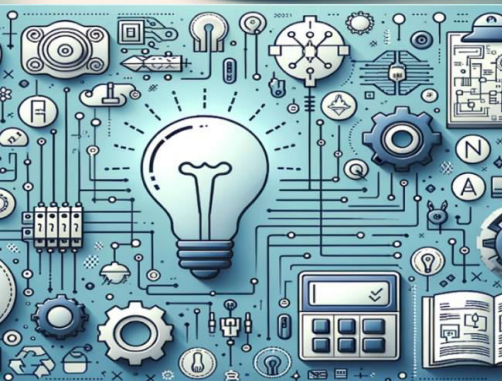




International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 9.864

Volume 9, Issue 6, June 2026



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Unified Multi-Bank Management System

N. Harish¹, Mrs.S.Vinitna Mary²

PG Scholar, Department of Master of Computer Applications, RVS College of Engineering, Dindigul,
Tamil Nadu, India¹

Assistant Professor, Department of Master of Computer Applications, RVS College of Engineering, Dindigul,
Tamil Nadu, India²

ABSTRACT: The Unified Multi-Bank Management System is a centralized Flask-based web application designed to provide a unified banking interface for users who maintain multiple bank accounts across different banks. Managing multiple bank logins can be complex and inconvenient; therefore, this system integrates various banks into a single secure platform. It acts as a standard interface between customers and banks, enabling users to access account details, check balances, and perform transactions without visiting multiple banking websites. The system supports three types of users: Admin, Branch Manager, and Customer. The Admin manages bank details and approves customer registrations, while the Branch Manager oversees banking operations and customer activities. In addition to account management and transactions, the system also includes a Loan Processing Module. Customers can apply for loans through the HBS portal, upload required documents, and track loan status in one place. The system facilitates eligibility verification and allows bank authorities to approve or reject applications efficiently. By integrating multiple banking services into a single platform, the HBS ensures secure, convenient, and streamlined banking operations, improving overall user experience and operational efficiency.

I. INTRODUCTION

The **Unified Multi-Bank Management System** is a web-based application developed using Python Flask to simplify the management of multiple bank accounts through a single centralized platform. It allows users to access account details, perform transactions, check balances, view transaction history, and manage financial activities efficiently from one interface. The system supports three user roles: Admin, Branch Manager, and Customer. Admin manages system security and customer registrations, Branch Manager supervises banking operations and verifies transactions, while Customers manage accounts and apply for loans online. The Loan Processing Module enables users to submit applications, upload documents, and track loan status in real time, reducing paperwork and processing delays. The system ensures security through authentication, encryption, transaction logs, and audit trails. Additional features such as OTP login, fraud detection, real-time notifications, mobile support, analytics, and banking API integration can further enhance the system. Overall, the system provides a secure, scalable, and efficient solution for centralized digital banking and improved financial management.

EXISTING SYSTEM

In the current banking system, individuals and businesses often maintain multiple accounts in different banks for various financial needs. Managing these accounts through separate banking portals creates inconvenience, as users must remember multiple login credentials and switch between platforms frequently. Cross-bank transactions become time-consuming and inefficient, while the absence of a centralized platform makes it difficult to view balances, transaction history, and financial summaries in one place. Additionally, bank staff and administrators face challenges in handling customer requests and monitoring operations efficiently due to the lack of a unified and standardized system.

Disadvantage of Existing System

- Users must remember and manage multiple logins for different banks
- No centralized view of accounts or balances across multiple banks
- Cross-bank transactions are time-consuming and inefficient
- Lack of integration leads to redundant steps and manual reconciliation
- Higher security risks due to multiple access points and scattered
- No standardized system for managing bank data or user permissions



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- Difficult for branch managers and admin to track or assist with multi-bank activity
- Limited support for business-level or corporate multi-bank operations

