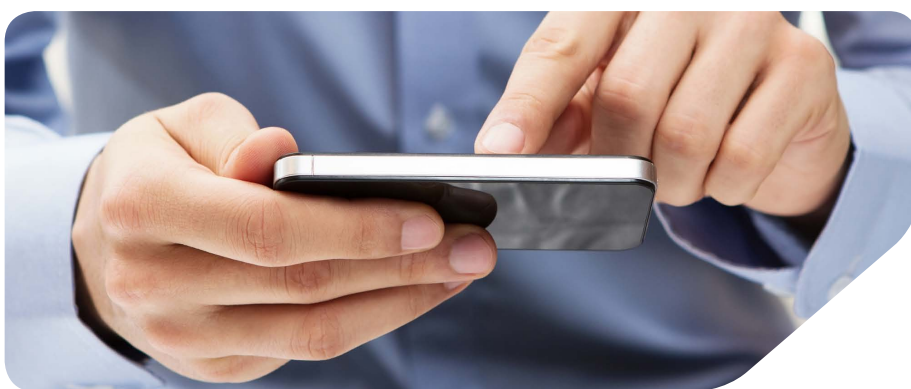


VoiceKey.ONEPASS

Bimodal Verification Technologies for Protection of Mobile Applications

VoiceKey.ONEPASS allows a new level of security for mobile applications with the help of biometric verification technologies. Users need just one click to access the mobile app on a phone, and samples of the user's voice and face become a reliable access code replacing passwords.



Bimodality as a Security Tool

Traditional methods of protecting mobile applications are based on the use of passwords. Unfortunately, this approach does not guarantee absolute security, as both passwords and mobile devices can be easily stolen. For mobile applications that contain confidential information, such as credit card numbers, bank account numbers, personal data and passport information, there is a need for a completely different level of protection.

To grant access to the confidential information, VoiceKey.ONEPASS uses biometric data from the user for both face and voice. Each of these parameters is unique for every person; they cannot be stolen or forged. Through the use of VoiceKey technologies, customers can be assured that their personal data will always remain protected.

Ease and Simplicity of Access

Regardless of where they are, VoiceKey.ONEPASS allows users to quickly and securely log into any mobile application. There is no need for them to remember multiple passwords and PINs. Samples of voice and face are easily obtained using the camera and microphone of virtually any modern mobile phone to verify the user's identity. VoiceKey.ONEPASS can take a picture, record a voice sample and verify a users' identity within a few seconds - without the need to perform any additional steps.

"Speaker verification is more than an enhancement to voice self-service applications. It is an extension of an organization's security policies. While speech recognition limits itself as live agent replacement, speaker verification becomes the necessary authentication process to front-end every security-conscious conversation."

*Dan Miller,
Senior Analyst & Founder*

 **opusresearch**

"The adoption of biometrics in everyday life will be seen as the most significant development in the next few years."

*Isabelle Moeller,
Chief Executive*



Technologies:

VoiceKey.ONEPASS uses a unique algorithm for biometric verification in two modalities:

- Face recognition
- Voice recognition by static and dynamic passphrases

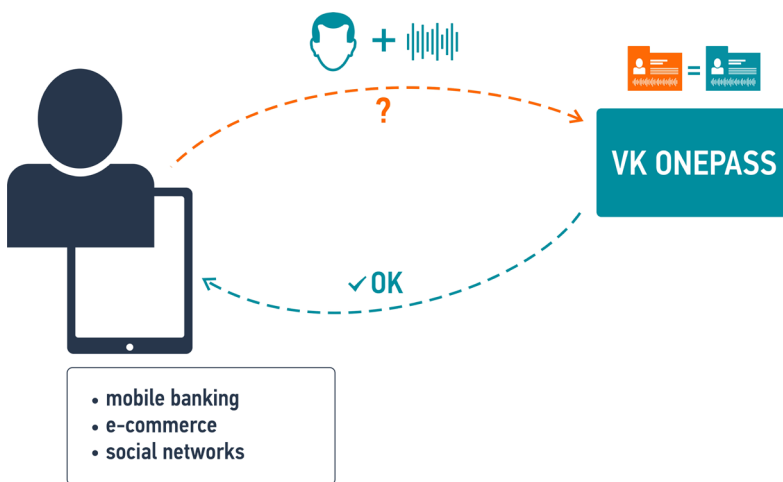
Areas of Use

VoiceKey.ONEPASS solutions can be used to access personal information or personal account management for the following:

- Financial institutions (mobile banking and payment applications)
- E-wallets
- Social networking
- Mobile applications containing confidential data

How Does It Work?

When a user opens the application, VoiceKey.ONEPASS takes a picture of the user and records his or her voice. The samples are then transferred to the server and compared with the reference samples of the user's voice and face already stored in the system. A positive match allows user to access the application; otherwise, a failure message appears.

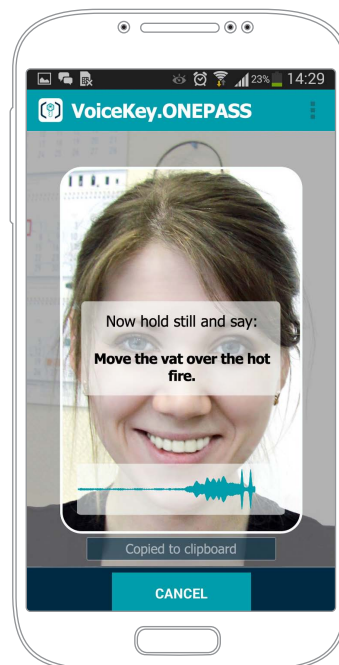


Architecture

VoiceKey.ONEPASS has client-server architecture and consists of two modules which interact via the Internet:

1. Biometric software module integrated into the mobile application to perform image and voice handling, build a biometrics model and send this model to the verification server.
2. Verification server module comparing new biometric samples with stored reference biometric user models

Accuracy of algorithms verified by
National Institute of Standards and Technology (NIST)



Features:

Bimodality - verification by both face and voice

Universality - supported for Android and iOS

Speed - verification process takes just a few seconds

Simplicity - just one click required to access the application

Reliability - built-in liveness detection to protect from the use of pictures and voice recordings

System requirements

- OS support:
 - ▶ Server: Linux x64, Windows x64
 - ▶ Mobile: Android, iOS
- Voiceprints storage based on Oracle, MySQL or other databases

Technical highlights

- Three biometric technologies in a single solution:
 - ▶ Voice verification
 - ▶ Face verification
 - ▶ Liveness detection
- 2.5 second length of passphrase
- Verification within 5 seconds

Awards:



Best product of the year for call centers
CCG Call Center Awards, 2013



«Star Performers Award»
Speech Industry Awards, 2012

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