

KEYLESS

Relai

Case Study

Securing Bitcoin Wallet Relai with Biometric
Multi-Factor Authentication



Overview

Relai is a Swiss-licensed financial services provider that makes buying and selling Bitcoin simple and accessible.

\$1 billion
in trading volume
and more than 500,00
app downloads.

Relai handles tens of thousands of logins, transactions, and account actions every day. Ensuring the security of these activities while maintaining user privacy is especially important in the crypto community. To meet this challenge, Relai integrated Keyless biometric authentication as it could deliver multi-factor security in under 300 milliseconds with just one look at the device camera.

The Challenge

In the financial services sector, every user touchpoint carries risk. For Relai, protecting user identity is crucial at all stages, whether logging in, transferring funds, or recovering an account. Financial apps must continuously authenticate users to ensure that the person performing an action is the person that set up the account, not a fraudster who has stolen or broken into their phone.

Before choosing Keyless, Relai relied on a mix of passwords, PINs, and local biometrics (FaceID) to authenticate their users.



Login: Users used to rely on a local biometric check (eg FaceID). But multiple users can register under a FaceID account, and if the biometric check fails, it falls back to the phone's PIN number, which was used to set up the FaceID account in the first place.



Step-up actions: For actions like deleting an account, the user had to enter a PIN, which is guessable and does not prove identity.



Account recovery: Like many crypto apps, Relai uses a 12-word seed phrase stored within the app, accessible after email verification. However, email-based OTPs are vulnerable to phishing - meaning an attacker with inbox access could potentially retrieve the phrase and take over the account.

Relai needed something stronger: a way to reliably authenticate identity across every touchpoint - authenticating users immediately without any friction or compromising privacy.

The Solution

Relai replaced its existing methods with Keyless. Unlike FaceID or other local-level checks, Keyless uses the cloud and sits within the Relai app. It doesn't assume that the device owner is the account owner. Instead, Keyless authenticates two key factors in less than a second:

1

The user's face – matched against the original face set up during enrollment.

2

The user's device – ensuring it's the same or a trusted device from enrollment.

Crucially, Keyless does this in a privacy-preserving manner - as it does not store biometric data anywhere, neither on the cloud or the device.

Keyless now secures critical touchpoints within the Relai app:



Login: Users log in by simply looking at the camera, without any PIN needed for authentication.



Step-up actions: Making sure only the real account can delete their account and change personal details



Account recovery: Before viewing their seed phrase, users must authenticate their identity biometrically. If someone else has access to the phone or email, they still can't recover the account.

Why It Works

Relai replaced its existing methods with Keyless. Unlike FaceID or other local-level checks, Keyless uses the cloud and sits within the Relai app. It doesn't assume that the device owner is the account owner. Instead, Keyless authenticates two key factors in less than a second:

Strong identity assurance:

Biometric and device-based multi-factor authentication, which ties authentication to the real user.

Privacy-first:

Biometric data is never stored or exposed, complying with GDPR and beyond.

Effortless UX:

A simple, 300 millisecond face scan delivers strong security without friction.

Instant recovery:

Protecting the seed phrase with a secure biometric scan.

Looking Ahead

By integrating Keyless, Relai has reduced reliance on seed phrases for account recovery and delivered faster, frictionless logins, whilst protecting their customers' privacy.

As Bitcoin adoption grows, so does the demand for stronger, user-friendly security. Relai is setting the standard with a model that prioritizes privacy, control, and trust - powered by Keyless.