

CSG

OblePay

Online Wallet System built-in Decentralized Identifiers

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Agenda

01

Problem Statement

02

Proposed Solution

03

Technologies Used

04

Advantages and Benefits

05

Demonstration

06

Recommendations

Problem Statement

- Centralized Identity Management
- Data Breaches
- Adoption of Digital Payment Systems

Proposed Solution

A screenshot of a Brave Web Browser window titled "Brave Web Browser" and "React App - Brave". The address bar shows "localhost:3000/owner1". The page content is a dark-themed interface for managing tokens. At the top center is a small "OblePay" logo with a stylized figure. Below it, the name "Alice" is displayed in a large serif font.

The interface includes the following fields:

- Name:** [Input field]
- Student Number:** [Input field]
- UP Email:** [Input field]
 - View Credentials** button
 - Hide Credentials** button
- Token balance**: **0 tokens**
- Counter Party**: **dan**
- Amount**: **100**
- Token**: [Input field]
- Message**: [Input field]
- Submit** button

Proposed Solution

The screenshot shows a Brave Web Browser window with the URL `localhost:3000/owner2`. The page is titled "OblePay" and features a user profile for "Dan". Below the profile, there is a "Present Proof Request" form with fields for Name, Student Number, and UP Email. There are also input fields for Name, Student Number, and UP Email, followed by "Send Request" and "Show Proof" buttons. To the right, there is a "Token balance" section showing "0 tokens". Further right is a "Counter Party" section with fields for "Counter Party" (set to "alice"), "Amount" (set to "100"), "Token" (empty), and "Message" (empty). A "Submit" button is located at the bottom of this section.

Activities Brave Web Browser
React App - Brave

Fri Jun 14 09:34

localhost:3000/owner2

OblePay

Dan

Present Proof Request

Name
 Student Number
 UP Email

Name:
Student Number:
UP Email:

