

WealthNest

A Fintech Investment Platform

Definition :

WealthNest is a digital investment and portfolio management platform that enables users to securely buy and track stocks, mutual funds, and other assets. It provides wallet management, financial analytics, and real-time prices, along with gamified investing features to enhance user engagement. The platform also includes a dedicated admin panel for compliance, monitoring, and financial oversight, ensuring security and transparency at every level.

2. Proposed System

2.1 Scope

WealthNest is a digital investment platform that allows users to securely invest in stocks, mutual funds, and other assets. It provides real-time market tracking, portfolio management, and analytics to help users make informed decisions. The platform supports secure wallet management and digital transactions. Administrators can monitor activity, ensure compliance, and manage user accounts. A points system with a leaderboard encourages user engagement. Overall, WealthNest simplifies investing while maintaining security, transparency, and ease of use.

2.2 Objectives

- Enable users to create and manage investment portfolios efficiently.
- Provide real-time tracking of stocks, mutual funds, and other assets.
- Facilitate secure wallet management and digital transactions.
- Offer analytics and reports for better investment decision-making.
- Implement a points system with a leaderboard to enhance user engagement.
- Provide an admin panel for compliance, monitoring, and management.

2.3 Constraints

2.3.1 Hardware Constraints

- Requires devices with stable internet for real-time updates.
- Performance may be limited on low-end devices.
- Sufficient storage is needed for historical transaction and portfolio data.

2.3.2 Software Constraints

- Requires updated browsers or mobile apps for full functionality.
- Integration with third-party financial APIs may have limitations.
- Security depends on correct implementation of encryption and authentication protocols.

2.4 Advantages

- Simplifies investment and portfolio management for users.
- Provides real-time analytics and portfolio tracking.
- Enhances security and reliability of financial transactions.
- Points and leaderboard systems encourage engagement without complicating the platform.
- Admin panel allows for compliance and monitoring.

2.5 Limitations

- Offline access to real-time financial data is not available.
 - Advanced AI-driven investment recommendations are not implemented.
 - Multi-market or international asset support is not included.
 - Payment integration is not implemented in the current version.
 - Some custom integrations with external financial platforms are not available
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Database Design

1. Users

Column Name	Data Type	Description
user_id (PK)	INT	Unique identifier for each user
name	VARCHAR(100)	Full name of the user
email	VARCHAR(150)	Unique email (login credential)
phone	VARCHAR(15)	Contact number
password_hash	VARCHAR(255)	Encrypted password
birthdate	DATE	User's date of birth
address	TEXT	Residential address
photo_url	VARCHAR(255)	Profile photo (optional)
created_at	DATETIME	When the user registered
status	ENUM(active, banned)	Account status

2. Wallets

Column Name	Data Type	Description
wallet_id (PK)	INT	Unique wallet ID
user_id (FK)	INT	References Users
balance	DECIMAL(12,2)	Current balance
currency	VARCHAR(10)	Currency type (INR, USD, etc.)
updated_at	DATETIME	Last update

3. Assets

Column Name	Data Type	Description
asset_id (PK)	INT	Unique asset ID
asset_type	ENUM(stock, mutual_fund, bond, crypto)	Type of asset
symbol	VARCHAR(20)	Ticker symbol (e.g., RELIANCE, BTC)
name	VARCHAR(100)	Asset full name
current_price	DECIMAL(12,2)	Market price
updated_at	DATETIME	Last price update

4. Portfolios

Column Name	Data Type	Description
portfolio_id (PK)	INT	Unique portfolio ID
user_id (FK)	INT	References Users
created_at	DATETIME	When portfolio was created
last_updated	DATETIME	Last modified

5. Portfolio_Holdings

Column Name	Data Type	Description
holding_id (PK)	INT	Unique holding ID
portfolio_id (FK)	INT	References Portfolios
asset_id (FK)	INT	References Assets
quantity	DECIMAL(12,4)	Number of units held
average_price	DECIMAL(12,2)	Average buy price per unit
created_at	DATETIME	When asset was added

6. Transactions

Column Name	Data Type	Description
transaction_id (PK)	INT	Unique transaction ID
user_id (FK)	INT	References Users
wallet_id (FK)	INT	References Wallets
asset_id (FK, nullable)	INT	References Assets if buy/sell
transaction_type	ENUM(buy, sell, deposit, withdraw)	Type
amount	DECIMAL(12,2)	Total amount of transaction
quantity (nullable)	DECIMAL(12,4)	Quantity of asset
status	ENUM(pending, completed, failed)	State
created_at	DATETIME	Timestamp

7. Payment_Methods

Column Name	Data Type	Description
method_id (PK)	INT	Unique payment method ID
user_id (FK)	INT	References Users
type	ENUM(card, UPI, bank)	Method type
masked_details	VARCHAR(100)	Last 4 digits, masked info
created_at	DATETIME	When added

8. OTP_Log

Column Name	Data Type	Description
otp_id (PK)	INT	Unique OTP ID
user_id (FK)	INT	References Users
otp_code	VARCHAR(255)	Hashed OTP
purpose	ENUM(login, buy, withdraw)	OTP use
expires_at	DATETIME	Expiry time
used	BOOLEAN	Whether OTP used

9. Achievements

Column Name	Data Type	Description
achievement_id (PK)	INT	Unique ID
title	VARCHAR(100)	Name of badge/achievement
description	TEXT	Details
points	INT	Points awarded

10. User_Achievements

Column Name	Data Type	Description
user_achievement_id (PK)	INT	Unique ID
user_id (FK)	INT	References Users
achievement_id (FK)	INT	References Achievements
earned_at	DATETIME	When earned

11. Leaderboard

Column Name	Data Type	Description
leaderboard_id (PK)	INT	Unique ID
user_id (FK)	INT	References Users
points_total	INT	Total points accumulated
rank	INT	Leaderboard position

12. Feedback

Column Name	Data Type	Description
feedback_id (PK)	INT	Unique feedback ID
user_id (FK)	INT	References Users
message	TEXT	Feedback message
status	ENUM(open, closed, in-progress)	Status
created_at	DATETIME	Timestamp

13. Admins

Column Name	Data Type	Description
admin_id (PK)	INT	Unique admin ID
name	VARCHAR(100)	Admin name
email	VARCHAR(150)	Unique email
password_hash	VARCHAR(255)	Encrypted password
role	ENUM(superadmin, employee)	Role
created_at	DATETIME	Added time

14. Admin_Audit_Log

Column Name	Data Type	Description
log_id (PK)	INT	Unique log ID
admin_id (FK)	INT	References Admins
action	VARCHAR(100)	Performed action
details	TEXT	Details
timestamp	DATETIME	When it happened

15. System_Financials

Column Name	Data Type	Description
record_id (PK)	INT	Unique record
total_client_funds	DECIMAL(14,2)	Total funds in system
last_updated	DATETIME	Last update

16. Client_Fund_Ledger

Column Name	Data Type	Description
ledger_id (PK)	INT	Unique ledger ID
user_id (FK)	INT	References Users
transaction_id (FK)	INT	References Transactions
entry_type	ENUM(credit, debit)	Fund flow
amount	DECIMAL(12,2)	Transaction amount
balance_after	DECIMAL(12,2)	User's balance after txn
fund_account_balance	DECIMAL(14,2)	System-wide balance after txn
timestamp	DATETIME	When it occurred
