UNIPAY

Make fast and secure campus payments

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Purpose of UniPay

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- Facilitates digital payments within the campus between students, faculty, and merchants.

- Uses AI-based spending analysis to provide personalized discounts instead of generic rewards.

- Offers dashboards for users to track wallet balance and view categorized spending.

Inputs and Outputs

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Inputs:

- User login credentials (email/password)
- Payment details (amount, merchant, category)
- User actions like:
  - Spending a certain amount
  - Claiming a reward
  - Viewing a report or downloading it
  - Adding merchant offers (by admin or merchant)

Outputs:

- Spending summary charts (line, ring, bar)
- Wallet balance and total usage stats
- Transaction history with filters
- Reward notifications and discounts
- AI-generated suggestions based on user spending

Performance Requirements

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- Fast load time: Dashboards and transaction data should load within 2-3 seconds.

- Secure transactions: All payment actions must be done over HTTPS, with proper authentication.

- AI/ML processing: Transaction data should be analyzed in the background without affecting the UI responsiveness.

- Scalability: Should handle hundreds of simultaneous users, especially during events or fee deadlines.

- Mobile responsiveness: The UI should adapt smoothly to various screen sizes and devices.

- Error handling: System should provide clear feedback on failed payments or login errors.

- Real-time updates: Wallet balance and transaction logs should update instantly after any transaction.
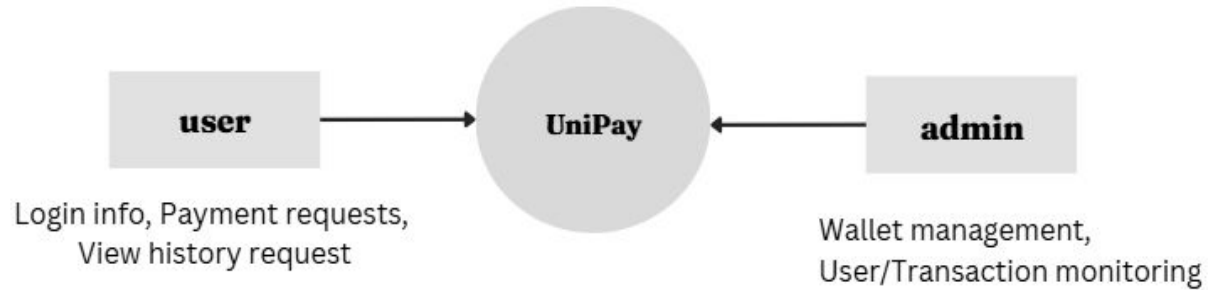
Feasibility Report

