Can't Touch It

Sarlyna Sisouphanthong

Much of our digital lives is stored on our phones. This includes data that can be confidential, private or sensitive. Before Touch ID, there was a high error rate on the use of a passcode as a reliable security. Apple's Touch ID fingerprint scanner was first introduced with the iPhone 5s in 2013. This feature was introduced to provide a convenient way to protect your information and privacy. People began to be concerned about the levels of security and privacy that Touch ID provides on their iPhones, and how open it is to give away your identity.

Touch ID works by taking a mathematical representation of your fingerprint through data points. Underneath the home button which is made out of a layer of Sapphire Crystal, an assortment of chips and microprocessors analyse the data and uses it once the steel ring surrounding the home button detects a finger. Touch ID has the ability to analyse precise information about the fingerprint as it maps out the ridges and the nature of your touch, creating a virtual password for the user. Touch ID can read multiple fingerprints on one device,

provided permission is granted by the owner of the iPhone, of course.

The introduction of the Touch ID feature in 2013 began to inspire other brands to use this for securing information on their smartphone products. As this progressed, Touch ID was being utilised onto other apps such as banking, Apple Pay, App Store and easy sign-in.

In general, Touch ID is secure. Apple claims that there is a 1 in 50,000 chance that someone else's fingerprint will falsely unlock your iPhone. There is also a 1 in 10,000 chance that someone could guess a four digit passcode and a 1 in 1,000,000 chance that they could guess your six digit passcode. Although people are worried about their privacy with this feature, they should not have to be concerned by Apple's constant improvements of security. The technology within Touch ID is made with the most advanced hardware and software.

A way to make Touch ID safer and secure for your personal information, is by creating a long passcode - when setting it up, which will be used as a back up when the

fingerprint is unidentifiable, you need to have a passcode and it is suggested to make it from 4 digits, but you have a choice of making a longer one. Touch ID can read multiple fingerprints, and it can read fingerprints in 360 degrees of orientation. This makes it easier so your fingerprint can suit to the different ways you hold your phone.

Although this was Apple's first creation of biometric security, Face ID has joined the world of security. The iPhone X consists of a screen with no sign of a home button or fingerprint scanner. Face ID requires your face to be scanned instead of your fingerprint to access your device, which is a more concerning topic. There has also been a low rate in those who are interested in the Face ID biometric authentication system rather than Touch ID, making fingerprint security a favourite of Apple users.

The convenience of Touch ID makes Apple's promise consistent with the ease of use and personalisation to the user, even if it fails, it needs to be backed up with a strong passcode. Apple has revolutionised

the security of smartphones and continues to engage with their audiences to new features and continue to use it for third party applications.

Therefore, users should not have to be concerned with their details and photos to be taken by Touch ID, it is safe to use, convenient and keeps your life locked away into your hands.
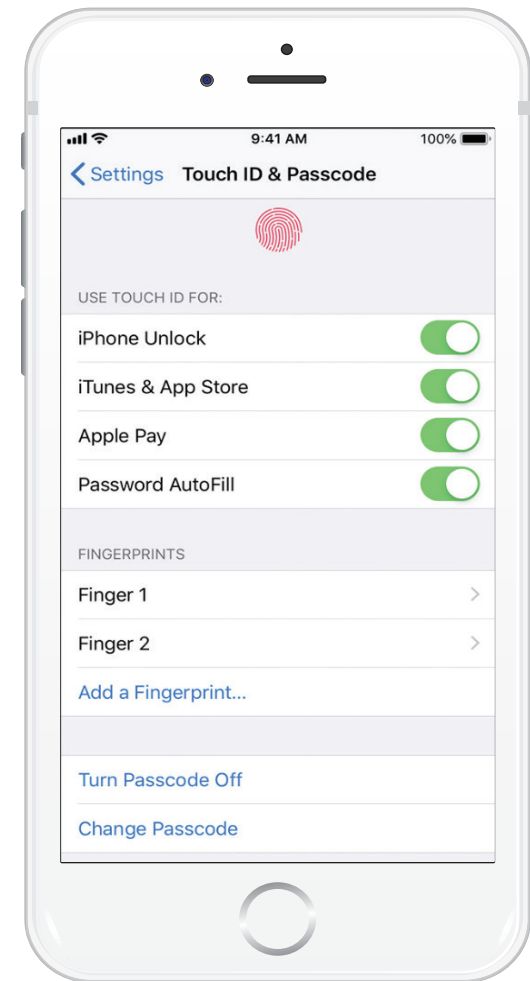
References:

