Video: Crypto Wallet Working on Low-cost 4G LTE Mobile Phone

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ABSTRACT

In this paper, we describe a simple and light way of using 4G LTE low-cost phone as blockchain cryptocurrencies wallet on-the-go. The main purpose of this project is to make general mobile phone user could easily use Crypto Wallet – a crypto currency wallet connected to the blockchain without installing an App, to get benefit from decentralized financial services such as e-commerce, Peer to Peer financial services etc. In this research, we have implemented a full-functional e-commerce Web App through WordPress combining with WooCommerce open-source package, with additional Crypto Wallet plugin compose by PHP installed, which allows user to create crypto wallet and make transaction on a very low-cost phone such like Nokia 8810 4GLTE, worth only $80. With the possibility of using low-cost phone to do Blockchain and cryptocurrency related operations, it may lead us to a more distributed commerce, and equally traded world.

YouTube link: https://youtu.be/Dqmh-OgbvM8

CCS CONCEPTS

[Web applications]; [Cryptography]; [The Computing Profession]: Miscellaneous

KEYWORDS

Blockchain; Crypto Wallet; DApp; Mobile Web Applications

ACM Reference format:

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1 Introduction

Recently Blockchain application, Decentralized application, and Crypto Currencies becomes a new fashion on mobile world. A lot of crypto wallet app, exchange app and new kind of blockchain services apps such like Status, imToken are already influenced App Store and many user's daily life with mobile. However, there are still a lot of user who is not using high price smart phone or deciding to use feature phone by intention, who may still want to keep the ability to use blockchain service, check his/her crypto currencies assets, to prevent being left behind in this decentralized finance era.

To nowadays, almost all crypto wallet or blockchain services app are require user to install app first, then can create wallet account, get wallet address, and can finally start to use crypto services for example send and receive crypto currency to the others.

In this video, we provide a new web service which can even running on a less powerful and old fashion browser, for user to create general user account on the website, then a crypto wallet account will be generated automatically and simultaneously.

The most amazing part of this project is a user can not only receive crypto currency and blockchain token by showing QRCode of their crypto wallet the other, also can scan QRCode of crypto wallet address of others and send cryptocurrency to that address. These functions may sound basic for a normal crypto wallet app running on high-end smart phone, but it's really unusual and not easy for a low-cost mobile phone. It usually requires some modern feature on smart phone to fulfill the goal. In this research, we have successfully show a demo through video to showcase a low-cost feature phone made by Nokia, which can provide a full-functional crypto wallet service through a low-level CPU, un-modern and powerless browser with low-resolution camera, without any additional app installed.

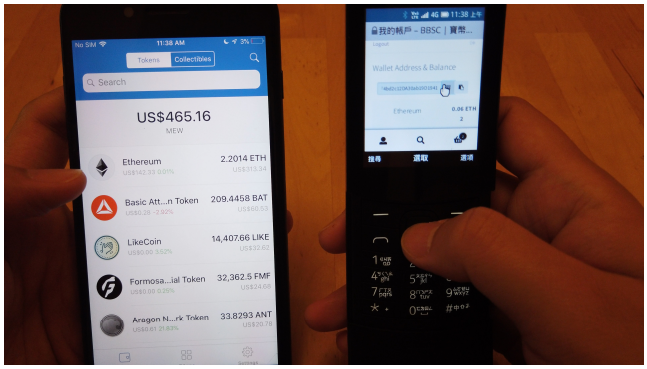

Figure 1: Crypto Wallet on High-level smartphone and low-cost 4G LTE phone (Nokia 8810) side-by-side

2. Implementation

In the below paragraph, we try to describe what makes a crypto wallet work on a low-cost Nokia phone:

1. Latest version of WordPress installed on Ubuntu Server.
2. Latest version of WooCommerce plugin installed.
3. An "Ethereum Wallet" plugin installed.
4. Setup Infura.io API Key, set mainnet as connection, with default Gas limit and Gas Price setting.
5. Modify "My Account" page of WordPress site with Ethereum Wallet shortcode added on.
6. For ERC20 token support, we still need to hard coding in specific field for PHP code to do so.
7. For QRCode scanner, we need to make sure the JavaScript code of camera API can be executed on native web browser in KaiOS

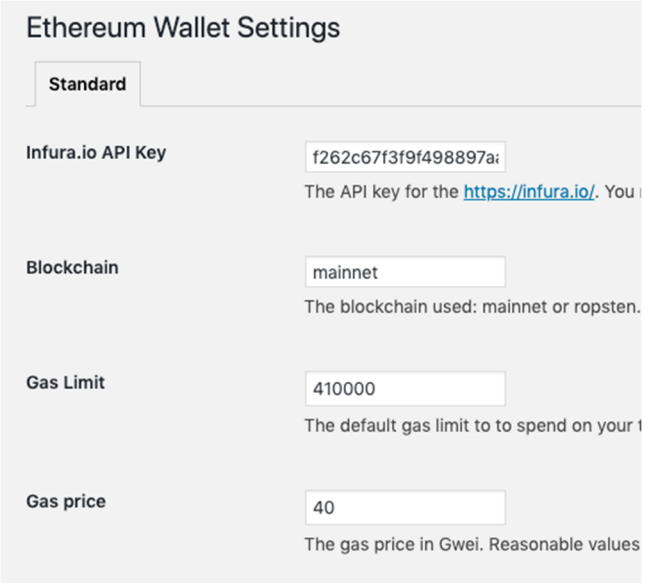

Figure 2: Ethereum Wallet plugin setting page

Figure 3: Using JavaScript QRCode scanner in KaiOS on Nokia 8810 4G to get receiver's crypto wallet address

3. Conclusion

In the beginning, we think it's nearly impossible to bring crypto services to the user who has no iPhone, android or any high-level smartphone, as for most of crypto wallet website, user will need decentralized application (Dapp) browser tab running on modern web browser or crypto wallet app to support. Finally, in this project, we successfully implement a 100% web-based crypto wallet service to be able to run on low-cost and less-powerful internet phone. In short, for a crypto player or general user, he/she can cost only $80 or less to buy a phone and use the web service we develop and shown in this paper as crypto wallet with self-owned private-key, and create peer-to-peer transactions, no matter send or receive all kinds of crypto token on Ethereum blockchain. It creates a lot of opportunities make it a lot easier for blockchain company on market expanding and user acquisition in a very near future.

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