

Title

– Proposal: [IDGO: A Local Passport and Gift Card System on the Arbitrum Network]

Constitutional / Non-Constitutional

- Non-Constitutional

Abstract

- We aim to leverage the capabilities of the Arbitrum Layer 2 solution to stimulate local economies and enhance tourism. Our proposal involves developing a suite of user-friendly tools for establishing local DAOs and creating digitally-backed passports and gift cards. With this system in place, local businesses can issue digital passports and gift cards to customers and tourists. These gift cards are underpinned by staked ARB tokens, fostering a vibrant economic ecosystem within the DAO where the gift cards are universally accepted. This not only encourages local spending but also fosters a sense of community engagement and loyalty. By harnessing the speed, scalability, and affordability of Arbitrum, we anticipate creating a positive cycle of growth and engagement that benefits the entire Arbitrum community.

Motivation

- Supporting the IDGO project offers the Arbitrum community an innovative means to stimulate local economies and enhance cultural tourism in a decentralized manner. The introduction of our platform, coupled with its TownshipDAOs, passports, and gift cards, provides a unique utility for ARB tokens and potentially increases their demand, ultimately benefiting all ARB holders.

Furthermore, our initiative aligns with the wider vision of the blockchain industry—establishing community autonomy and fostering economic inclusion. Local communities can have their own self-governance, develop local economies, and enable tourists or patrons to participate actively, thereby creating a truly global community that appreciates diversity.

Finally, the successful implementation and adoption of IDGO could act as a real-world case study of the effectiveness of Layer 2 solutions, thus promoting the scalability and versatility of Arbitrum within the blockchain sector. Supporting our project could pave the way for the discovery of even more innovative applications of Arbitrum's technology.

Rationale

- The creation of local DAOs, digital passports, and gift cards using Arbitrum not only showcases the network's potential but also provides a unique and practical use case for ARB tokens. This strengthens the Arbitrum ecosystem and adds value for all participants.

Furthermore, IDGO echoes Arbitrum's commitment to decentralization and community autonomy. Through the self-governance model of our Township DAOs, we empower local communities, allowing them to create, manage and distribute their own digital assets. This echoes the spirit of blockchain technology and the ethos of the Arbitrum community.

Key Terms

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1. Passport

: In the context of this project, a passport refers to a digital token issued by a Township DAO that provides its holder access to the local community and its unique experiences and activities. It serves as a form of virtual citizenship.

1. Gift Card

: In this project, a gift card refers to a digital token issued by a business within a Township DAO. These gift cards are underpinned by staked ARB tokens and can be used at any business within the DAO, thereby promoting local spending and community engagement.

1. Business User

: A business that participates in a Township DAO. They can issue digital passports and gift cards to customers and tourists, promoting local spending and community engagement.

1. Tourist/Customer

: An individual who receives and uses the digital passports and gift cards issued by the business users in a Township DAO. They are also referred to as virtual citizens.

Specifications

Our project will include the following:

1. All in one User interfaces for business owners to create and manage Township DAOs, stake ARB tokens, and issue digital passports and gift cards.
2. Interfaces for customers to receive and use digital passports and gift cards.
3. Smart contracts for the creation and management of Township DAOs, the issuance of digital passports, and the transfer and redemption of gifts.
4. Integration with MetaMask for user authentication and transaction signing.
5. Use of the Arbitrum Nova blockchain for its Layer-2 scalability and smart contract capabilities.
6. Demo video and education kits for local business and township visitors

We have started implementing the concept UI and structure of the Township DAO for passport and gift card issuance. Please reference:

Figma link:

<https://www.figma.com/file/bLkdwXxRhDa2MbbzcfoTHK/IDGO?type=design&node-id=0%3A1&mode=design&t=thkGgp712uKO6NHH-1>

Our project is not intended to replace existing legal or financial systems, but to provide an additional tool that local communities can use to stimulate community currency.

To summarize, here's the refocused concept:

The Township DAO/Local Passport with Gift Cards project is a decentralized digital platform aimed at fostering local economic growth and reinforcing a sense of community. Central to this initiative is the concept of a local passport – a mark of virtual citizenship that deepens the connection between individuals and the local communities they visit or belong to.

Local businesses in a township can join the DAO, and by staking ARB, issue Gift Cards to their customers. These Gift Cards, which can be thought of as a form of local community currency, can be redeemed at participating businesses within the community, promoting local transactions and strengthening the local economy.

The added value of these Gift Cards, such as special discounts or offers, can serve as an incentive for customers to spend more within the local economy. This entire system is built on the Arbitrum Nova blockchain, providing a secure, transparent, and efficient environment for all transactions. With this, we aim to use blockchain technology to create a more interconnected and economically vibrant local community.