Send Request

Show Proof

Token balance
0 tokens

Counter Party
alice

Amount
100

Token

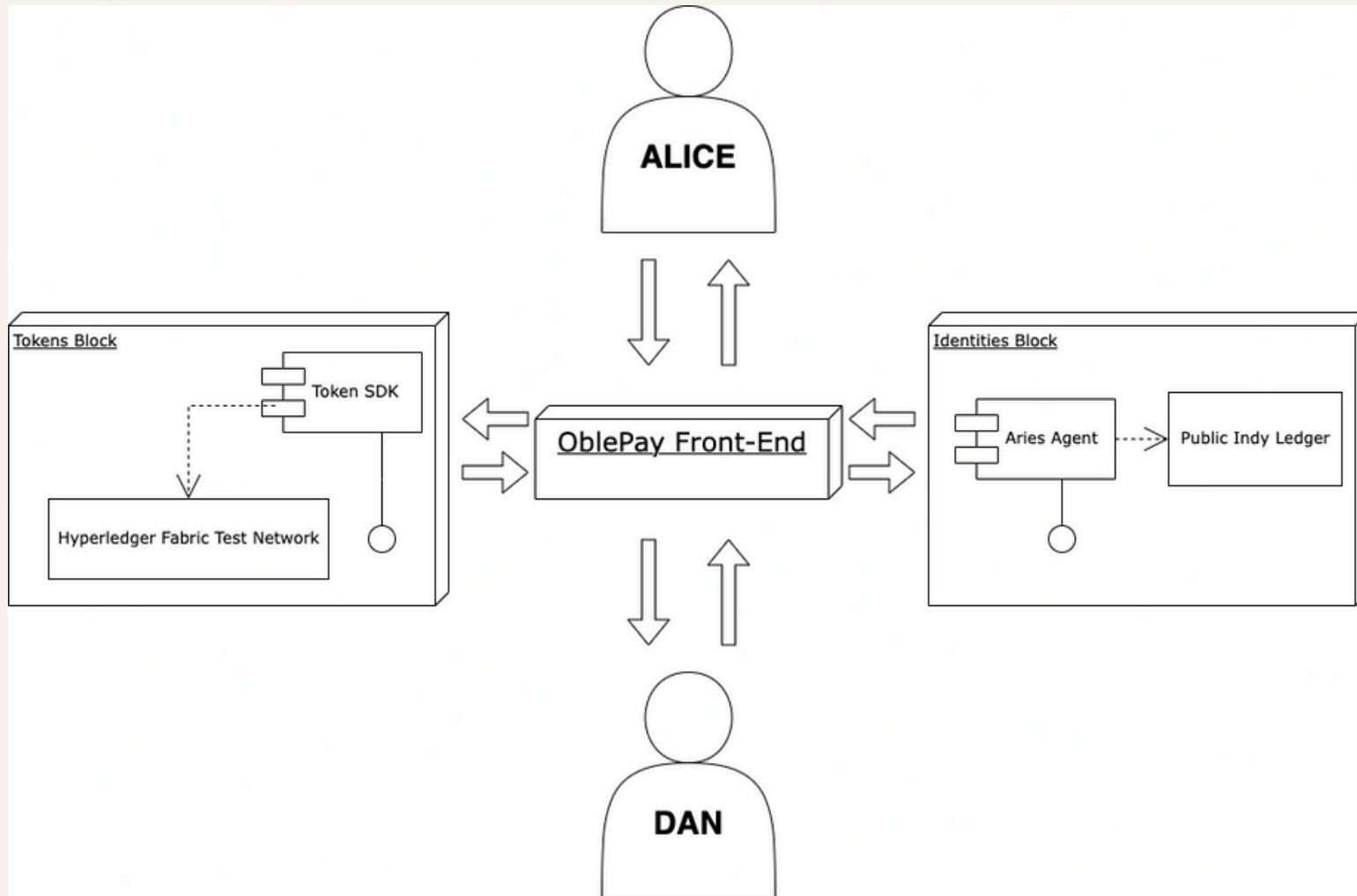
Message

Submit

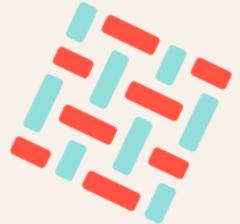
Use Cases

1. User can send tokens to other Users
2. User can receive tokens from other Users
3. User can send their identity to other Users
4. User can receive and verify the identity of other Users

