

What is 3D Face Security? On which phone?

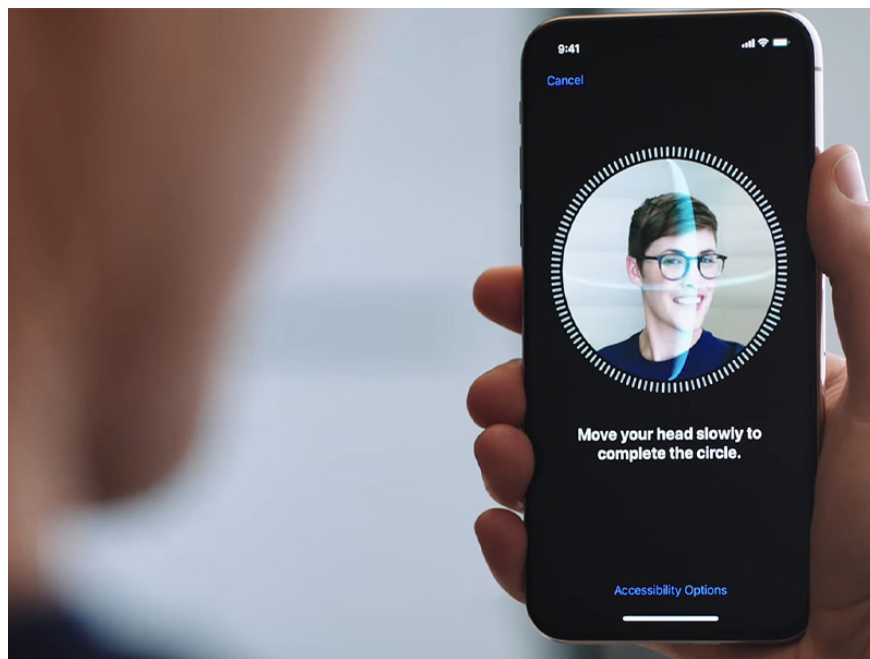
Besides the fingerprint sensor feature, 3D face security on phones is a trend that many people love. Let's learn about this feature in the following article!

In addition to the fingerprint sensor, 3D face security is one of the features on the phone that is loved by many users. So do you really understand what 3D face security is? If not, let's find out in detail this concept as well as how the pros, cons and phones possess this feature in the article below!

1. What is 3D face security on phones?

3D facial security is a biometric identification technology based on the facial features of the phone user. From there, you can unlock many different functions on the phone.

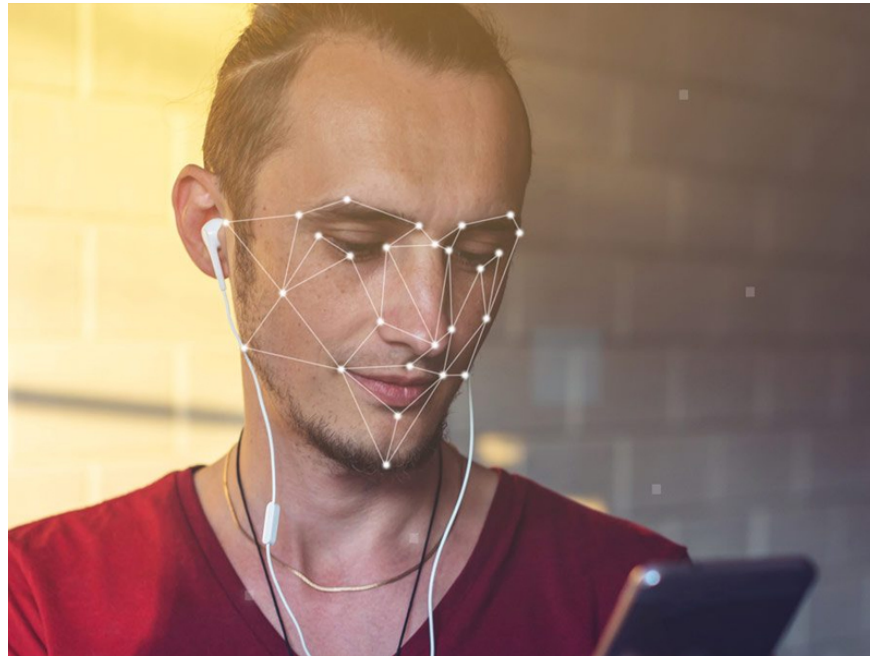
This technology first appeared on the iPhone X and is called FaceID. After that, other phone companies such as Samsung, Xiaomi, Huawei, OPPO, Vivo also have similar technology and apply it on their products.



2. Working principle of 3D face security

3D Face Security works with the help of the phone's front camera and other sensors in the same range as the front camera.

