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# Face ID: Your Face is the Future

The future is here. Want to unlock your phone, authorise actions and payments?

All you need is your face.

Your identity is your security.



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Today, over 1 billion people own an iPhone. One billion people use Apple's technology to access their iPhones with facial recognition. It is now an everyday tool that makes life much easier revolving around security and payment methods. This article will show an overview of what Face ID is, how it works, and the impact of security and privacy in regards to an individual's personal use with facial recognition. Many individuals are concerned with the overall security and privacy of Face ID. This advanced technology that already monitors location, tracks website activity and constantly learns, is now able to autonomously decide to unlock an individual's iPhone. It implores the question, how secure and private is Apple's facial recognition technology, Face ID? This question will be explored throughout the article below.

Facial Recognition is a system that replaces Apple touch on some devices that was launched in the year 2017 on the iPhone



X. It uses sensors monitored all over the individual's face to then be assigned as the owner of the device. This system can be used to unlock a phone or authorize payment transactions in only seconds.

Face ID is designed to recognise your identity and complete its actional purpose. In order to fully understand how Face ID recognises an individual's face, an understanding of the three hardware factors involved is needed. Every time an individual glances at their iPhone, the "Truth Depth camera system" detects a person's face with a flood illuminator, even in the dark. An infrared camera will take an image and a dot projector will project out over 30,000 invisible dots. This creates a mathematical model of the individual's face through neural networks. The "neural networks" is what allows your iPhone to detect if your face is a match. The "Bionic neural engine" is a chip that Apple developed. It is specialised hardware designed for

learning algorithms that handles billions of operations per second including Face ID Recognition.

When Apple released the first iPhone to have Face ID they said "The future is here". However, this brand new technology now begs the question, what is the impact on an individual's privacy and security? In the past, Apple have incorporated biometric technology into their devices, such as fingerprint scanning, which proved to be a contentious move in itself. But unlike a passcode or PIN code, biometric security systems offer an unmatched level of security as they are extremely difficult to hack. Apple estimates that the likelihood of successfully tricking its Face ID system is less than one in a million. Additionally, "privacy is incredibly important to Apple". Although the Face ID data used for personal facial recognition is refined and updated with yourself, it is never backed up to iCloud

or anywhere else, allowing individuals to privately unlock and authorise with their own identity.

In conclusion, Face ID is one of the most evolutionary upgrades to the iPhone technology. It has open new doorways to simpler authorisation actions and has decreased the chances of someone stealing an individuals identity and iPhone altogether. Whilst there is controversial arguments that Apple's Face ID accessibility to your privacy and security is concerning and unsafe, that is simply untrue. Apple's facial recognition technology is in fact "one of the safest ways to authenticate that you are who you say you are".



#### References:

Bud, A. (2018). Facing the future: the impact of Apple FaceID. *Biometric Technology Today*, 2018(1), 5–7. [https://doi.org/10.1016/s0969-4765\(18\)30010-9](https://doi.org/10.1016/s0969-4765(18)30010-9)  
Costello, S. (2019). Everything You Need to Know About iPhone Face ID. *Lifewire*. <https://www.lifewire.com/face-id-4151714>  
Ecott, S. (2017, September 23). iPhone X: The end of privacy? | *Masters of Media*. <http://mastersofmedia.hum.uva.nl/blog/2017/09/23/iphone-x-the-end-of-privacy/>

NEC. (2021, December 7). What is the future of facial recognition technology in 2022 and beyond? NEC. <https://www.nec.co.nz/market-leadership/publications-media/what-is-the-future-of-facial-recognition-technology-in-2022-and-beyond/>  
Pocket-lint. (2018, September 5). Pocket-lint. [Pocket-Lint; Pocket-lint. https://www.pocket-lint.com/phones/news/apple/142207-what-is-apple-face-id-and-how-does-it-work](https://www.pocket-lint.com/phones/news/apple/142207-what-is-apple-face-id-and-how-does-it-work)  
Apple. (2020). Light Stream Green [Desktop Wallpaper].