Design Implementation



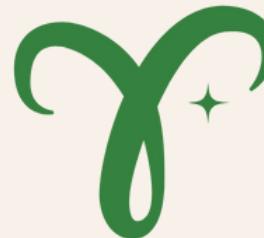
Technologies Used



**HYPERLEDGER
FABRIC**

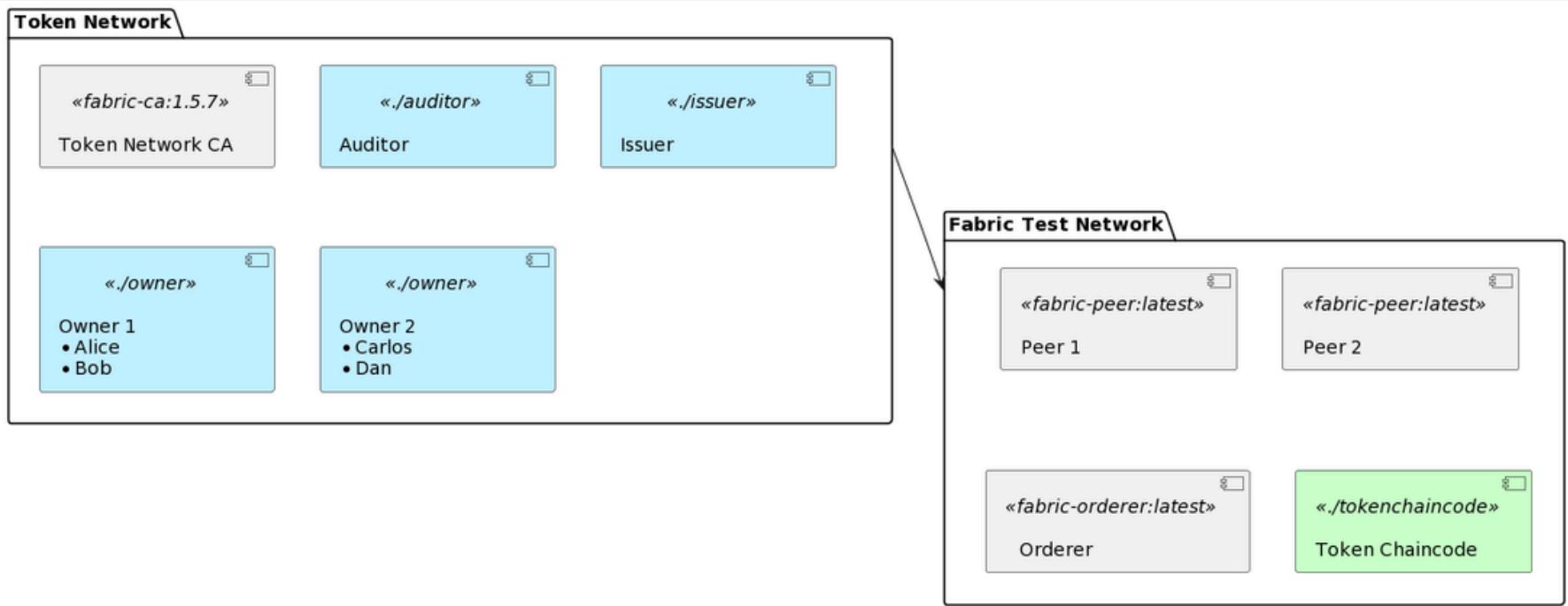


**HYPERLEDGER
INDY**

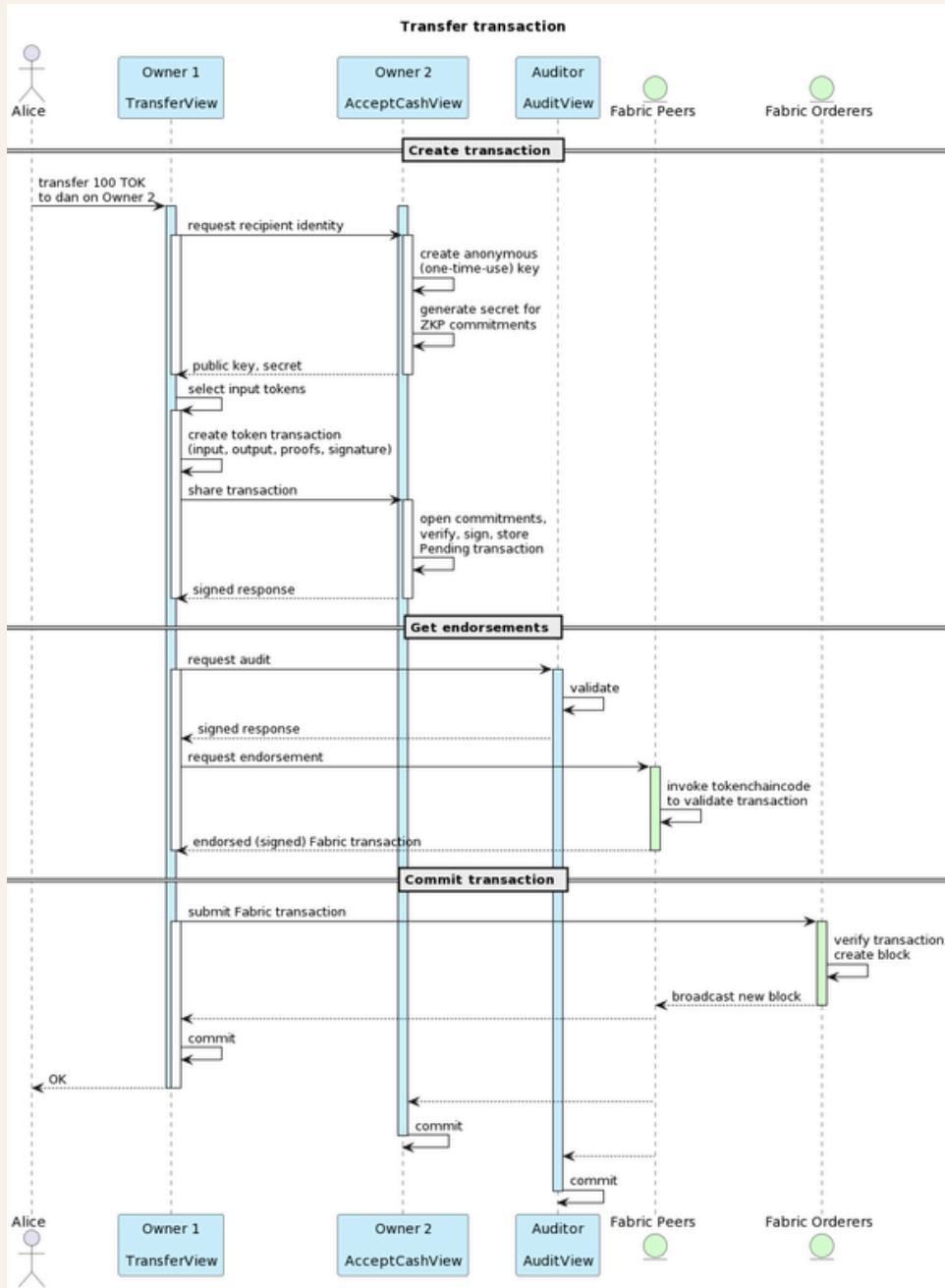
 **HYPERLEDGER
ARIES**

The logo features a stylized green symbol resembling a Greek letter gamma (γ) with a small star-like spark at the top right. To the right of the symbol, the word "HYPERLEDGER" is written in a dark gray sans-serif font, and below it, "ARIES" is written in a larger, bold green sans-serif font.