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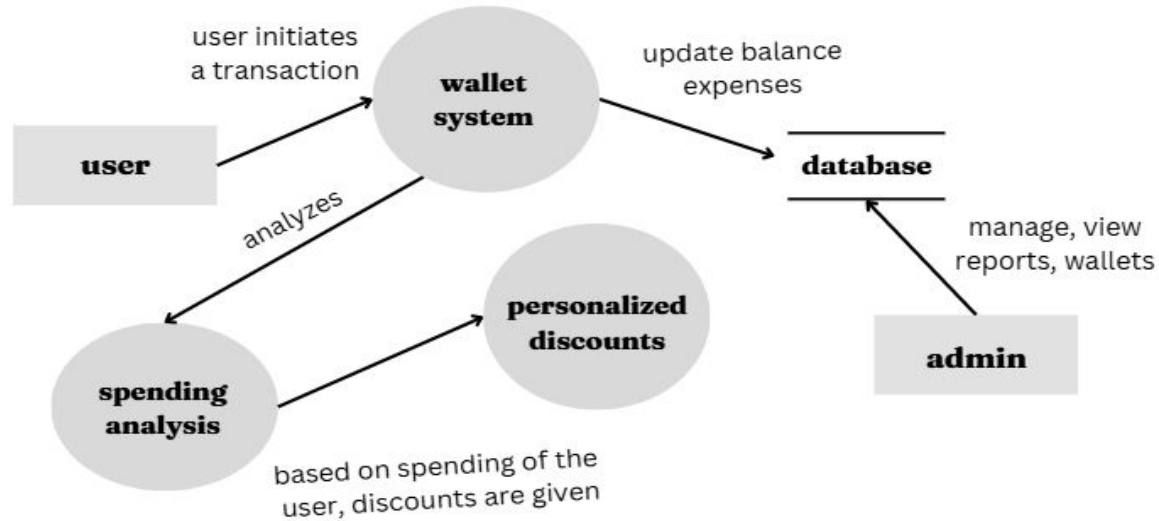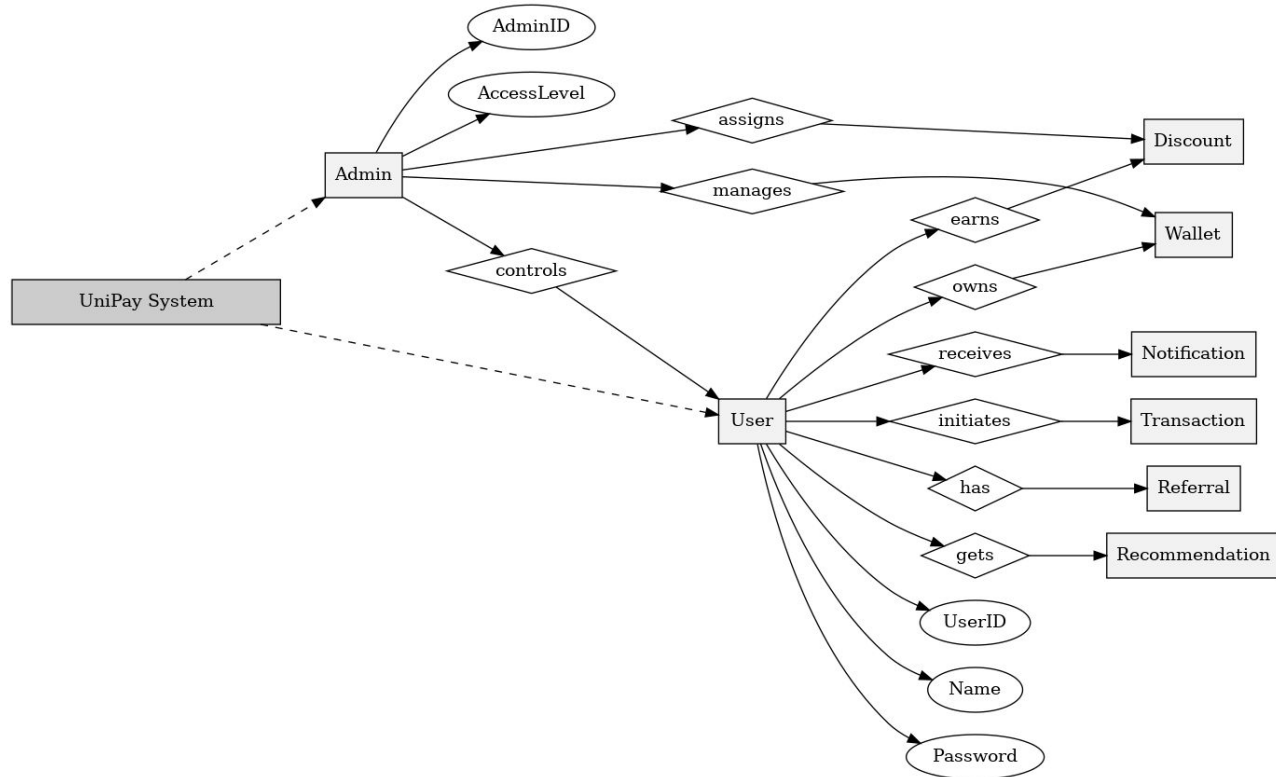|	
Technical Feasibility	• Uses open-source tech (HTML/CSS/JS, Flask, MongoDB) • The system handles moderate server load
Economic Feasibility	• Low-cost due to free tools and platforms • Existing campus infrastructure (Wi-Fi, devices) can be reused
Operational Feasibility	• Students and faculty are already familiar with digital tools • Dashboards simplify transaction and discount management

DFD - Level 0

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level 0 DFD

user → UniPay ← admin

Login info, Payment requests,
View history request

Wallet management,
User/Transaction monitoring

DFD - Level 1

level 1 DFD

user — user initiates a transaction → **wallet system**

wallet system — update balance expenses → **database**

wallet system — analyzes → **spending analysis**

spending analysis — based on spending of the user, discounts are given → **personalized discounts**
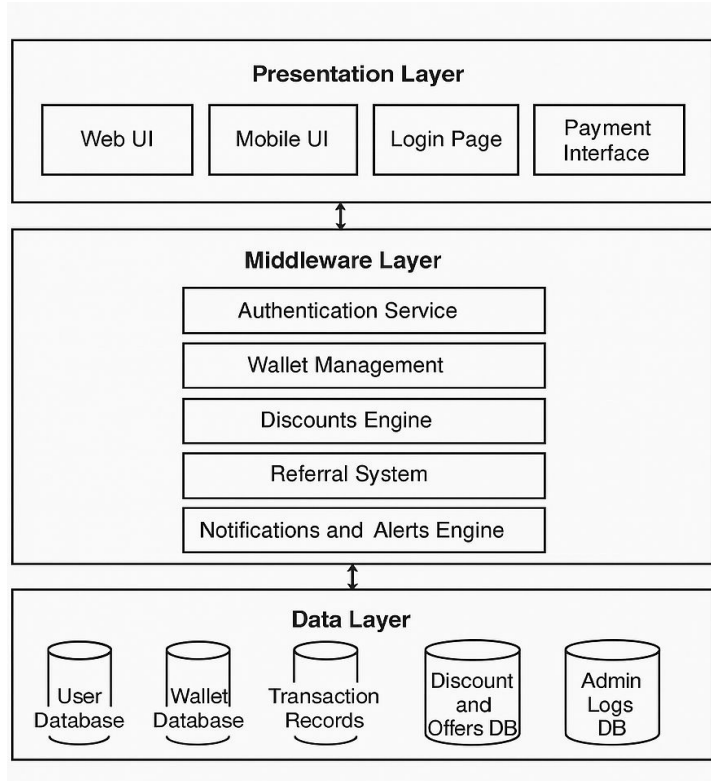
admin — manage, view reports, wallets → **database**

ER Diagram

System architecture

THANK YOU!!!