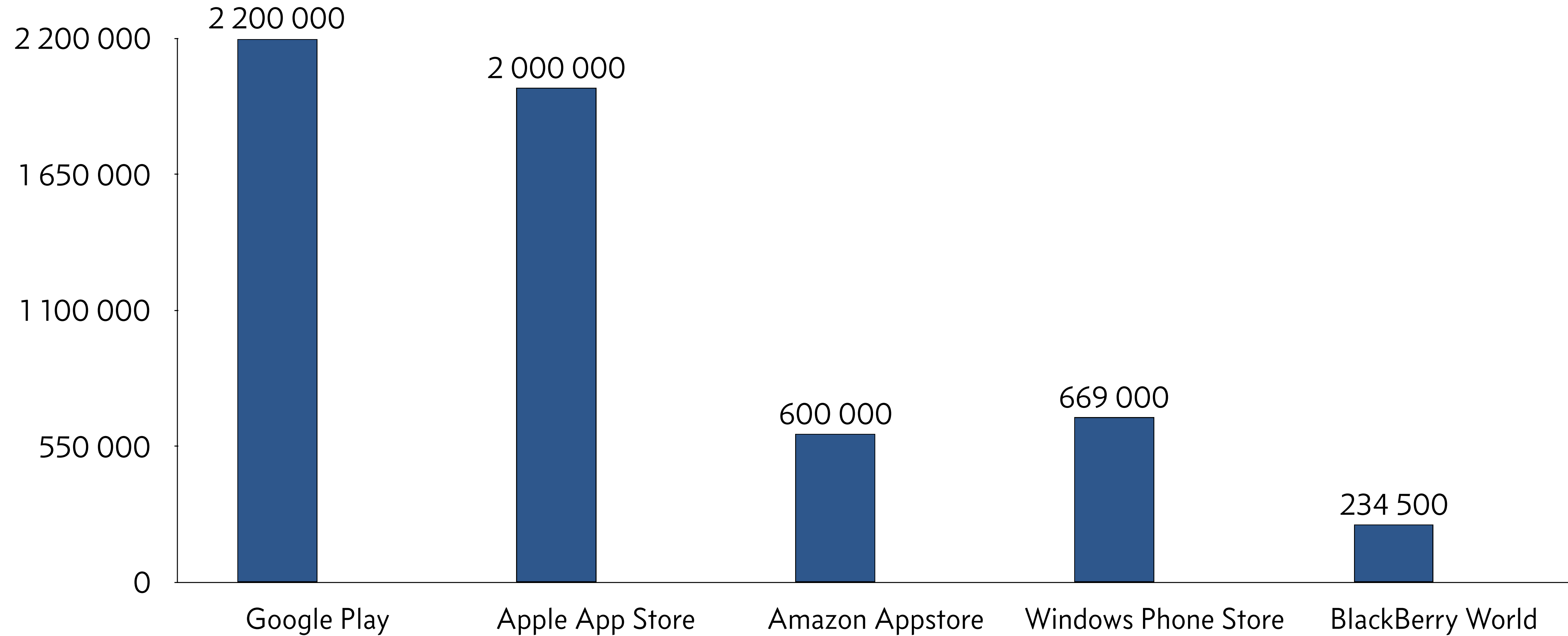# Accessibility is more about adapting current solutions

