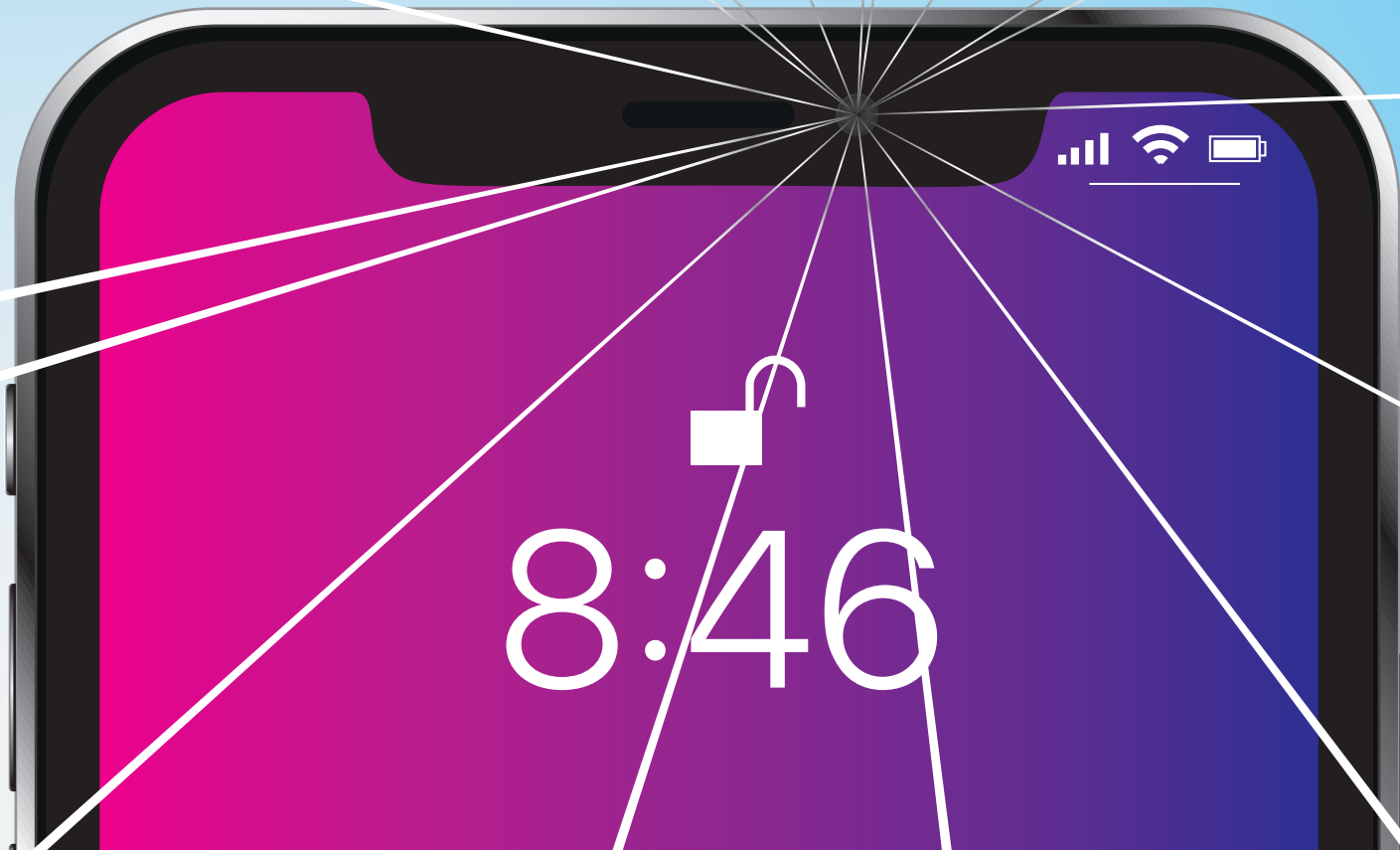


Natasha Ngalande & Jonnie Kean

Saving Face!

The technology behind Apple's Face ID.
How your face became your greatest key.



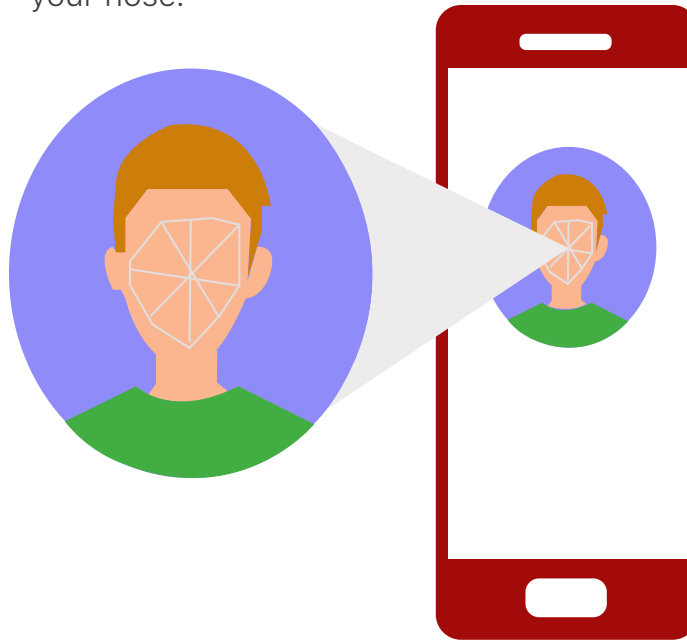
Saving Face!

