LocalLeaf: A Sustainable Blockchain-based Loyalty Point Conversion System

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Abstract

LocalLeaf is a sustainable loyalty point system based on blockchain technology. It aims to provide a decentralized way for customers to earn and redeem loyalty points at sustainable and local stores, while incentivizing users to shop locally and sustainably. In this whitepaper, we describe the technical details of LocalLeaf, including its architecture, consensus mechanism, and transaction process.

1 Introduction

LocalLeaf is a sustainable loyalty point system that uses blockchain technology to incentivize users to shop locally and sustainably. By earning and redeeming LocalLeaf tokens at participating sustainable and local stores, customers can support local economies and reduce their environmental impact.

2 Architecture

LocalLeaf is built on a decentralized blockchain network that allows any store to create an implementation of the coins payment system and transfer goods. The blockchain consists of blocks that are linked together in a chain, with each block containing a list of transactions.

2.1 Block Structure

Each block in the LocalLeaf blockchain contains the following fields:

- **Block header**: A fixed-size field that contains the block's metadata, including its version number, timestamp, and nonce.

- **Transaction list**: A variable-length list that contains the transactions included in the block, including purchases of the coin itself from the exchange and transactions between customers and participating stores.

- **Previous block hash**: A fixed-size field that contains the hash of the previous block in the chain.

2.2 Transaction Process

When a customer makes a purchase at a participating sustainable and local store, they earn LocalLeaf tokens based on the value of their purchase. These tokens are stored in the customer's LocalLeaf wallet.

To redeem their tokens, customers can use the LocalLeaf payment gateway at participating stores. The payment gateway converts the tokens into the store's local currency at the current exchange rate.

3 Conclusion

LocalLeaf provides a sustainable and decentralized way for customers to earn and redeem loyalty points at participating sustainable and local stores. By using blockchain technology, it ensures that all transactions are recorded on a tamper-proof and sustainable ledger. In addition to incentivizing users to shop locally and sustainably, LocalLeaf offers participating stores adspace, eco-friendly tags, and displays of localization to further promote sustainability and support for local communities.