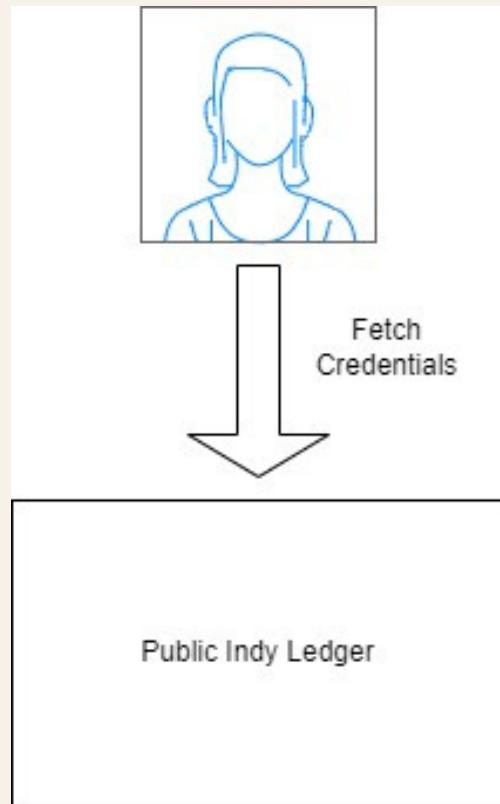
Technologies Used



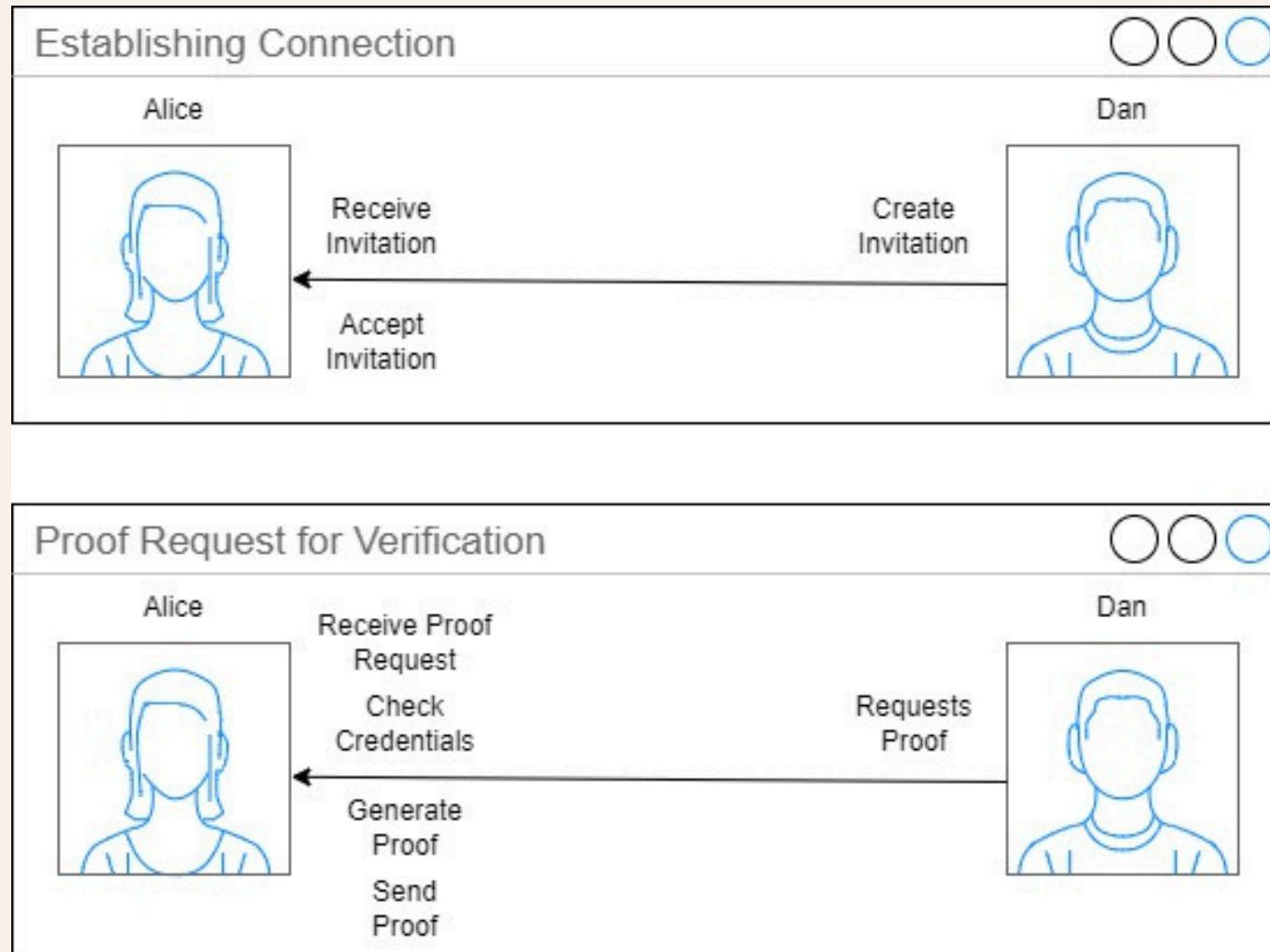
Technologies Used



Technologies Used



Technologies Used



Advantages & Benefits



Privacy Preservation



Self-Sovereign Identity



Decentralization and Security



Zero-Knowledge Proofs



Flexibility and Customization

Advantages & Benefits



Permissioned Blockchain



Execute-Order-Validate
Architecture

DEMONSTRATION

User Story

Alice, a Varsity Athlete for UP Diliman relies on University Food Subsidy Voucher for her daily meals at the UFS Canteen. Through OblePay, the Varsity Office can issue her UFS Voucher as a token and sent to her wallet.

Alice then heads to the UFS canteen where Dan works as a staff. Dan however needs to verify if Alice is a UP student through OblePay, Alice can send her proof of identity and Dan can verify it. Alice can now then send her UFS Voucher token to Dan and receive her food.

Recommendations

- ✓ Front-end view for Issuer and Auditor
- ✓ More security features for the web app
- ✓ Automate User Creation
- ✓ User Credential Management
- ✓ Duplication Management

Thank You

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