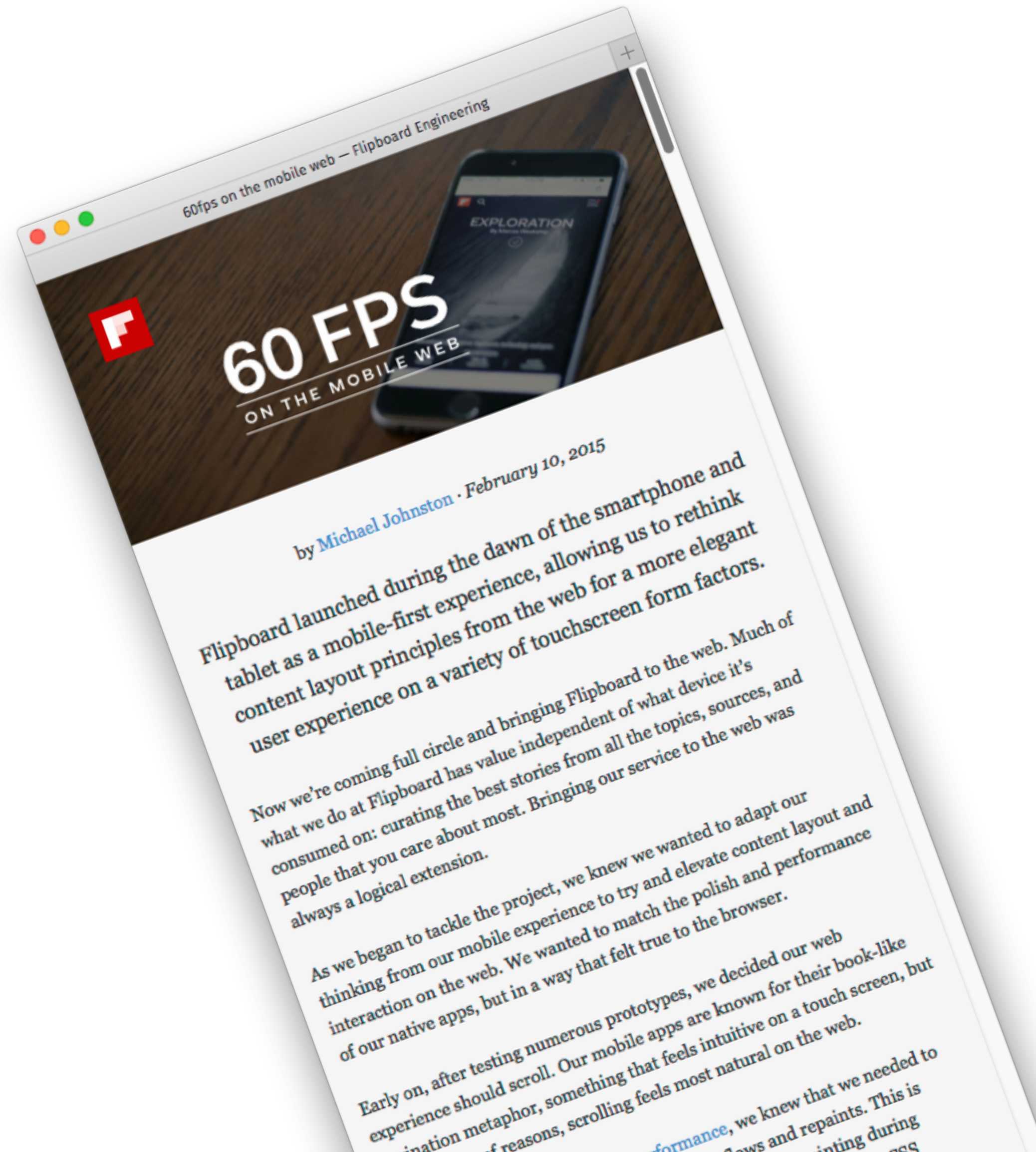# Accessibility is more about adapting current solutions

