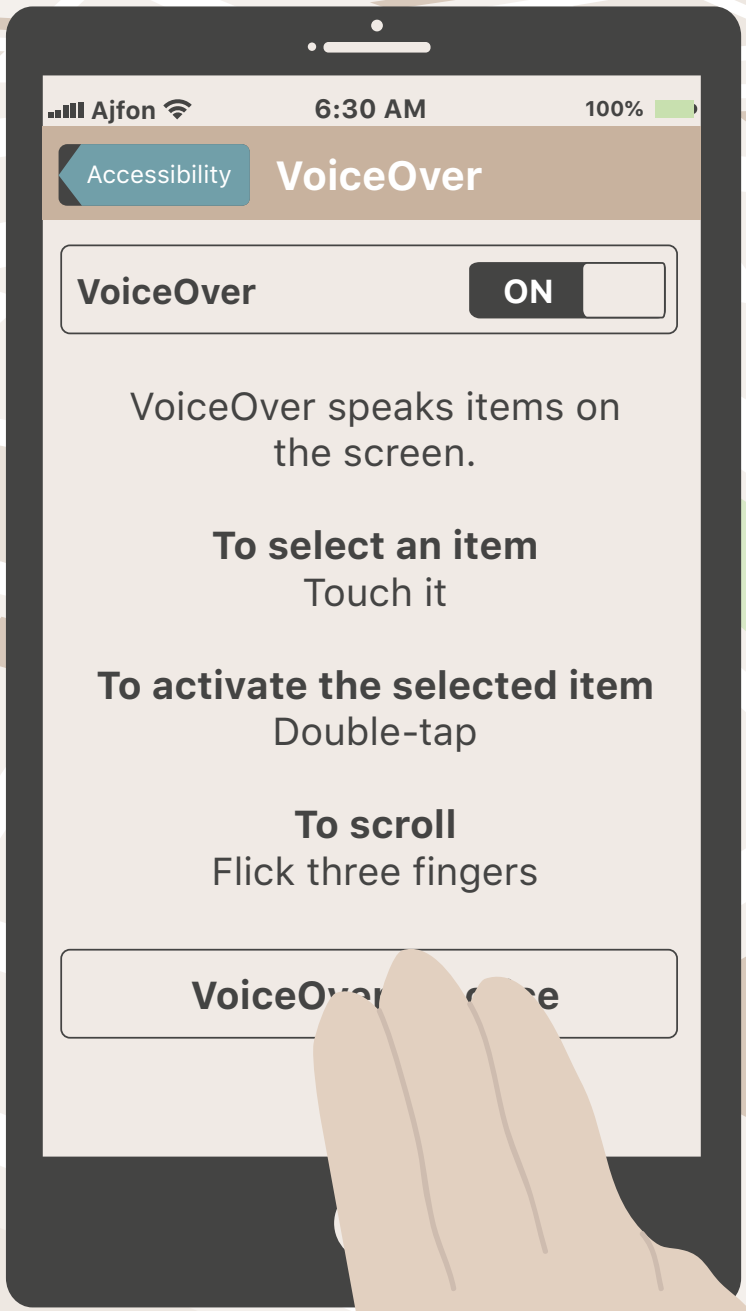
Nick West & Sanela Delic

Access it!

"There is a wonder in reading Braille that the sighted will never know: to touch words and have them touch you back. Now imagine those words talking to you."