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The past years have seen great innovations in the field of technology. One such innovation is the implementation of Apple's Face ID. High-tech cameras are able to scan and encode a user's face nearly instantly, using that data to validate an identity with absurd precision. With this incredible technology, Apple has again redefined the mobile phone race and cemented its own position as one of the world's leading technology designers. In this short article we'll look more closely at the technology that makes Face ID work and what exactly all the hype is about.

The facial recognition software is biometric software that maps out an individual's facial features mathematically and stores the data as a faceprint. Firstly, facial recognition uses deep learning algorithms to capture your face as a digital image. It later compares that live capture against the digital image stored in the phone to verify your identity. However, the software can be used to identify people in pictures, in videos or in real-time. Also, the facial recognition data has been known to make errors which implicate people for crimes they

have not committed. The software itself is particularly bad at recognizing African Americans and other ethnic minorities, such as women and young people, and it often fails to identify them. The facial recognition software works by the camera detecting and recognizing a face, either alone or within a crowd. The software will then analyse the nodal points such as the distance between your eyes or the shape of your nose.



Apple has been marketing its new Face ID technology as ground-breaking in terms of safety and efficiency. By allowing their phone to register and accept their face as identification, users are able to pay for things using Apple Pay as well as a host of other native and third party apps built around the Face ID technology, such as banking apps. Users won't have to trouble themselves to remember complex passwords or quirky touch technology. Every aspect of this technology stems from the desire to increase efficiency and productivity, streamlining the way the world uses mobile devices. The truly incredible thing about Face ID is that it not only captures and records accurate data of a user's face but that it continues to learn and update that data, allowing it to recognise the user despite changes that may occur in the face.

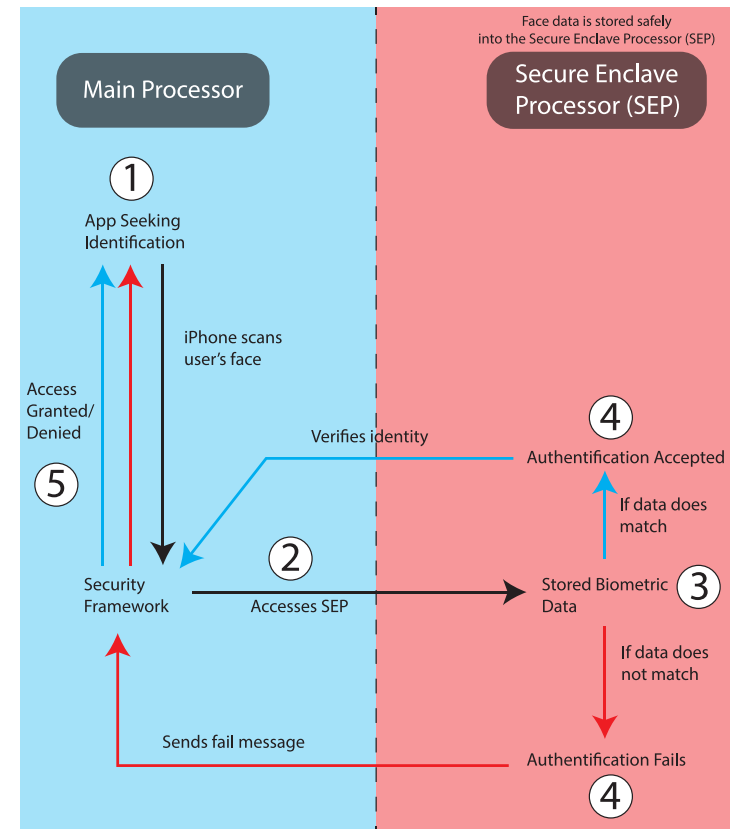
As incredible and futuristic as facial recognition software seems, the question needs to be asked: is it safe? The answer—yes and no. Even with all the safety measures in the world, no device is ever truly impenetrable, though Apple has

made sure they have taken the utmost precautions. They state that the chances of someone other than you being able to hack into your iPhone with Face ID is 1 in 1,000,000 (Apple, 2020), much higher than the previous 1 in 50,000 for their Touch ID fingerprint system. Face ID scans and saves the users face as a mathematical formula which it compares with a saved 'faceprint' on activation. This formula or faceprint is encrypted and stored within the Secure Enclave Processor (SEP) on each device and is not uploaded to a server at all for security reasons.

In conclusion, the facial recognition software has a biometric software that maps out your facial features mathematically and stores all the data and turns into a faceprint. Apple face ID lets users purchase from iTunes Stores, Apple Stores and Book Store with Apple Pay by a simple glance. Apple has taken security precautions and stated that the chances of someone hacking into your phone are 1 in 1,000,000 while the previous figure is much higher—1 in 50,000 for their Touch

ID fingerprint system. The Apple Face ID and facial recognition are both powerful biometric software systems.

Process of Saving and Retrieving Face Data



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