Apps are a popular business
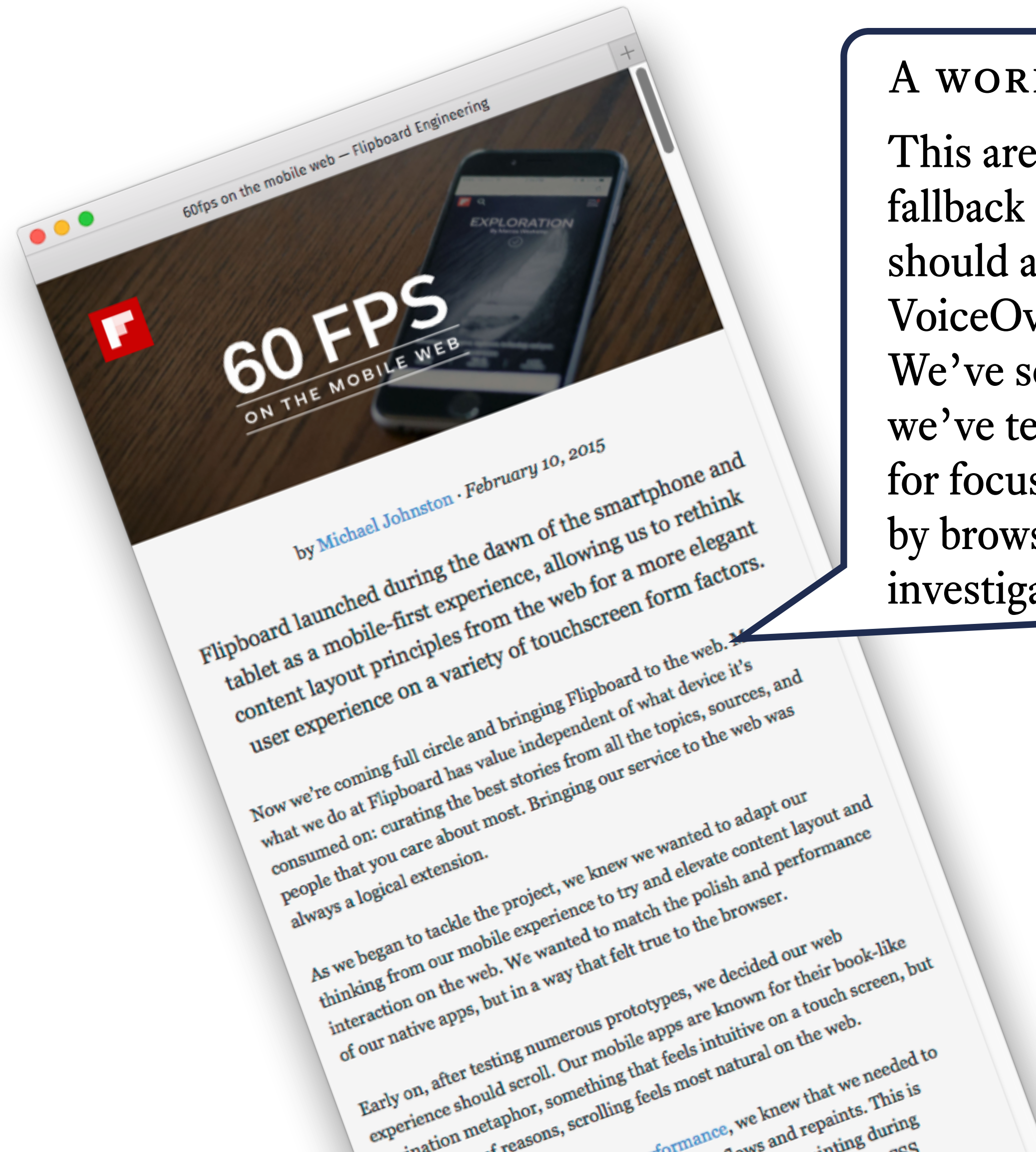
Number of apps in leading app stores as of June 2016

Apps can be faster than the web on a mobile phone

Michael Jonston

http://engineering.flipboard.com/2015/02/mobile-web/

Apps can be faster than the web on a mobile phone

A WORD ON ACCESSIBILITY

This area needs further exploration. Using fallback content (the canvas DOM sub-tree) should allow screen readers such as VoiceOver to interact with the content. We've seen mixed results with the devices we've tested. Additionally there is a standard for focus management that is not supported by browsers yet. … We are continuing to investigate the right approach to accessibility.

Michael Jonston

http://engineering.flipboard.com/2015/02/mobile-web/

Apps can be faster than the web on a mobile phone

John Gruber, Daring Fireball

http://daringfireball.net/2015/05/facebook_instant_articles

Apps can be faster than the web on a mobile phone

I'm intrigued by the emphasis on speed. Not only is native mobile code winning for app development… native is making the browser-based web look like a relic even just for publishing articles. … I worry that the inherent slowness of the web and ill-considered trend toward over-produced web design is going to start hurting traffic to DF [Daring Fireball].

John Gruber, Daring Fireball

http://daringfireball.net/2015/05/facebook_instant_articles

Portrait by George Del Barrio

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I made an app … now what?

Who is it made for?

Everyone?

Do you need to hear sound to do anything in the app?

Do you have to use both hands?

Do you need to look at the screen?

Do you use red and green as a signal?

How much text?

My app is made for…

My app is made for…

My app is made for…

My app is made for…

Discrimination and Accessibility Law
Diskriminerings- og tilgjengelighetsloven
(DTL)

Regulations for DTL talk about web solutions, not apps

§3. DEFINISJONER

Netløsning: Formidling av informasjon eller tjeneste som er tilgjengelig i **nettleser eller tilsvarende**, tilgjengelig via en URI (Uniform Resource Identifier) og som benytter http-protokollen (Hypertext Transfer Protocol) eller tilsvarende for å tilgjengeliggjøre innhold.

§4. KRAV TIL UTFORMING AV IKT-LØSNINGER:

Nettløsninger skal minst utformes i samsvar med standard Web Content Accessibility Guidelines 2.0 (WCAG 2.0)/NS/ISO/IEC 40500:2012, på nivå A og AA med unntak for suksesskriteriene 1.2.3, 1.2.4 og 1.2.5, eller tilsvarende denne standard.