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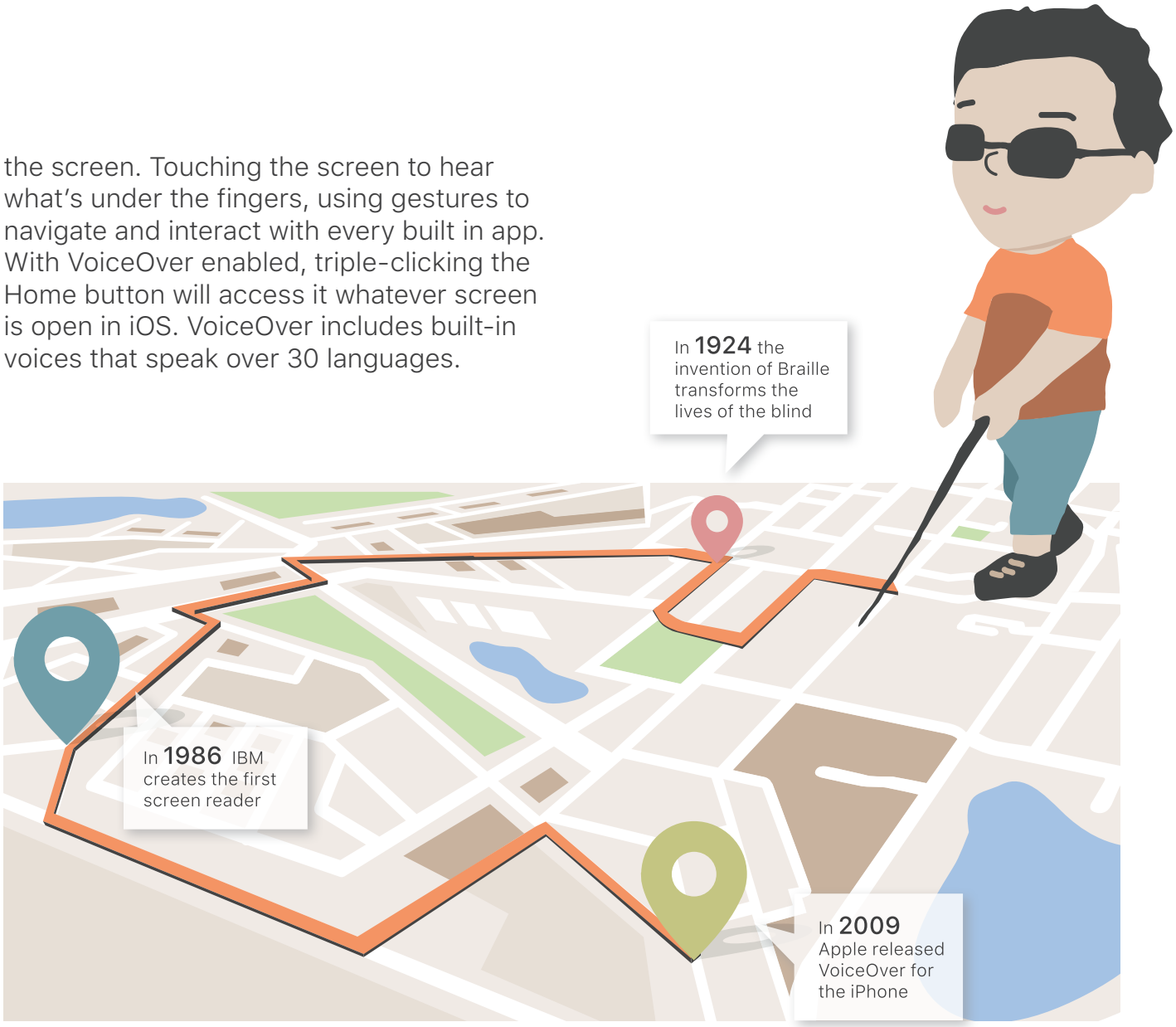
The history of assistive technology for people with visual impairments has been progressing since 1924. The invention of Braille had a huge impact on the lives of the blind because it gave them a better system of education, communication, and help them to further contribute to society.

Braille is a system of reading and writing for the blind. Each Braille "cell" consists of one to six dots, and each specific pattern of dots represents a letter. Each cell is 2 dots wide and 3 dots tall. These dots create bumps in the paper that a blind person can read by touch.

In 1986 IBM creates the first **screen reader**, software that translates the contents of the computer screen to either speech output or to Braille display.

In 2009, Apple released **VoiceOver** for the iPhone turning a phone into a speaking and guiding device for someone who can't see or is visually impaired.

VoiceOver is a revolutionary screen reader that can tell what's happening on the iPhone, even if the person can't see the screen. Touching the screen to hear what's under the fingers, using gestures to navigate and interact with every built in app. With VoiceOver enabled, triple-clicking the Home button will access it whatever screen is open in iOS. VoiceOver includes built-in voices that speak over 30 languages.



Because VoiceOver is integrated in iOS, it works with all the built-in iPhone **apps** as well as third-party apps.

VoiceOver is controlled using a simple set of **gestures**. Touching or dragging a finger around the screen and VoiceOver can tell what's there. Tapping will describe it and double-tap will select it. Flicking left and right moves from one element to the next.

With VoiceOver **text input** enabled, each character on the keyboard is read aloud as it's touched, and again when entered. A flick up or down moves the cursor for precise editing.

VoiceOver **image recognition** can now describe images with three fingers tap.

VoiceOver includes system-wide support for braille chords in six- and eight-dot braille, enabling direct braille entry without the need for a physical **braille keyboard**. iPhone is fully compatible with more than 70 refreshable **braille displays**.

VoiceOver will play movies with detailed **audio descriptions** of every scene on the iPhone. Movies with audio descriptions are displayed with the AD icon in the iTunes.

Zoom is a built-in screen magnifier that works anywhere in iOS. And it works with all apps from the App Store.

Magnifier works like a digital magnifying glass. It uses the camera on the iPhone to increase the size of anything camera is pointed at.

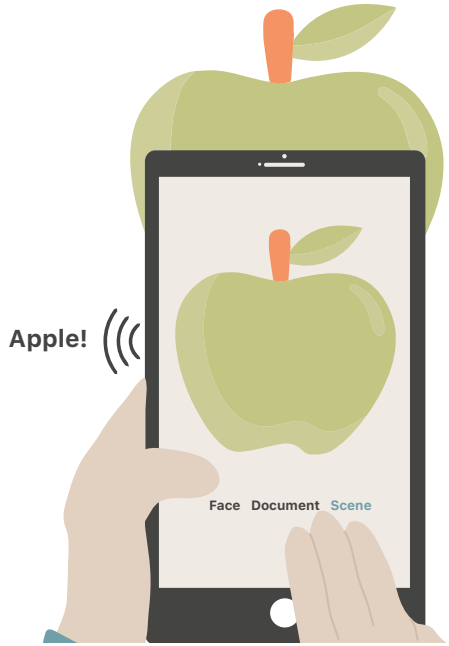
If reading the text on the iPhone is difficult, **Speak Screen** will read the emails, web pages and books by swiping down from the top of the screen with two fingers, or just telling Siri to Speak Screen and have all the content on the page read back aloud.

