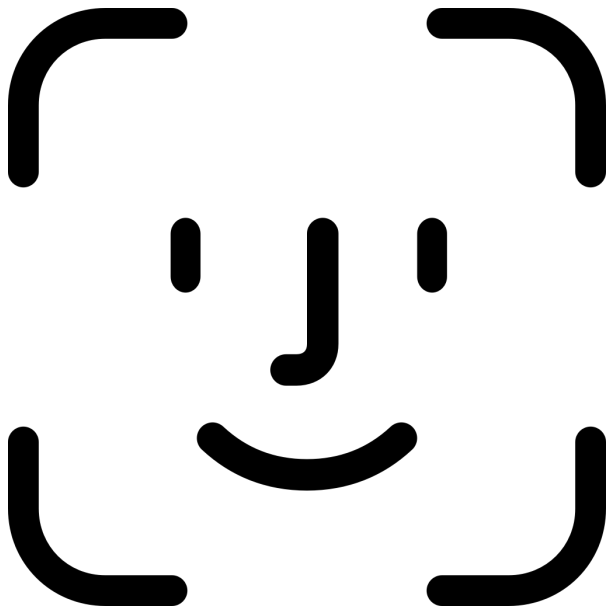*Zoe Mathioudakis*

Always Watching.

Exploring the new Face ID, is it as safe as Apple claims?

Always Watching.

Zoe Mathioudakis

Is the new face ID passcode as safe as Apple claims?

Technology has advanced to the point where it has transformed the way we communicate and interact. The rapid evolution of phones has advanced to the point where your iphone can identify you through your finger prints and even your own face. However having access to this personal content that lives on a smartphone inevitably raises lots of security questions. Many speculations have been made about whether the face of someone who is dead or sleeping, or otherwise unwilling to unlock their device in your presence, could be used to do so against their will. But overall is Face ID a real privacy issue for people with the newest iphone model?

This new way of unlocking your phone using facial recognition has sparked many controversies and worries about private information. Secure authentication is a desirable feature because your phone holds priceless data, like personal photos, private messages and email addresses.

 Lots of consumers have brought apon themselves to ask questions such as how accurate the feature is, where is this information held, who is able to see your face and the biggest one IS THIS DANGEROUS? Is it better off using a password as your lock?

Apple has claimed that their new technology is some of the most advanced hardware and software that they have ever created before. Their new camera"The TrueDepth camera" which reads every detail of your face by analyzing over 30,000 invisible dots to create a depth map of your face. It is so precise and and also captures an infrared image of your face. These two aspects then transforms into a mathematical representation and compares that representation to the enrolled facial data.

 The face ID is so accurate that it can automatically adapt to changes in your appearance, like if you put on makeup, grow a beard, wear hats, scarves, glasses, contact lenses, and many sunglasses. Apple has made it clear who is able to access the information and facial features of your iphone. It's not backed up to Icloud, or never leaves your device in general. The information collected when your face is scanned goes directly into the A11 Bionic chip, and never comes in contact with apples servers. So nobody else has access to your facial scan except you.

With features this advanced there will always be loopholes and little ways that it can be taken advantage of. Apple have tried their best to make sure their security is top notch, Apple claims that 2D

print outs of a face will not work, however this doesn't stop 3D manipulation. University of North Carolina team collected pictures from social media to create animated 3D models in virtual reality, which were used to bypass face recognition. A theif can find photos of your face if family or friends post pictures on Facebook and use them to their advantage.

However, Face ID is attention-aware. It recognizes if your eyes are open and closed, and if your attention is directed towards the device. This makes it more difficult for someone to unlock your iPhone without your knowledge (such as when you are sleeping). For siblings and twins, the game changes. Apple noted in its demo of Face ID that if you have an "evil twin" (identical twin), you're just going to have to use a passcode if you don't want that twin to access your iPhone.

However, apple claims that the chances of a random person using their fingerprint to unlock your iPhone is about 1 in 50,000," but the chance that a stranger could look at your iPhone X and unlock it with their face is about one in 1,000,000. What they don't discuss is the stats are a misdirection to hide another question, because comparing those numbers isn't relevant to the actual security. Unless the figure is low (say, 1 in 100) then it doesn't matter how many

random people it takes to accidentally unlock your phone. The issue is whether a particular person could deliberately access your device if they wished.

