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Thread: [Building Grab's in-app wallet with Circle Wallet infrastructure; making blockchain ea](#)

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Grab, one of Southeast Asia's largest superapps, has taken a big step towards simplifying the user experience by partnering with Circle Wallets, a wallet infrastructure company. Grab, which provides services such as transportation, food shopping and digital payments to millions of users, believes that this technology can create a bridge between governments, businesses and people. For example, instead of traditional mechanisms for distributing government food subsidies, NFTs could be sent to citizens' phones so that only eligible people can use these tokens to purchase specific goods. But blockchain transactions, like everyday bank card payments, need to be simple enough that even ordinary users can use them without the need for specialized knowledge. For this reason, Grab, a superapp, has started a pilot project in partnership with Circle Wallets to make using blockchain a smooth and user-friendly experience.

Grab started out as an online taxi service in Southeast Asia, but quickly expanded its services to become a leading super app. In addition to booking taxis, motorbikes, and four-wheelers, the platform also offers a variety of services such as ordering food, delivering packages, and even shopping for daily necessities from stores. This diversity and breadth of services has made Grab one of the most important transportation and delivery apps in the region.

On its way to success, Grab realized that it could use the opportunities of blockchain, and in particular non-fungible tokens (NFTs), to enhance its services and simplify many complex organizational processes. The platform chose NFTs for three reasons: First, spending metrics can be applied directly to non-fungible tokens, payments from businesses accepting NFTs are settled almost instantly, and every transaction is fully traceable. All of these capabilities help sponsorship program managers both measure the effectiveness of their initiatives and prevent fraud.

Grab partners with Circle's wallet infrastructure

Grab faced two major challenges in implementing its idea: first, building enterprise-level onchain experiences requires a significant business and technical investment. Second, making blockchain transactions in an everyday application simple enough for anyone to use.

The truth is, onchain wallets typically require a confusing and time-consuming set of steps for the average user to use. In order to store NFTs and make transactions, he must first download and launch a separate app. Then he must create a long phrase called a "recovery phrase" and write it down in a safe place, because if this phrase is lost or forgotten, he will lose access to his assets forever. He must also copy and re-enter long and incomprehensible wallet addresses when making transactions. Finally, he must pay transaction fees in the network's accepted cryptocurrencies, which are not always easy to access.

On the other side of the story, there was a different story. Grab, which always wanted to offer a smooth and simple service, realized that if it wanted to build such an in-app wallet, it would have to shoulder a heavy burden. In addition to the usual backend and frontend development, it would need a team of developers specialized in the Solidity programming language to design and implement

smart contracts. It would also have to set up and manage a complex infrastructure of nodes, a process that required a high level of expertise and was expensive.

To overcome these obstacles, Grab decided to work with a trusted enterprise partner instead of building everything from scratch. They chose Circle Wallets' wallet infrastructure to provide users with a stable, scalable, and reliable experience in addition to reducing development costs.

What is Circle Wallets?

Circle Wallets is a Wallet as a Service solution that helps developers build and manage secure Web 3 wallets and their private keys. Using this infrastructure, companies and developers can flexibly integrate the capabilities of onchain wallets and smart contracts into their applications without having to build the entire blockchain infrastructure from scratch, providing a seamless experience for end users. The service has three key components that differentiate it from other solutions:

Secure Key Management: Wallets allow the use of passkeys stored on the user's device or keys based on Multi-Party Computing (MPC) technology. These keys are under the control of the user or developer, providing the highest level of transaction security.

Flexible Account Setup: With support for Externally Owned Accounts (EOA) and Modular Smart Contract Accounts (SCA), the service allows developers to customize accounts to suit the needs of each application and add features such as fee abstraction or advanced account management to their app.

Scalable Blockchain Infrastructure: By launching and managing nodes, Circle Wallets makes it easy for developers to perform processes such as sending transactions to the blockchain, reading account balances, and categorizing and storing transactions.

With Circle Wallet Infrastructure, developers can reduce the time and cost of wallet development, minimize technical complexity, and focus on providing a seamless, secure, and engaging experience for Web 3 users.

Simplifying Grab's Development and User Experience with Circle Wallets

Grab is one of the companies that has integrated flexible wallet infrastructure directly into its app using Circle's Wallet-as-a-Service solution, and put it to the test for the first time at the major international event "Formula 1 Singapore 2023".

At the event, Grab released digital vouchers through its app that offered users a variety of experiences across the city, including discounts at popular restaurants and tourist attractions. The advanced NFT technology behind these vouchers was programmed to check whether the user used them at the right time and place. Users were even awarded additional rewards if they met the criteria.

Grab's Collaboration with Circle

The wallet setup process was also designed to be very simple. They were able to activate their wallet in seconds by simply choosing a short PIN and setting a few security questions to recover their account. The wallet was perfectly aligned with the look and feel of the Grab app, so it didn't feel like they were dealing with a new or complicated app. Plus, they could simply spend their vouchers by scanning a QR code and didn't have to pay network gas fees. The result of this simplicity was phenomenal; 80% of the users in the pilot successfully set up their wallets.

Conclusion

The result of Grab's super app collaboration with Circle's wallet infrastructure can be considered a complete success. Grab was able to provide a simple, smooth, and user-friendly experience to its millions of users without spending a lot of time and money developing a complex blockchain

infrastructure. Using this service not only made the process of setting up and using the wallet easier; it also freed Grab from having to build and manage critical parts of the blockchain infrastructure. Parts such as key management, node management, blockchain data organization, and account and fee abstraction, each of which would have been a costly and time-consuming project on its own, were all covered by Circle. This successful collaboration shows how a large application, relying on professional solutions, can keep the complexities of the blockchain behind the scenes and provide a simple and efficient experience for users.

Source: circle.com