Working with universal design is working with constraints

▶ Contrast needs to be 7 or more

▶ This information needs to be on the main screen

▶ It should only take 0.5 seconds to render this screen

▶ Data must be transmitted securely over networks we can't trust

Working with universal design is working with constraints

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We all benefit from Universal Design from time-to-time

Universal design is a civil right

Knowing about different AT helps us with design
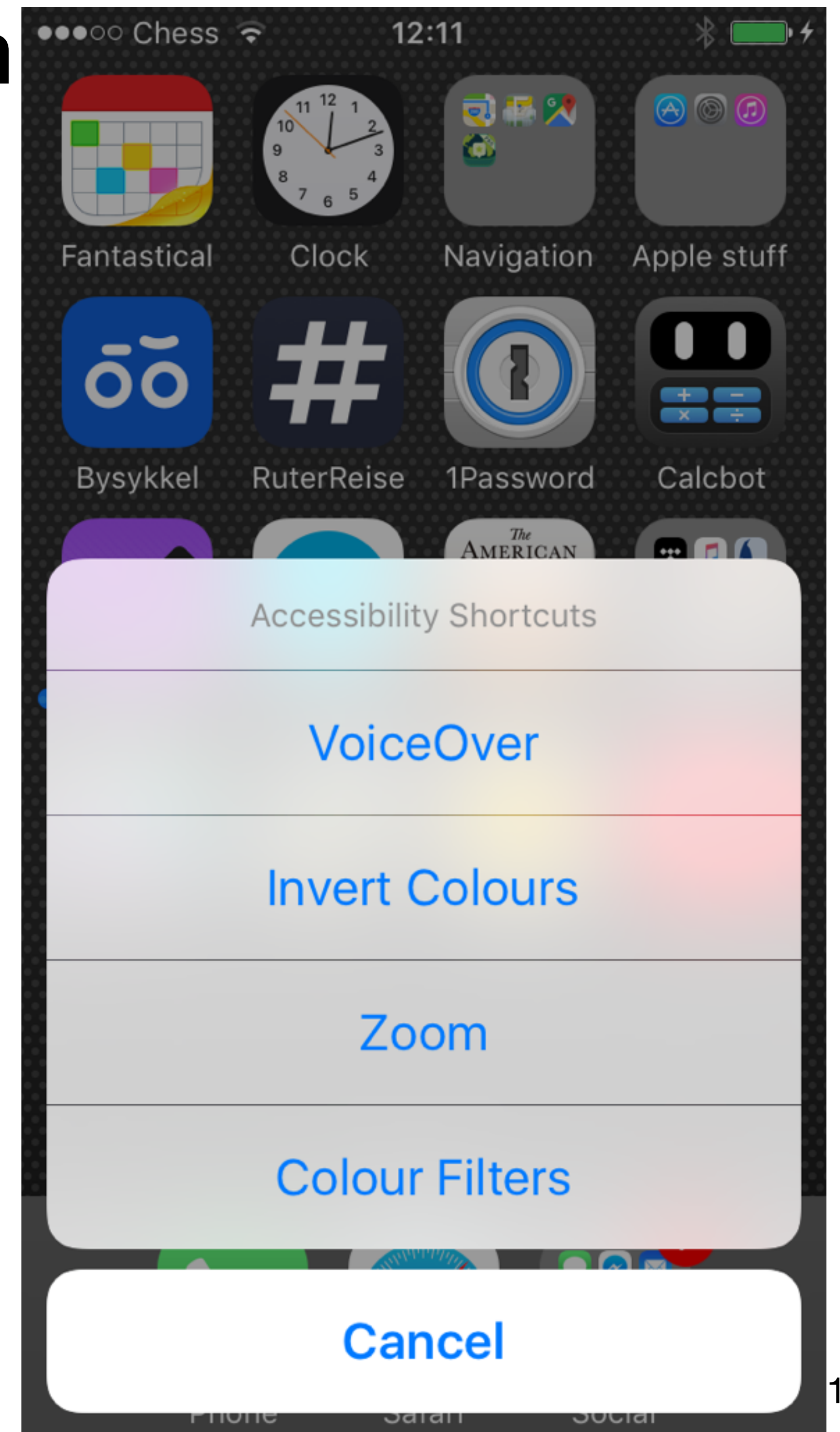
We have our app…