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township

841×572 46.1 KB

](https://global.discourse-cdn.com/standard17/uploads/arbitrum1/original/2X/3/34e342b50857336bcf2243479f2dbc53ba7f3fe8.jpeg)

Steps to Implement

Total Estimated Duration: 4.5 months

Full-Time Equivalent (FTE): 5 FTE

Total Costs: 30,000 USDT

The project's roadmap is divided into two milestones:

Milestone 1: Township DAO and passport functionality

Estimated Duration: 2 months

FTE: 5

Product design x 1

Web frontend engineer x 1

System engineer x 1

Dapp Engineer x 1

QA/QC x 1

Costs: 15,000 USDT

Description

The goal of this milestone is to implement the functionality of the Township web tools/ Township dapps with passport features for business.

Deliverables

Number

Deliverable

Specifications

1

Web UI Design & Test guide

Develop a Web UI Design and Test guide that covers all functional requirements and explains the details for the web frontend.

2

Database

Create a database for storage user data.

3

Township DAO smart contract design

Township DAO smart contract should follow OpenZeppelin framework, provide user deployed specific Township DAO for local, proposing and voting on passport, staking tokens, and viewing passport information. Writing by solidity.

4

API

Develop an API for all required functionality including business user registration, proposal submission and voting, staking, and passport management. Writing by JAVA.

5

MetaMask Integration

Development of functionality that allows users to connect their MetaMask wallets to the platform and interact with the Arbitrum network securely.

6

Documentation

Detailed documentation outlining the functionality of the DApp, API endpoints, smart contract functions, and database schema. The documentation should also include user guides for interacting with the DApp.

7

Integration and Testing

Integrating all components and conducting thorough testing to ensure everything is functioning as expected. This includes unit tests for individual components and end-to-end tests for complete workflows.

Milestone 2: Gift card issuance and redemption

Estimated Duration: 2.5 months

FTE: 5

Product design x 1

Web frontend engineer x 1

System engineer x 1

Dapp Engineer x 1

QA/QC x 1

Costs: 15,000 USDT

The primary goal of this milestone is to build and implement the functionality of gift card issuance and redemption for the Township Dapp. This includes the ability for businesses to create, distribute, and track gift cards, and for users (tourists/visitors) to acquire, redeem, and manage these gift cards. This is an integral component of the project, designed to incentivize usage and adoption of the Township DAO and Passport, and enhance the user experience.

Deliverables:

Number

Deliverable

Specifications

1

UI Design & Test guide

Development of user-friendly interfaces for both businesses and users for gift card issuance and redemption, including integration with existing Township DAO and Passport functionality.

2

Gift Card Dapps

Development and deployment of a secure and efficient smart contract for gift card issuance and redemption. Writing by Solidity.

3

API Extension

Expansion of the existing API to include endpoints for gift card issuance and redemption.

4

Documentation

Detailed documentation outlining the functionality of the Gift Card feature, API endpoints, smart contract functions, and user guides for interacting with the feature.

5

Integration and Testing

Integrating all components and conducting thorough testing to ensure everything is functioning as expected. This includes unit tests for individual components and end-to-end tests for complete workflows.

6

Demo sites of Township Passport project

We will create a demo site at township, Taiwan. Organize a workshop demo Township DAO/Passport/Gift Card system. Publish article on social media and video online.

License

The software developed as part of the IDGO project will be released under the Apache 2.0 License.

Timeline

Milestone 1: Township DAO and passport functionality

Estimated Duration: 2 months

Milestone 2: Gift card issuance and redemption

Estimated Duration: 2.5 months

Overall Cost

- 30,000 USD.

Team

Team members

Name of team leader: Jacob Lee

Names of core team members: Brady Liu, Little Daemon

Contact

Contact Name: Jacob Lee

Contact Email: jacoblee@dtco.co

Website: [IDGO](#)

Legal Structure

Registered Address: 1F, No 465-1, Sec. 6, Chung-hsiao E. Rd., Nan-kang Dist.,

Taipei City 11557, TAIWAN

Registered Legal Entity: Taiwan Research-based Biopharmaceutical Manufacturers Association

[TRPMA Official Website](#)

[TRPMA Official Website](#)

The official website of Taiwan Research-based Biopharmaceutical Manufacturers Association (TRPMA)

Team's experience

Jacob Lee is the project lead for IDGO team, which is supported by DTCC and TRPMA. He is also the Director of Design in the digital health team at TRPMA. Jacob has extensive experience in blockchain application development and culture tourism technology. In 2017, the IDGO team announced the Tao Passport, a self-sovereign identity (SSI) ID that was implemented in the real world with indigenous peoples leaders in Orchid Island. This initiative supported culture tourism and sustainable environment. The team continued to innovate in 2018, announcing the community currency Tao coin with local businesses and developing the Tao wallet mobile app based on Ethereum parity technology.