Apple. (2017). *About Touch ID advanced security technology.* Retrieved from https://support.apple.com/en-au/HT204587

Belenko, A. (2013). *The Security of your Fingerprints: Thoughts on the Apple Touch ID.* Retrieved from https://www.nowsecure.com/blog/2013/09/18/the-security-of-your-fingerprints-thoughts-on-the-apple-touch-id/
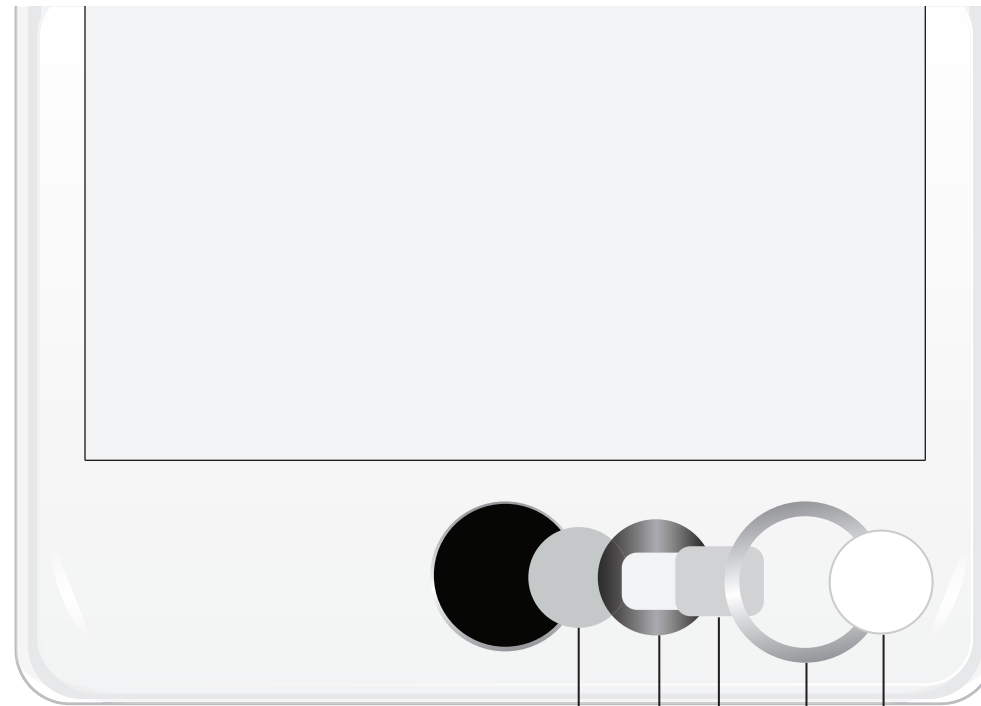
Cherapau,I, Muslukhov,I, Asanka,N, Beznosov,K. (2015). *On the Impact of Touch ID on*

iPhone Passcodes. SOUPS, 257-277. Retrieved from http://enigma.usenix.org/sites/default/files/soups15_full_proceesings.pdf#page=279

Daniel Matthew L. *Biometric Fingerprint System, Global Health Science and Practices.* 2015. Vol. 3, No.1.

Guiness, H. (2018). *How secure are Face ID and Touch ID?.* Retrieved from https://www.howtogeek.com/350676/how-secure-are-face-id-and-touch-id/

Touch ID Components

Sapphire crystal
extremely durable glass that
protects the sensor

Backing
plate

Glue

Sensor chip
captures high-resolution images of
the user's fingerprint

Steel detection ring
detects fingerprints and alerts
Apple's Touch ID technology to
begin scanning