

Biometric Palm Identification for Mobile Devices

PalmID from Redrock Biometrics uses the camera integrated in a mobile device to capture the unique lines and creases of a user's palm. Redrock's software then creates a digital map, which is compared to subsequent palm scans for identity authentication. The technology is touchless, making its scan from several inches away. Redrock has tested PalmID using an open database of palm scans, and claims to have achieved a 1-per-100 million false acceptance rate with a 1.5% false rejection rate.

Mastercard has partnered with Redrock Biometrics to provide identity verification for its Community Pass platform in developing countries. Community Pass cards function as both payment and identity cards. Cards are used to deliver humanitarian aid, including access to funds, as well as for verifying identity for anything from vaccinations to accessing agricultural assistance. For this partnership, the user's biometric information is stored on the card's chip, then authenticated by a PalmID scan completed by a camera-equipped mobile device. Community Pass cards with PalmID are deployed in Mauritania and Yemen. Mastercard plans to continue expansion in Africa.

Started in 2015, Redrock was part of Wells Fargo's technology accelerator, and has since partnered with ATM provider NCR to demonstrate PalmID technology in that company's devices. Redrock can provide device-based and cloud-based authentication. The latter is accessed via an API. Redrock's identification technology can be applied to any pattern. With cameras and mobile devices capable of infrared imaging, PalmID can map subdermal veins. When combined with visible light images, accuracy increases to the 1-per-1 trillion false acceptance rate range.



Mastercard uses PalmID to provide identity verification for its Community Pass program in developing countries

Palm scans can have privacy, ergonomic, and accuracy advantages over other biometric identification systems. A 2018 report from the Massachusetts Institute of Technology indicates that commonly used facial recognition technologies vary in their accuracy when skin color is taken into account. Redrock says a Mastercard-sponsored study demonstrated that PalmID has no skin tone-related bias. Fingerprint identification typically requires contact with a device, while both retina scans and facial recognition require the face of a user to be positioned in front of a camera, presenting ergonomic issues for tall or short consumers when the technology is used in a fixed application, like an ATM.

Redrock also claims its technology is highly resistant to "spoofing," or using facsimiles of a user's palm. The company has certified its technology against spoofing when using mobile phones with high-resolution cameras and the onboard LED light.

IN THIS ARTICLE



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