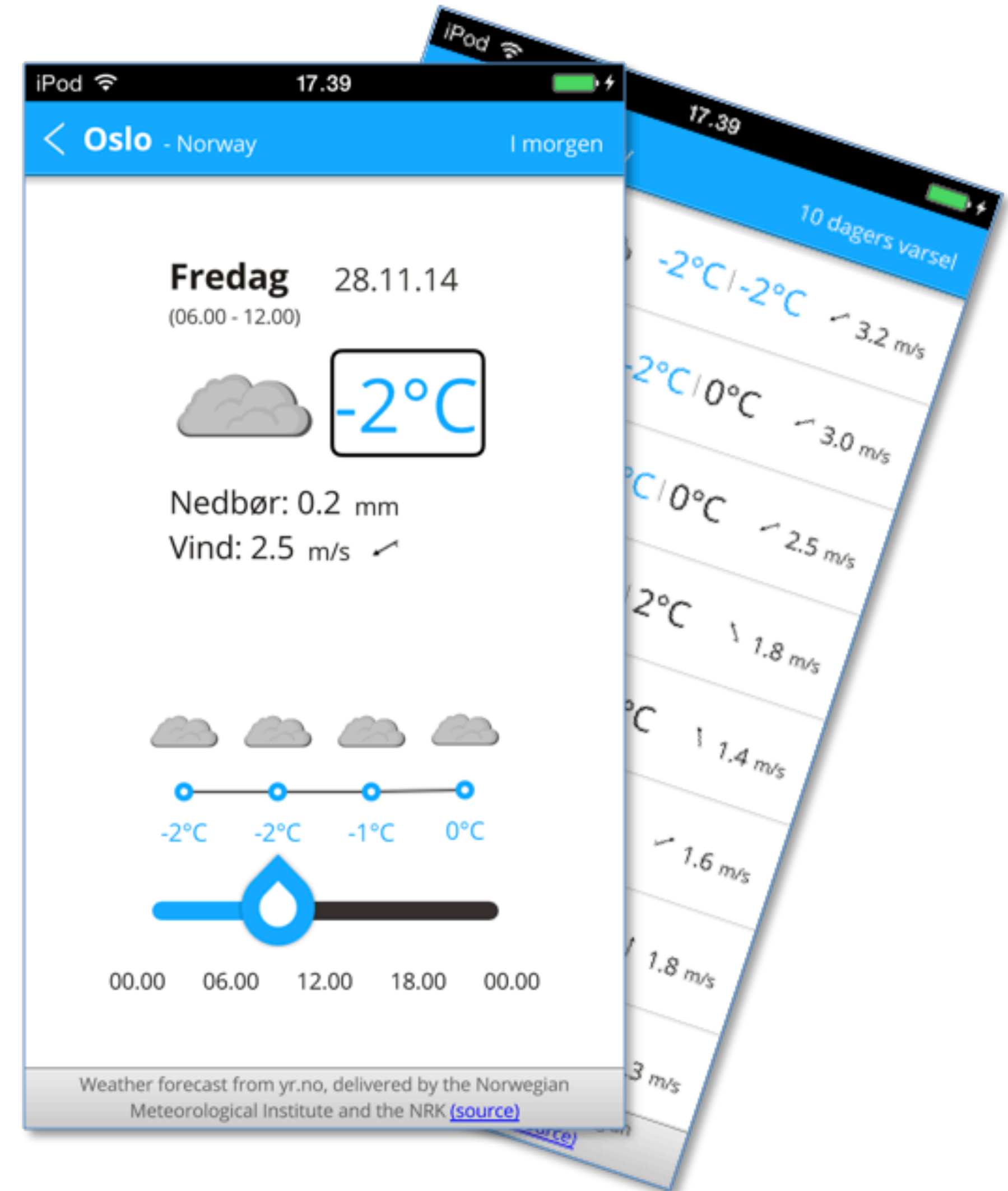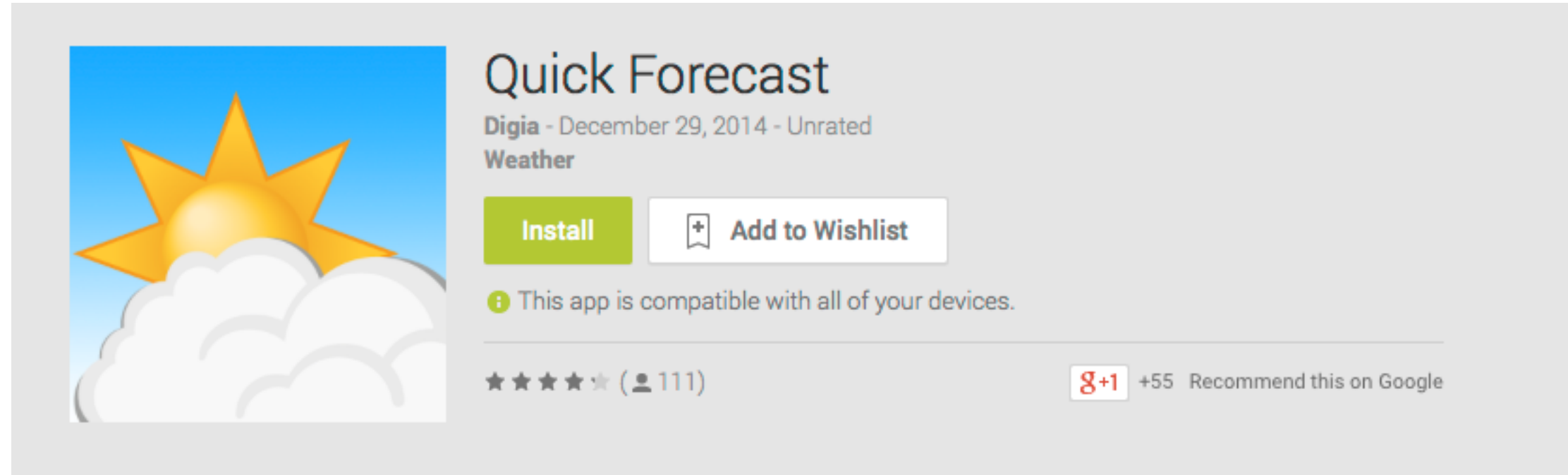# We've worked on accessibility