When you first buy a phone or when you're just starting to set up 3D face security, it uses a type of infrared floodlight to scan the user's entire face. They work regardless of ambient light conditions because infrared lights are outside the visible spectrum. Then, combined with a micro-infrared laser projector, 30,000 secondary points are sampled out, reflecting the headlight light to form a huge and extremely high-precision data network.



Extremely high precision 3D face security

Once set up, the phone will recognize your face. Later, every time you unlock your phone or perform something that needs to be unlocked with your face, the phone will scan every corner and contour of your face. From there, the device will collect information from the sensors so that it can convert the information from the image form to the encrypted data form available on the phone. If the data matches the stored face, the phone will unlock.



3. Pros and cons of 3D face security

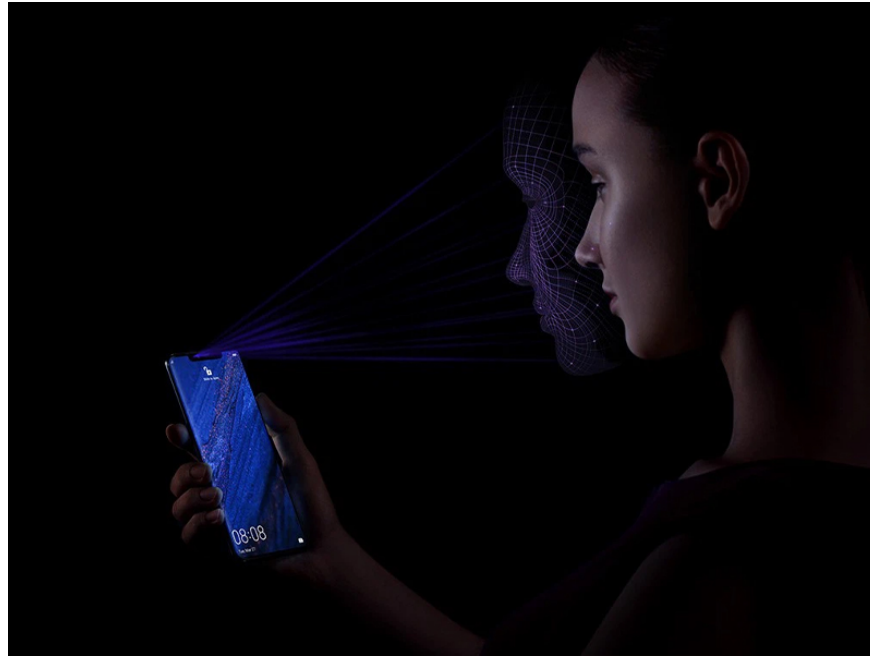
Some of the pros and cons of 3D facial security on phones include:

Advantages	Defect
Face recognition even when you wear glasses, wear makeup or change with age	Wearing sunglasses, masks will not be recognized
Able to accurately identify facial features, especially 3D face security that can distinguish twin faces	Some phones have to take up screen space to equip this feature, such as the notch screen
The error rate is only 1/1,000,000 compared to fingerprint security	
Fast, responsive, just pick up the phone to scan your face to unlock	

4. 3D face security is different from 2D face security

2D face security was first introduced on Android 4.0 Ice Cream Sandwich, but it has a fatal flaw that makes this feature unable to continue to be used on subsequent Android versions. Specifically, because it has 2D characteristics, it only recognizes faces by capturing a photo of the face when unlocking and comparing it with the previously set face. So the bad guy only needs to use a photo of your face like a portrait, put it in front of the phone camera, it will be easy to unlock.

Instead, 3D face security is much more advanced because it uses infrared cameras to detect the most detailed changes when your face makes small movements. At the same time, 3D face security has a much lower error rate of 1/1,000,000 than Touch ID (1/50,000). Therefore, it can be said that 3D face security completely overcomes the disadvantage of 2D face security.



5. Which phone is 3D face security available on?

Currently, there are many phones that have 3D face security features. Some of the products that can be mentioned are:

- Samsung phones with Samsung Galaxy S21 5G , Samsung Galaxy A22 , Samsung Galaxy Z Fold2 ,.
- Apple has iPhone 12 , iPhone 12 Pro , iPhone 12 Pro Max , .
- Vivo phones with Vivo Y53s , Vivo V21 , Vivo V20 (2021) ,.
- Xiaomi phones with Xiaomi Redmi Note 10 5G , Xiaomi Mi 10T Pro , Xiaomi Redmi Note 10 Pro .
- OPPO phones with OPPO Find X3 Pro 5G , OPPO Reno5 , OPPO Reno4 Pro ,.

Hope you have gained some useful information through this article. Thank you for reading and see you in the next articles!

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