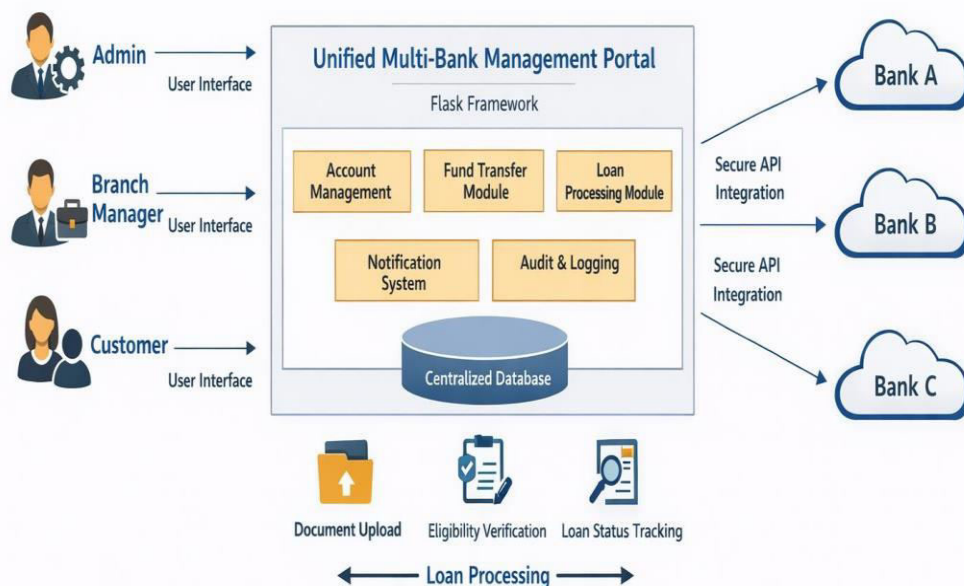
II. PROPOSED SYSTEM

The proposed HBS Interface is a secure Flask-based web application designed to manage multiple bank accounts through a single centralized platform. It removes the need to access separate banking portals by providing one unified dashboard for all banking activities. The system supports role-based access for Customers, Branch Managers, and Admin. Customers can view balances, perform transactions, and manage linked accounts, while Admin manages bank details, user approvals, and reports. The system ensures security through encryption, session management, and optional two-factor authentication. With real-time transaction monitoring, inter-bank functionality, and a user-friendly interface, the system simplifies and modernizes digital banking management.

Advantage of Proposed System

- Single login to access and manage multiple bank accounts securely
- Centralized dashboard for all account balances and transactions
- Enables cross-bank transactions from one platform
- Supports role-based access for customers, managers, and admin
- Admin control panel to manage banks, users, and system configurations
- Provides real-time alerts and consolidated transaction histories

III. SYSTEM ARCHITECTURE



IV. MODULE DESCRIPTION

- Customer Registration & Login
- Customer Dashboard
- Bank Manager
- Transaction
- Report



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CUSTOMER REGISTRATION & LOGIN

The Customer Registration & Login Module is the entry point for users of the UMBS system, allowing individuals to securely register and access their multi-bank accounts through a single unified interface. During the registration process, customers provide personal details such as name, contact information, email, and a preferred username and password. Once submitted, the registration request is sent to the Admin for approval to ensure authorized access only. Upon approval, customers can log in using their credentials. The system uses secure password hashing and session management to protect user data. After successful login, customers are redirected to their personalized dashboard, where they can view linked bank accounts, perform transactions, and manage their profile. This module ensures authentication, security, and a smooth onboarding process while enforcing role-based access control.

CUSTOMER DASHBOARD

The Customer Dashboard Module provides a centralized and user-friendly interface for customers to manage multiple linked bank accounts from a single platform. After login, users can view account balances, recent transactions, and notifications through a personalized dashboard. The module allows customers to switch between banks, access mini-statements, perform fund transfers, and manage account settings securely. Users can also update profiles, change passwords, and receive alerts or messages from the admin. Developed using HTML, CSS, Bootstrap, and JavaScript, the dashboard offers a responsive design for both desktop and mobile devices. This module improves convenience, accessibility, and financial management through a secure and unified banking interface.

BANK MANAGER

The Bank Manager Module is designed to oversee and manage banking operations within the UMBS system. It provides a secure dashboard where managers can monitor customer activities, verify transactions, and supervise daily banking services efficiently. Branch managers can manage customer accounts, handle transaction approvals, review account details, and respond to customer requests. The module also enables managers to monitor banking activities, generate reports, and maintain smooth coordination between customers and the admin. Security and transparency are ensured through activity tracking, transaction monitoring, and access control features. This module plays a vital role in maintaining operational efficiency and reliable banking services within the system.