Is it accessible?

Is it usable?

Who knows?

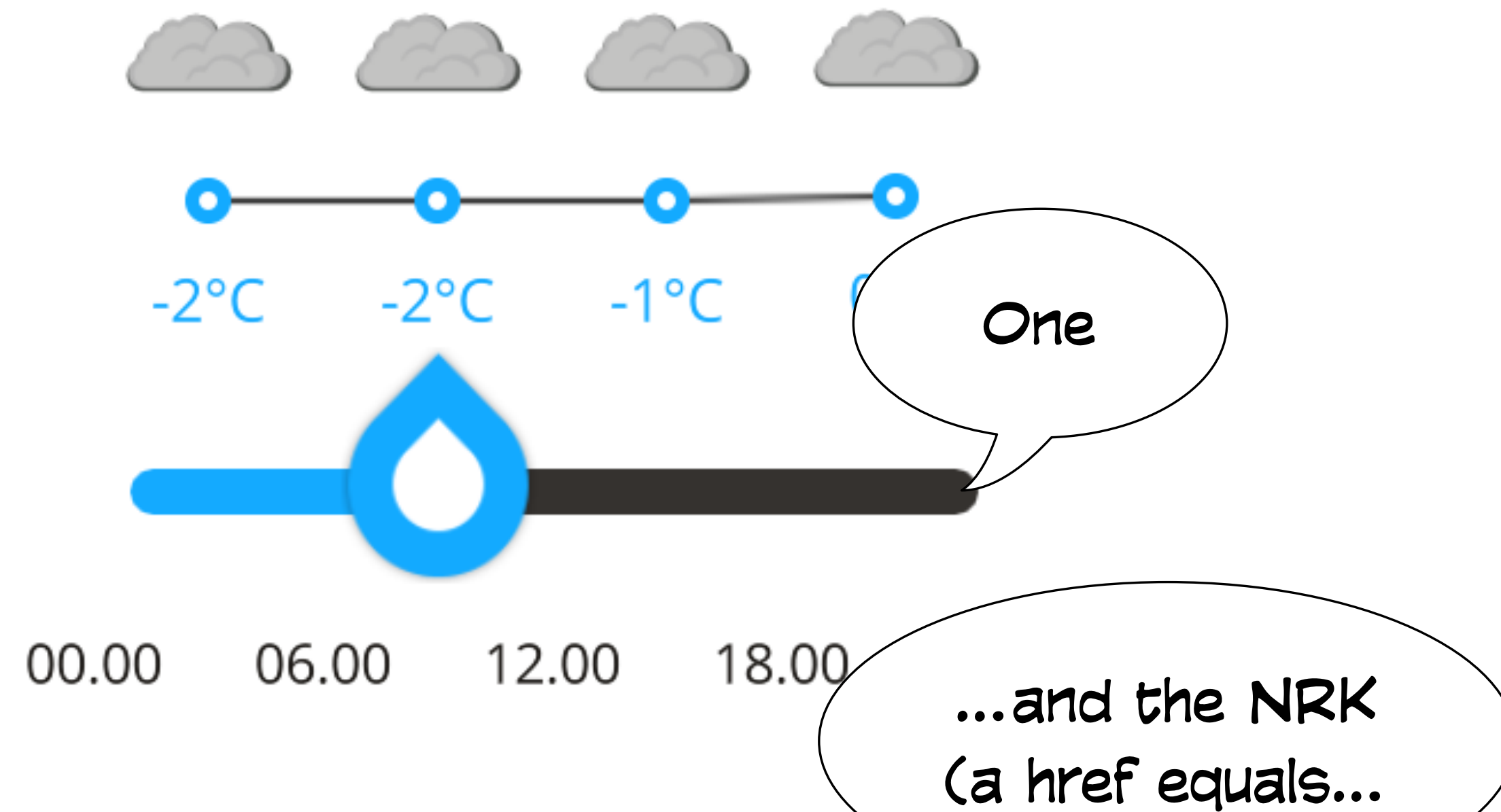# How can we find out?

