

Felicia Savvopoulos

EyePhone

Forever changing the landscape of
accessible technology through VoiceOver



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In 2009, Apple rolled out the iPhone 3GS – the first ever to include **VoiceOver**, their industry-leading screen reading technology. Screen readers were not new at the time – Jim Thatcher at IBM had created the first for low vision staff members in 1986 – but *VoiceOver* allowed visually impaired users to interact with the iPhone in a way that had never been seen before. Awarded the Helen Keller Achievement by the American Foundation for the Blind in 2015, *VoiceOver* has forever changed the way that the visually impaired interact with mobile technology, and left a lasting impact on the world of accessibility.

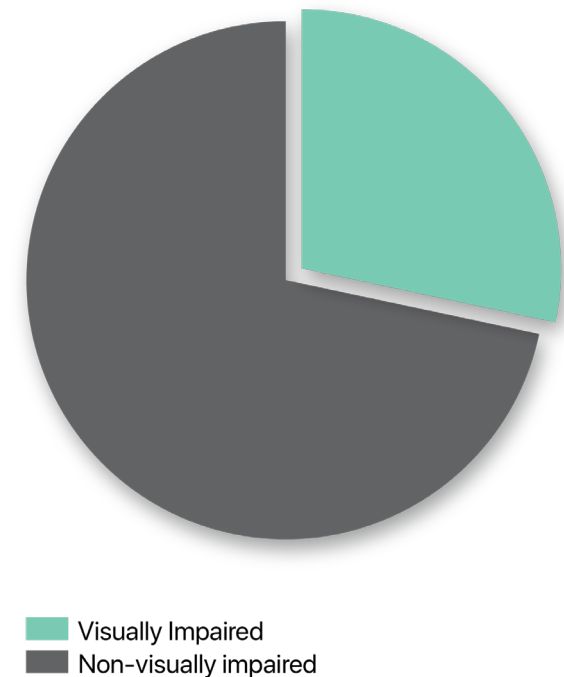
The World Health Organization (WHO) estimates that globally, at least 2.2 billion people are visually impaired. For those living with a disability, accessing technology can be a difficult feat. Americans with disabilities are nearly three times as likely to never go online, as opposed to those who aren't. Additionally, they are also 16% less likely to own a smartphone. These numbers prove that true innovation requires inclusivity and accessibility.

In the past, visually impaired people could have been spending thousands for assistive technology, such as an external keyboard, a braille terminal, or a screen reader that provides speech feedback related to the visual elements on the screen. Today, users only require smartphones and their apps to assist them through their lives. In most cases, the smartphone of choice is the Apple iPhone and this can be largely attributed to the *VoiceOver* feature.

Operating *VoiceOver* starts by activating it, achieved via the settings menu or by simply asking Apple's virtual assistant, Siri, to turn it on. Siri works hand-in-hand with *VoiceOver* to provide a seamless experience, listening to the users' spoken commands and providing guidance of the screen and viewfinder.

With *VoiceOver* enabled, you can hear a description of everything on your screen, hear your own words spoken aloud as you type, and navigate your device through audible cues that respond to where and how you place your fingers. The gesture-based feature disables the iPhone's

Estimated population of visually impaired people worldwide vs. non-visually impaired, 2021





"A person wearing headphones and a green jacket, to the right-hand side of the frame"

standard single-tap function so that the user can drag their fingers over the screen to hear these cues, double-tapping on the screen to activate functions. *VoiceOver* implements several gestures to perform different actions, including swipes, presses and tapping with a varying quantity of fingers. These gestures have allowed visually impaired people to navigate what would otherwise be an inaccessible flat screen and transforming it into a tool that millions use to navigate their lives.

The *VoiceOver* tool has continued to be innovated through updates that have introduced brand new technologies, as well as expanded on features that have received positive responses.

In the latest update for the iPhone, iOS 15, we were introduced to *Explore Image* – a feature allowing users deeper exploration of images. Image descriptions made their debut on the iPhone in 2017 with the release of iOS 11, but the most recent update gave users more detailed descriptions of subjects, people, words, and the positions of these elements within the frame.

Explore Image also possesses the capability to read data within images, such as receipts, and distribute it into tables. Users can personalise their experience with *Explore Image* by adding their own descriptions to images in their camera roll through *MarkUp*.

Other developments involve the integration of braille typing terminals, and *VoiceOver Recognition*, which allows Siri to describe the contents of your viewfinder as you compose photographs.

Since its conception in 2009, the ever-evolving *VoiceOver* feature has changed the landscape of accessible technology for the visually impaired forever. As technologies for the iPhone continue to develop and advance, we can only expect the same for *VoiceOver* and the accessibility features alongside it.

