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MoneyToken Solution High Level Functional Document

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Version Control

Version	Date	Author	Reviewer	Description
1.0	11-Apr-2025	Vinod L	Ashish K	Baseline

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1. Introduction

1.1. Purpose

This document outlines the functionality for **MoneyToken**, a blockchain-based digital payment solution developed by **WadzPay**. MoneyToken enables the secure tokenization of fiat currencies into blockchain-backed digital assets, facilitating instant transactions, closed-loop financial ecosystems, and cross-border payments.

This document serves as a blueprint for developers, stakeholders, and hackathon judges, detailing:

- Core functionalities of the MoneyToken system.
- Security and compliance measures.
- Integration with the **Algorand blockchain** for high-speed, low-cost transactions.
- User and merchant workflows.

1.2. Scope

- Digitization of fiat into blockchain-based tokens.
- Mobile wallet integration (white-label).
- Cross-border payments with multi-currency support.
- Merchant settlements in Fiat or MoneyTokens.
- Institutional controls for compliance and limits.

1.3. Key Benefits

- ✓ **Purpose-Driven Tokenization**
  - o Tokens are customizable (e.g., education, healthcare) with smart controls to ensure intended use.
  - o Enhances transparency and accountability for senders/receivers.
- ✓ **Inclusive and Interoperable**
  - o Works on smartphones without a traditional bank account.
  - o Integrates with existing payment systems to boost financial inclusion.

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- ✓ **Secure, Efficient Transactions**
  - o Removes cash-handling risks; enables instant QR-based payments.
  - o Scalable for high-volume urban/rural transactions.
- ✓ **Seamless Closed Corridor Payments**
  - o Supports cross-border token usage between partnered institutions.
  - o deal for remittances, tourism, and merchant settlements.

1.4.   Target Audience

- Developers, Hackathon Judges (Algorand)
- Financial Institutions & Merchants

2. Overall Description

2.1   Product Vision

MoneyToken aims to replace physical cash with **secure, instant, and purpose-bound digital tokens** on the Algorand blockchain, reducing transaction costs and enabling seamless cross-border payments.
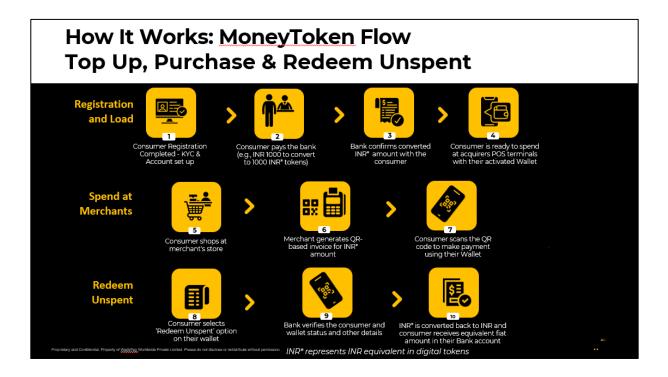
2.2   Key Features

- **Tokenization of Fiat:** 1:1 pegged digital tokens backed by security deposits.
- **Closed-Loop & Open Ecosystems:** Supports institutional groups (e.g., banks) and multi-party networks.
- **Mobile Wallet (PayEasy):** Top-up, transfers, merchant payments, redemption.
- **Cross-Border Use Cases:** Medical tourism, education, pilgrimage.
- **Merchant Solutions (TrustPoint):** QR-based POS payments.

2.3   Assumptions

- Integration with Algorand blockchain for fast, low-cost transactions.
- Partner institutions handle **fiat** deposits/redemptions.

3. High Level Functional Flow

4. Functional Components

4.1 Core Modules

4.1.1 PayEasy (User Wallet App)

- **Top-Up:** Deposit fiat → Mint MoneyToken.

- **Transfers:** P2P token transfers (e.g., parent → child).

- **Merchant Payments:** Scan QR codes for instant payments.

- **Redemption:** Convert MoneyToken → Fiat (1:1).

4.1.2 TrustPoint (Merchant POS App)

- **QR Generation:** Dynamic QR for amount/currency.

- **Payment Confirmation:** Real-time transaction completion.

4.1.3 PayDash (Issuer Admin Portal)

- **User Controls:** Enable/disable wallets, set transaction limits.

- **Fees & Rates:** Configure conversion fees, FX rates.

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4.1.4 TrustDash (Merchant Portal)

- **Transaction History:** View payments, refunds.
- **Settlement Reports:** T+1 fiat settlements and instant for MoneyToken settlements.

4.2 Key Workflows

1. **User Onboarding & Wallet Funding:**

   o Fiat deposit → Token minting.

2. **Payment Flow:**

   o User scans merchant QR → Token transfer → Settlement.

3. **Cross-Border Flow:**

   o FX conversion → Purpose-bound token issuance.

5. Non-Functional Features

Category	Requirement
Performance	<500ms transaction finality (Algorand).
Security	Algorand supported wallets, KYC/AML compliance.
Scalability	Support 10k+ TPS (Algorand).
Usability	White-label UI for institutional branding.

6. Tech Stack

- **External Services:** Twilio, Algorand
- **Js Libraries:** React-query
- **CSS Librabies:** Ant-Design, Bootstrap
- **Database:** PostgreSQL
- **DB Migration:** Flyway
- **Deployment:** Github, Circle CI, AWS Terraform
- **IDE:** IntelliJ, Visual Studio Code

7. Use Cases

- ✓ **Campus Spending**
  Parents can transfer MoneyTokens directly to students for use within campus-approved facilities. Tokens can be restricted for specific categories like books, cafeteria meals, or hostel expenses. This provides parents with control and traceability, while students enjoy a cashless, hassle-free experience.

- ✓ **Pilgrimage & Religious Travel**
  MoneyTokens can be preloaded and sent to family members or individuals undertaking religious journeys. Tokens can be spent only on predefined categories such as accommodation, meals, transportation, and temple donations. This ensures purposeful usage, reduces the risk of theft or misuse, and simplifies spending in remote regions.

- ✓ **Medical Tourism**
  Patients traveling abroad for medical treatment can receive MoneyTokens for health-related expenses. Tokens can be programmed to be used only at partnered hospitals, pharmacies, or wellness centers. It offers a secure, compliant, and transparent way for sponsors, NGOs, or families to fund treatments.

- ✓ **Event Participation**
  Organizers of large events (conferences, exhibitions, fairs) can issue MoneyTokens to attendees, staff or vendors. These tokens can be used within the event ecosystem for food, merchandise, workshops and more. It streamlines payments, reduces cash handling and enables detailed analytics on participant spending.

- ✓ **Instant Merchant Payments**
  MoneyToken enables real-time, QR-based payments at both physical and online stores. Merchants receive instant settlement into their token wallets, with optional fiat conversion. It supports low-fee, fast transactions - ideal for small businesses and high-volume retail environments.

8. Conclusion

MoneyToken leverages **Algorand's speed and low fees** to create a **secure, interoperable digital cash system** for institutions and cross-border use cases. This hackathon prototype will demonstrate:

- Instant fiat-to-token conversion.

- QR-based merchant payments.

- Transaction & Wallet controls for institutions.