Safe Empowers Its Users and Integrates With Tenderly to Bring Them Security and Peace of Mind
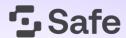
Safe

Company: Safe
Website: gnosis-safe.io
Location: Switzerland
Industry: Decentralized Finance (DeFI)

Key Challenges

- Limited blockchain data visibility and accessibility
- Manual execution tracing and debugging
- Inflexible local environment and time-consuming setup

Key Results

- 80% faster and more efficient development
- Improved user transaction execution confidence
- Better customer service and improved product quality

A crypto ecosystem built for the community

Starting out as a part of Gnosis, Safe quickly evolved into an ecosystem project of its own, created for the community. As a supporter of digital ownership and the Internet of Value, the growing Safe ecosystem believes in giving users full control and self-custody over their assets.

Safe developers empower their users by offering a flexible, composable smart contract account standard. Through a user-friendly decentralized application (dapp), Safe's users can create multisignature accounts to manage and exchange their assets in an easy and secure way. And a growing ecosystem of builders has built on top of the Safe Protocol to create products for DAO treasury management, group NFT buying and collecting, and more.

The Safe dapp interface allows for streamlined transaction execution through a network of proxy contracts. These contracts interact with the core infrastructure while an indexing service keeps track of user contracts and their interactions. For the Safe team, such infrastructure means monitoring numerous internal transactions while ensuring quick response time, excellent customer service, and uncompromised security.

The limitations of a local development environment

The limitations of the new, still-developing blockchain industry hindered the Safe development team's debugging and issue-resolution process. Working in local environments was time-consuming and limiting. It was slow-paced and required a lengthy re-configuration every time Safe engineers wanted to switch to a different network.

The Safe engineering team wanted to improve their development velocity. While console debuggers were useful for them, they often didn't provide the information depth the Safe team needed. The limitations of console debuggers were even more noticeable when debugging failed transactions.

To ensure the security and easy accessibility of user assets, Safe developers require in-depth insight into internal transactions. However, this insight was often quite limited since these transactions aren't visible in the standard overview on Etherscan. So, the Safe team needed to comb through execution traces on Etherscan and deal with poor blockchain data visibility.

From a Tenderly T-shirt to enhanced blockchain accessibility

"So the first contact I had with Tenderly was a T-shirt at EthCC two or three years ago", explains Richard Meissner, co-founder of Safe. Soon enough, Tenderly features became essential to Safe's development process. Visual Debugger and Gas Profiler gave Safe developers in-depth, yet visually more accessible trace information. Simulator and Forks further strengthened the integration. They allowed Safe engineers to validate any bug fixes or test complex transaction scenarios in a more forgiving Fork environment.

As part of their issue resolution flow, the Safe team now re-simulates failed user transactions to understand what went wrong. This way, they're able to pinpoint the exact cause of a problem. "When it comes to debugging executed

> "Our users quite like the Simulator feature. Normally, every second or minute somebody is simulating transactions."
>
> **Richard Meissner,**
> Co-Founder, Safe Project

transactions and simulating transactions against existing contracts, everybody I know now uses Tenderly", says Meissner.

Even Safe's end users can simulate transactions before sending them on-chain. Safe exposes Simulator through their Transaction Builder app and other parts of their interface. So, before executing transactions, Safe's end users can find out whether they're successful or whether they'll trigger the expected state changes.

And Simulator isn't the only feature Safe uses for an additional level of security. Alerts help the founders monitor their DAOs. By receiving notifications via email, Discord, and Telegram, they can monitor the proposal flow and react if something doesn't seem right.

A better experience for end users & developers alike

With the help of Tenderly, Safe now offers its users better customer service with excellent response time. Thanks to in-depth transaction information, Safe engineers can better help their customers since they now have a deeper understanding of what their users are doing.

More importantly, the Safe team gives users security and peace of mind when handling their funds by enabling transaction simulations. And while there are around 18,500 user-generated simulations a month, everything goes through Tenderly API. So, the high number of simulations doesn't mean more manual work for Safe developers.

Instead, the Safe team can focus on developing their products more efficiently. With a Tenderly environment pre-configured for more than 20+ networks, they eliminated the lengthy local setup process. Consequently, Safe engineers have been able to speed up their development by 80%.

Ultimately, Tenderly provides security across different applications within the Safe organization. By using Alerts to monitor their DAOs, the founders can not only stay up to date but also prevent invalid proposals from being executed. In this case, Tenderly acts as a security layer that the Safe team enforces.

Unlocking the full potential of Tenderly features

The Safe ecosystem has brought its users more than just full control over their assets by integrating with Tenderly. Throughout their development process, as well as in live production, Safe engineers have enhanced productivity without compromising quality and customer satisfaction. Tenderly has given the whole Safe team time to really focus on building the ecosystem.

The journey with Tenderly doesn't stop here for the Safe team. In the next phase of improving their development process and user experience, Safe engineers plan to expand the scope of integration. They're yet to take full advantage of Alerting, Web3 Actions, and Analytics but are actively exploring additional benefits of the Tenderly stack.

As Meissner explains, "it's good to start simple, just simulate a simple transaction. But Tenderly is a lot more than that. Looking into the more power features is definitely helpful and will benefit Web3 developers down the road quite heavily."