User Tests

Case Study: see how accessible is Quick Forecast?

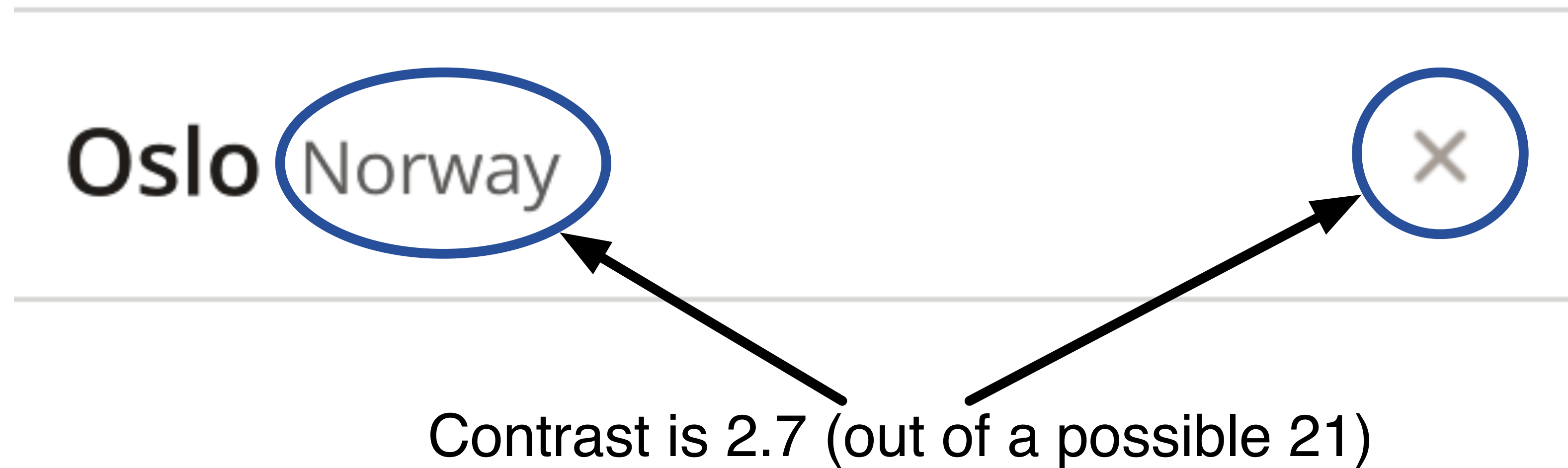# User testing showed problems with different an app
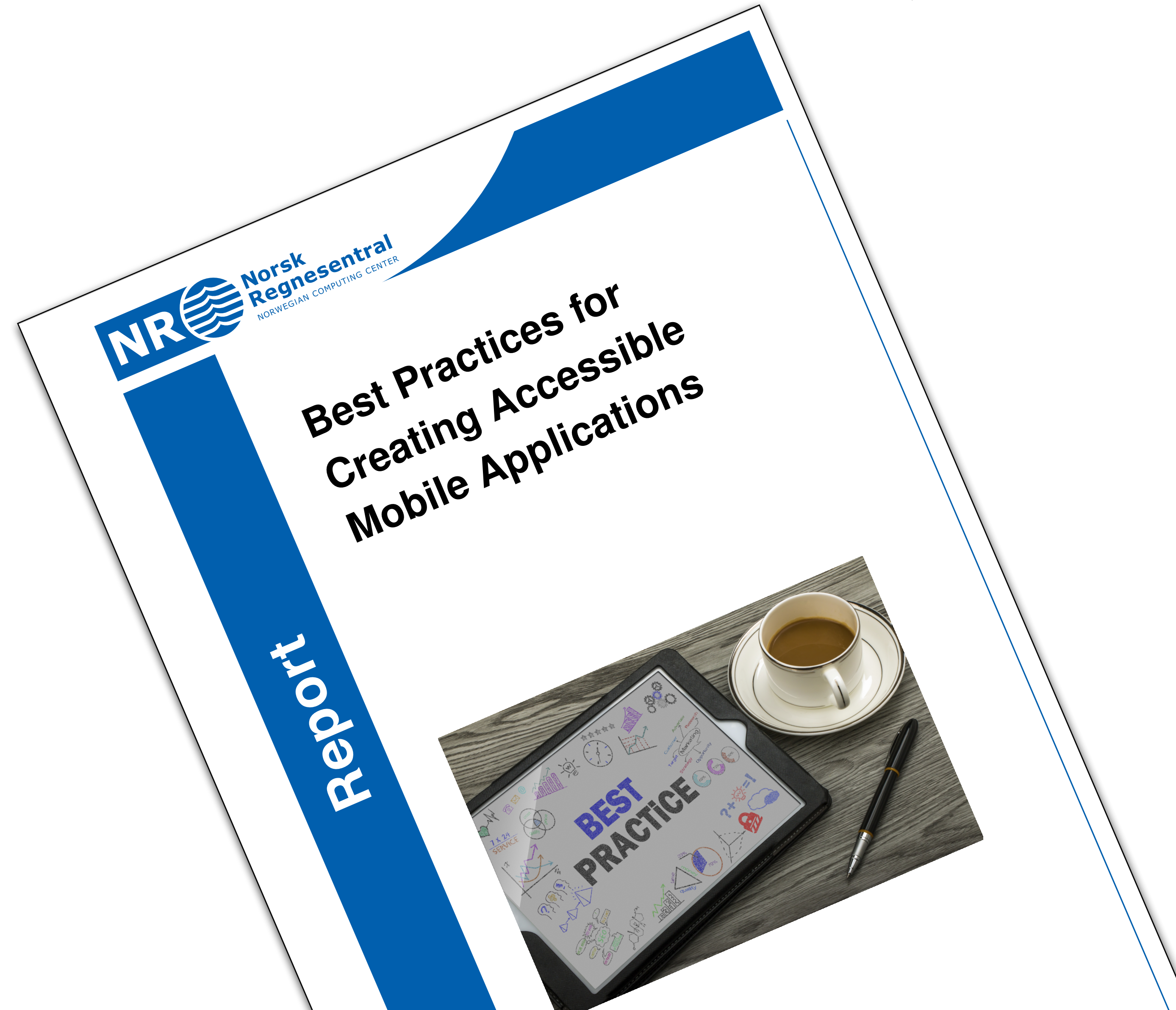
God titler hjelper med å orientere brukere.