Siri can send messages and make phone calls, schedule meetings or tell where the nearest restaurant is.

Dictation allows talking where needs to be typed by tapping the microphone button on the keyboard, saying what needs to be written and the iPhone converts the words into text.

In libraries all over Sydney you can see how common the use of this technology is. They use it as an extension of their own body.

It's inspiring how much more effectively the blind can function in society with the use of screen reader technology. No longer do they have to rely so much on those around them, such as friends and family.



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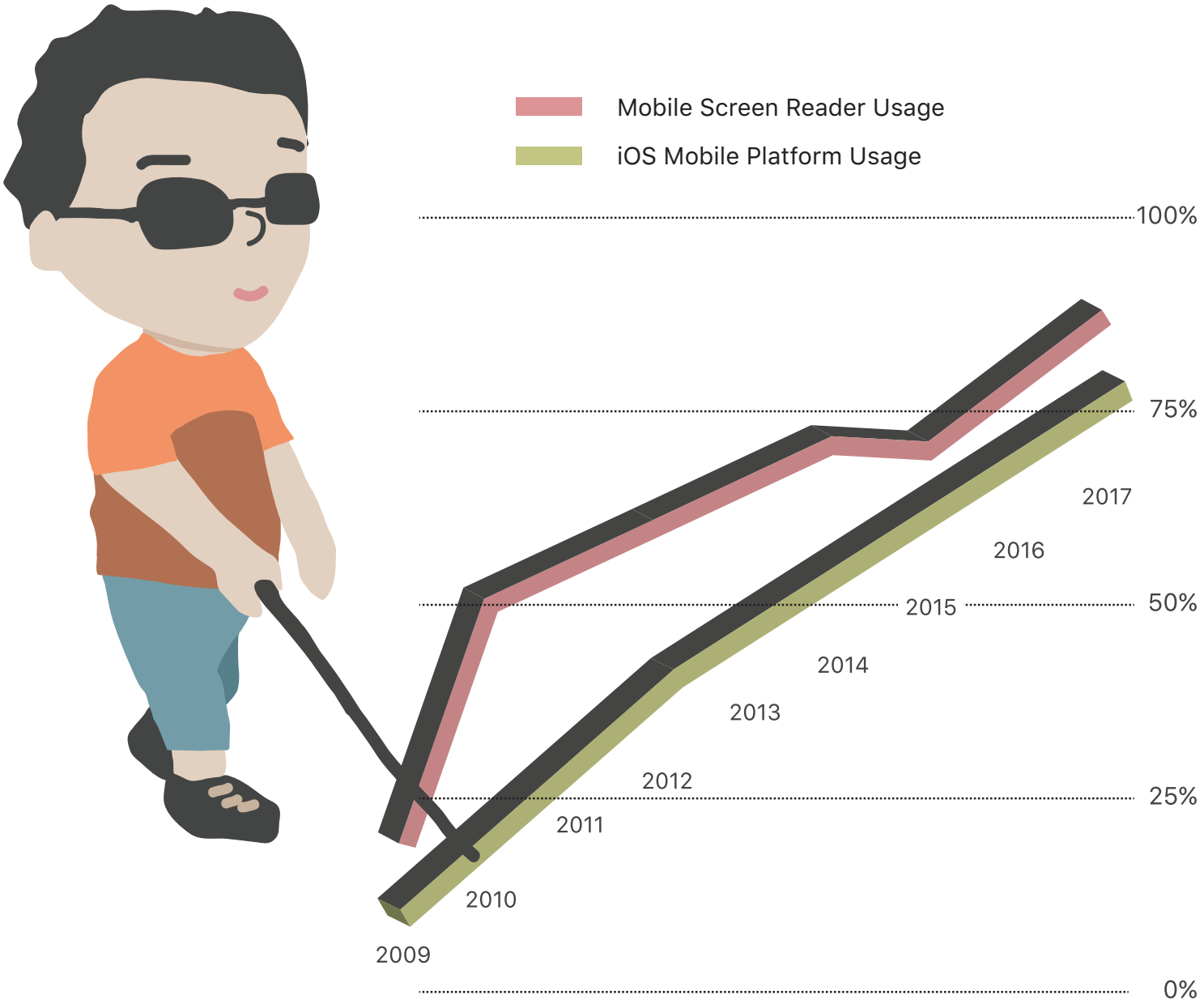
Mobile Screen Reader Usage
iOS Mobile Platform Usage
100%
75%
50%
25%
0%
2009
2010
2011
2012
2013
2014
2015
2016
2017