With deep-seated expertise in blockchain and cultural tourism technology, the IDGO team is committed to harnessing the potential of the Arbitrum Network to revolutionize every townships. Their focus is on advanced passport systems and the concept of virtual citizenship, which is set to redefine the way we view and experience tourism.

Team LinkedIn Profiles:

<https://www.linkedin.com/in/jacob-lee-aa435916/>

<https://www.linkedin.com/in/brady-liu-734a27106/>

Overview

Our initiative, "A Local Passport and Gift Card System," reimagines passports as symbols of virtual citizenship. This creates a lasting connection between individuals and the local communities they visit.

At the core of our system are unique digital gift cards, linked to the local passport. These digital mementos, issued by the local businesses, enhance the traveler's journey and experiences.

This system also benefits local businesses. Using the Arbitrum network's speed and affordability, they can issue gift coins as a means of rewarding their loyal customers and attracting new ones. Backed by Arbitrum (ARB), these gift coins provide a smooth, engaging experience for businesses and their customers.

Beyond being a digital platform, we also introduce the concept of a Township DAO. This virtual cooperative is designed to foster collective success and community spirit. Its decentralized nature encourages collective decision-making.

The journey with this system begins with a digital local passport and gift coins. As individuals engage more with local businesses, their experiences and rewards accumulate.

Using our system's integration of Decentralized Finance (DeFi) concepts, businesses can stake ARB tokens to issue gift tokens. These tokens can increase in value based on their acceptance and use within the community. This model benefits both local businesses and consumers, and promotes the growth and prosperity of local economies.

The system operates on the advanced capabilities of the Arbitrum network. It combines user-friendly tools with cutting-edge blockchain technology to create a scalable, efficient, and secure platform. This system is easily integrated into local businesses' operations, supporting community engagement and growth.

Market Problems

Acceptance and Adoption: A major challenge is convincing local businesses and individuals to accept and use the community currency. This is a chicken-and-egg problem; businesses won't accept the currency if no one is using it, and individuals won't use it if no businesses accept it. Overcoming this initial hurdle requires a strong and committed group of early adopters and businesses.

Liquidity: For a currency to function effectively, there needs to be sufficient liquidity in the market. If the community currency isn't widely used, it may be difficult for users to convert it into other forms of currency when needed. This could limit its usefulness.

Trust and Security: Users need to trust that the community currency is secure and that its value will be relatively stable. This can be a particular challenge for digital or not digital community currencies, which may be vulnerable to hacking or fraud.

Business Model: Launching a community currency involves a significant amount of costs and resources. Such as development and maintenance, promotion/education, human resources.

Solutions

Township Passport: By offering a "Township Passport", the initiative can elicit these emotions and create a more meaningful connection between individuals and the local community. They can easily manage their balance, make transactions, and receive gifts right from their digital Passport.

Gift card System: By using a blockchain-based system and staking with ARB, a liquid and widely traded asset, this could provide a source of liquidity. Furthermore, gift cards being spent within the local community can generate a healthy circulation of the community currency.

Arbitrum Network: Leveraging the Arbitrum Nova blockchain's inherent security could build trust in the system. Also, the open and transparent nature of blockchain transactions allows users to verify transactions independently, fostering trust.

Tokenomics: Staking fee could be implemented on ARB staking transactions. In this model, every time an ARB token is staked into the system, the DAO takes a 2-10% cut. This fee becomes part of the DAO's treasury and can be used to fund the ongoing development and maintenance of the system. When Gift Cards are exchanged for ARB tokens, a 2% swap fee could be levied. This fee would add to the DAO's treasury and provide an additional stream of income to fund the development of the system. Implementing these revenue streams could provide a steady income for developers, supporting the sustainability and long-term development of the Township Passport system.

Future Plans

The Township DAO project will be divided into two primary phases of development. Phase I will focus on building a web application and dapps based on the Arbitrum One Network.

For a timely market entry and to control costs, we will initially not be implementing mobile apps (iOS/Android) in Phase I. However, in Phase II, we may consider developing dedicated iOS/Android applications to enhance the user experience.

In our mid-term plan, we aim to augment the functionality of our passport system, focusing on virtual citizenship. This will equip the Township DAO with additional features to support local welfare and community benefits.

We also intend to introduce gamification elements to our gift cards, providing features like missions and challenges to further engage and entertain our users. This approach is anticipated to improve user retention and encourage active participation within the platform.