TRANSACTION

The Transaction Module is a core component of the HBS system that allows customers to perform secure financial transactions across multiple linked bank accounts through a single interface. Users can transfer funds, make bill payments, and perform inter-bank transactions by selecting source and destination accounts. The system validates transaction details, checks account balance availability, and processes transactions securely. Each transaction is recorded with a unique transaction ID, timestamp, bank details, and transaction status for tracking and auditing purposes. Customers receive real-time transaction confirmations, while Branch Managers can monitor and review transaction logs. The module also provides transaction history, search and filter options, and report generation features, ensuring secure, transparent, and efficient financial operations.

REPORT

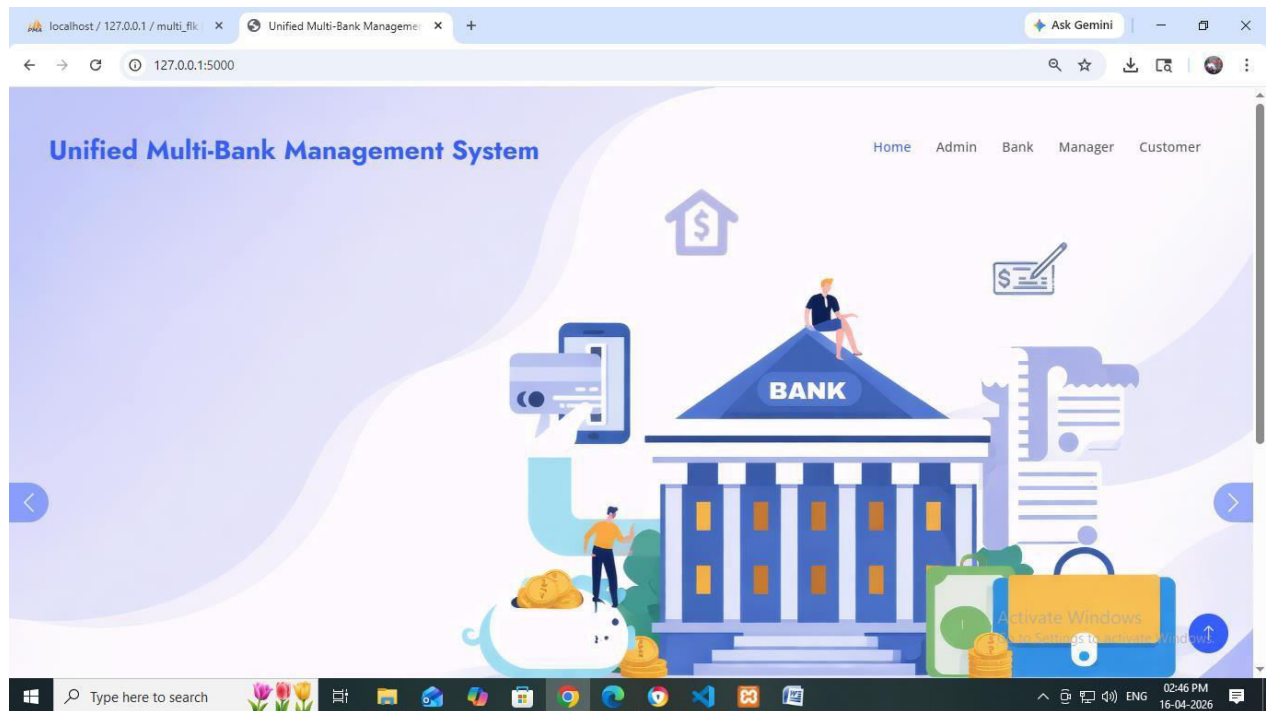
The Report Module is designed to generate detailed and structured reports for Admin and Branch Managers to monitor and analyze system usage, transactions, and account activities within the HBS system. This module allows authorized users to generate reports based on filters such as date range, user type (Customer, Manager), bank name, transaction type, and status. Common reports include customer registration logs, transaction history summaries, bank usage analytics, and system access logs. Reports can be viewed in the browser for documentation, auditing, and compliance purposes. Admin can also schedule or trigger real-time reports to track unusual activities or usage trends. This module supports operational transparency and decision-making by offering clear insights into user behavior and financial flow across integrated banks.