Apple face ID has developed a very complex feature for the new iphones quite successfully, however some aspects have minor flaws that could be risky for personal information getting out. Overall it is up to the user of the phone, to risk having your own face as your lock instead of a passcode.

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How Face ID Works

What is behind the set up of Face ID?

The iPhone X camera area is so much more complex than previous models. It contains vital features that help ensure that it is YOUR face unlocking your phone.

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Speaker

Microphone

Light sensor

Proximity Sensor

Camera

Flood Sensor

Dot Projector
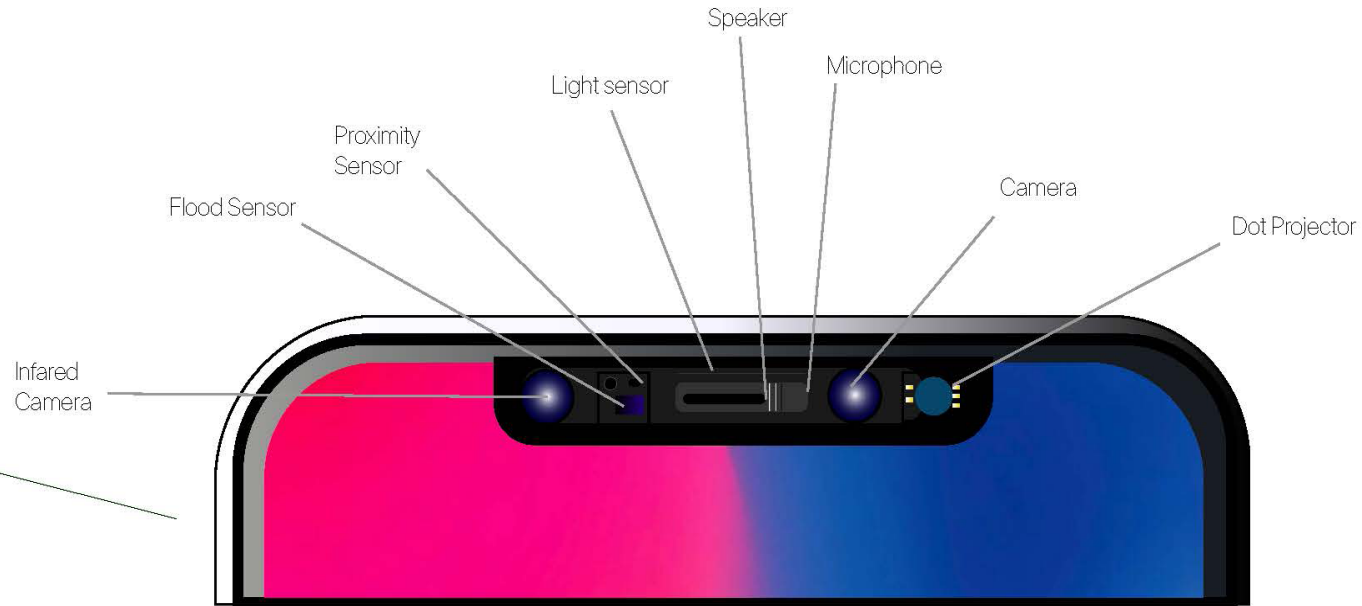
Infared Camera

The Infrared Camera

An infrared image of your face. is taken which is then transformed into a mathematical representation, saved into your phone.

Dot Projector

30,000 invisible dots are projected onto your face to create a depth map of your face.

Proximity and Light Sensor

These sensors detect how close you are to your phone, and if you are awake/aware of you unlocking your own phone.

Has Face ID changed over time?

Face ID was released last year and since then, a poll has been made to take note of users opinions on how it has advanced, stayed the same, or progressively gotten worse over time.

https://9to5mac.com/2018/03/05/iphone-x-face-id-improves/

45.95%

36.03%

9.81%

8.21%

Noticed improvements in Face ID

Has stayed the same

Worse over time

Other