Gode kontrast hjelper bruker å finne elementer.

Contrast is 2.7 (out of a possible 21)

Look at the good documentation that already exists

Example from the report:
3.11 Write good labels for your items

Before:

Sun 12/14 ☁️ -5°C ⎮ 6°C   ⏐ 5.59 mph

After:

Example from the report:
3.11 Write good labels for your items

Before:

> Sun 12 14, minus 5 C 6 C 5.59 m p h

Sun 12/14 -5°C | 6°C ↑ 5.59 mph

After:

Example from the report:
3.11 Write good labels for your items

Before:

> Sun 12 14, minus 5 C 6 C 5.59 m p h

Sun 12/14   -5°C | 6°C   ↑ 5.59 mph

After:

> Sunday, December 14, Cloudy, Temperatures: Low minus 5 degrees Celsius, High 6 Degrees Celsius, Wind from the South at 6 miles per hour

Some resources for universal design

► http://www.nr.no/en/nrpublication?query=/file/1418390459/DART-13-2014-BestApps-UserEval-Results-Schulz.pdf

► Best Practice Guide: http://www.nr.no/en/nrpublication?query=/file/1421328805/NR1031-BestPractices-Accessible-MobileApps.pdf

► Quick Forecast Source Code: https://qt.gitorious.org/qt-labs/weather-app

► BestApps Project Page: http://www.nr.no/en/projects/bestapps---best-practices-accessible-applications