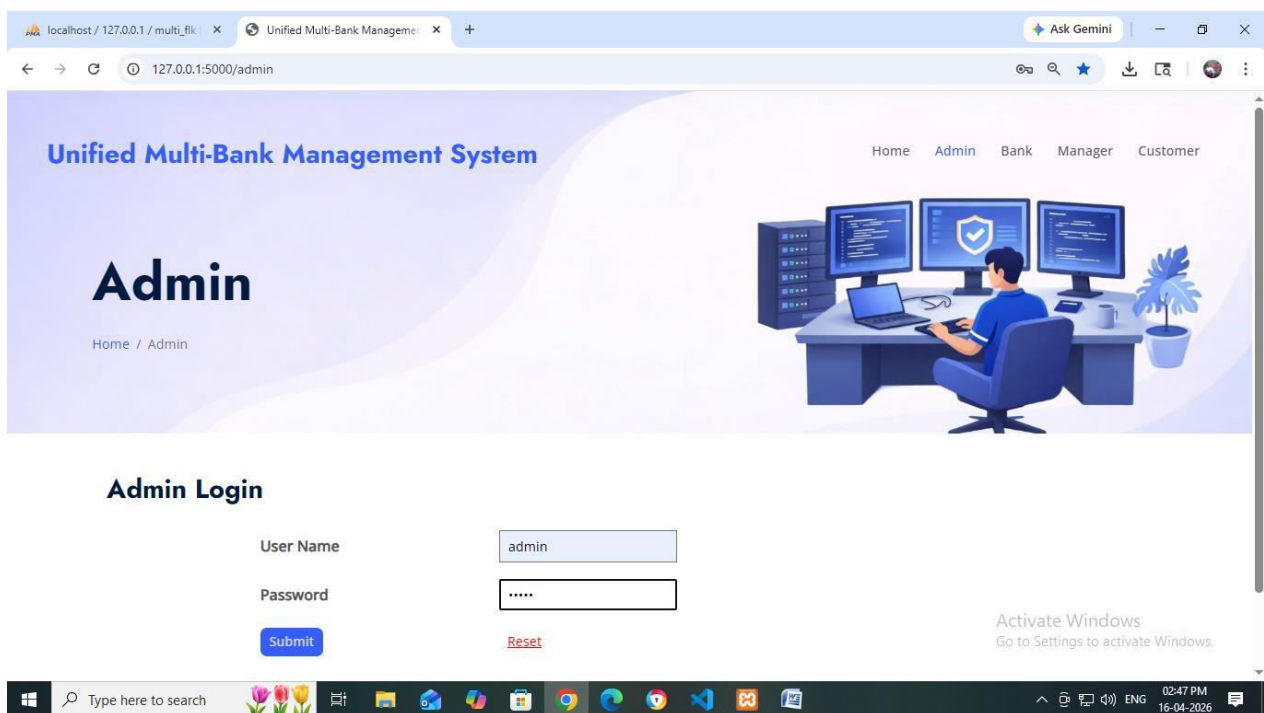
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V. SCREENSHOT



Home Page Screen



Admin Login Screen



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Unified Multi-Bank Management System

Home Branch Report Manager Report Customer Report Logout

Bank Report

Home / Admin / Bank Report

Bank Name	Head Office	Mobile	Email
canara	chennai	9876543210	canara123@gmail.com
SBI	chennai	8521479657	sbi123@gmail.com
icici	chennai	9854753698	icici123@gmail.com
baroda	chennai	9632587452	baroda123@gmail.com

Activate Windows
Go to Settings to activate Windows.