References:

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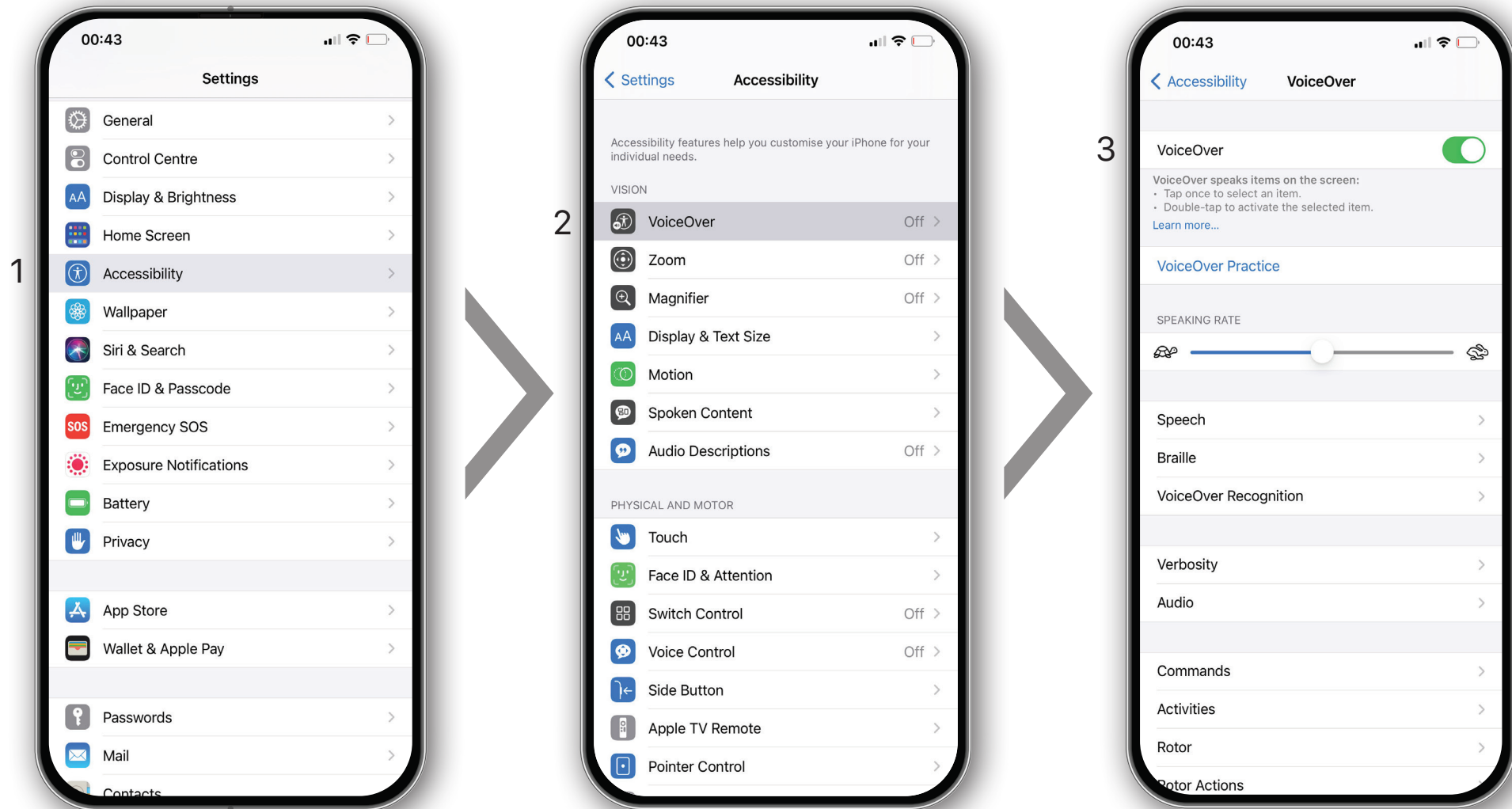
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Activating VoiceOver via Settings

As easy as one, two, three! Alternatively, summon Siri and request for *VoiceOver* to be turned on.



Screen readers & VoiceOver - A Timeline

While screen readers are relatively new, the iPhone has made leaps and bounds during its time on the scene.

1986 ● IBM creates the first screen reader for visually impaired staff

2005 ● Apple debuts its first spoken interface to Mac OS X Tiger on desktop computers

2009 ● The first iPhone to feature VoiceOver is rolled out

2015 ● VoiceOver is awarded the Helen Keller Award by the American Foundation for the Blind

2017 ● Image descriptions make their debut on the iPhone in iOS 11

2021 ● VoiceOver updated to include Explore Image and VoiceOver Recognition