Type here to search

02:47 PM 16-04-2026

Bank Report Screen

Unified Multi-Bank Management System

Home Admin Bank Manager Customer

Bank

Home / Bank

Bank Login

User Name: canara_natham

Password:

[New Bank Registration](#)

[Submit](#) [Reset](#)

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Bank Login Screen



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Unified Multi-Bank Management System

Home Admin Bank Manager Customer

Manager

Home / Manager

Manager Login

User Name

Password

[Submit](#) [Reset](#)

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Manager Login Screen

Unified Multi-Bank Management System

Account Opening Transaction Account Details Applied Loan Logout

Account Opening

Date

Name

Father Name

Address

Mobile no

Ration Card No

Aadhar No

Date Of Birth

Bank Name

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Account opening Screen



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localhost / 127.0.0.1 / multi_fik x Unified Multi-Bank Management x Ask Gemini

127.0.0.1:5000/manager_dashboard/deposit

Unified Multi-Bank Management System

Back

Deposit

Date	16-04-2026
Account No	14789
Account No	14789
Name	saidharan
Mobile	9632587410
Bank Name	canara
Branch	dindigul
Old Balance	3000
Deposit	1500

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16-04-2026

Deposit Screen

localhost / 127.0.0.1 / multi_fik x Unified Multi-Bank Management x Ask Gemini

127.0.0.1:5000/manager_dashboard/withdraw

Unified Multi-Bank Management System

Back

Withdraw

Date	16-04-2026
Account No	14789
Account No	14789
Name	saidharan
Mobile	9632587410
Bank Name	canara
Branch	dindigul
Old Balance	4500
Withdraw	1000
Total Amount	3500

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16-04-2026

Withdraw Screen



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Customer Login

User Name: sai

Password: ...

[Customer Registration](#)

[Reset](#)

[Submit](#)

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Customer Login Screen

Unified Multi-Bank Management System

Account Report...

Date:	2025-08-05
Name:	saidharan
Father Name:	Ravi
Address:	dindigul
Mobile No:	9632587410
Ration Card:	13/12G121
Aadhar No:	121125863000
DOB:	2000-06-05
Bank Name:	canara
Branch Name:	dindigul
Account No:	14789
Loan Type	Home Loan
Loan Status	Approved

Activate Windows

Customer Account Report Screen



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VI. CONCLUSION

The **Unified Multi-Bank Management System** is a web application built using Python, Flask, and MySQL to simplify managing multiple bank accounts through a single centralized platform. Instead of accessing different banking portals, users can securely log in and view account details, track transactions, and monitor financial activities from one unified dashboard. The system integrates key modules such as authentication, bank API handling, transaction management, and dashboard visualization. Its modular design ensures smooth interaction between components, making the system scalable, efficient, and easy to maintain. Flask provides a lightweight framework, while MySQL ensures structured and reliable data storage. Strong security measures are implemented, including password hashing, session management, input validation, and protection against SQL injection, ensuring safe handling of sensitive financial data. Secure API communication further protects data during transmission. The user interface, built with HTML, CSS, and Bootstrap, is designed to be simple and user-friendly, allowing easy navigation across account details, transaction history, and settings. Overall, the system achieves its goal of providing a secure, efficient, and centralized banking solution. It reduces complexity, saves time, and improves user experience. With future enhancements like mobile support, AI-based financial insights, and real-time notifications, it can evolve into a more advanced financial management platform.

VII. FUTURE ENHANCEMENT

The **Unified Multi-Bank Management System** can be improved in the future by adding advanced features that enhance usability, security, and performance. One of the main enhancements is developing a mobile application so that users can access all their bank accounts easily through smartphones anytime and anywhere. Another important improvement is integrating Artificial Intelligence and Machine Learning techniques to analyze user spending patterns, predict expenses, and detect fraudulent transactions in real time. Real-time notifications such as SMS or email alerts can also be added for transactions, balance updates, and suspicious activities. The system can be expanded by integrating more banks using standardized APIs, making it more scalable and globally usable. Advanced data visualization tools like charts and graphs can also be included in the dashboard for better financial analysis.

- Development of mobile application (Android/iOS)
- Integration of AI/ML for expense prediction and fraud detection
- Real-time notifications (SMS, email, push alerts)
- Integration of more banks and financial APIs
- Advanced data visualization (charts, graphs, analytics dashboard)
- Multi-factor authentication (MFA) for better security
- Biometric login (fingerprint/face recognition)

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