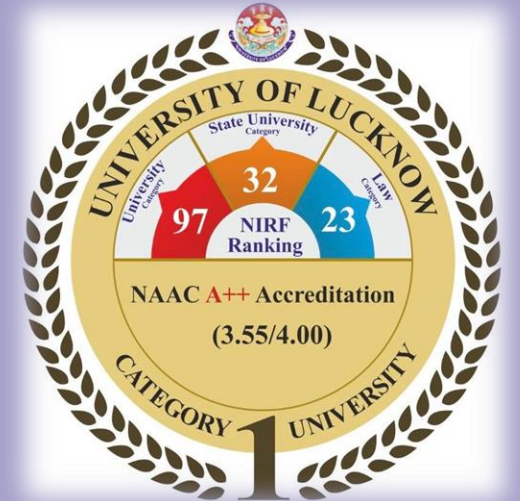




DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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Presentation on Major Project:
SONICFUND
Online Transaction Website

PROJECT GUIDE:

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Outline

1. Problem Definition
2. Related Studies
3. Tech Stack
4. Our Solution
5. Methodology
6. Time Line
7. Future Scope
8. Conclusion
9. References

Problem Definition:

The Need for a Secure and Efficient Digital Wallet Solution

- **Shift in Payment Systems:** Traditional cash payments are being replaced by digital payments for their convenience, speed, and global accessibility.
- **Key Issues Identified:**
 - **Accessibility for All:** Older adults and less educated people face difficulties navigating complex payment apps, highlighting the need for a more intuitive and simplified interface.
 - **Privacy Concerns:** Users worry about their personal and financial data being exposed.
 - **User Experience:** Many existing apps are too complex, lack user-friendliness, and have limited payment options.
 - **The Need for a Solution:** There is a clear demand for a secure, user-friendly, and privacy-focused payment solution that addresses these challenges.



Fig. 1 – Showcasing Digital Wallet in Modern world

Related Studies:

Emerging Trends in Digital Payments and E-Wallets

- **Existing Digital Wallets:** Paytm, Google Pay, PhonePe, and similar payment platforms are widely used.
- **Issues in Current Solutions:**
 - **Security Gaps:** Weak authentication, inadequate encryption, and vulnerabilities to phishing.
 - **Limited User Control:** Users have little control over their data and payment flow.
 - **Research Insight:** Users prefer apps that offer strong security, privacy, multi-platform support, and fast payments. This insight forms the foundation for **SonicFund's development**.
 - **Privacy Flaws:** Platforms collect and track user data for marketing purposes.

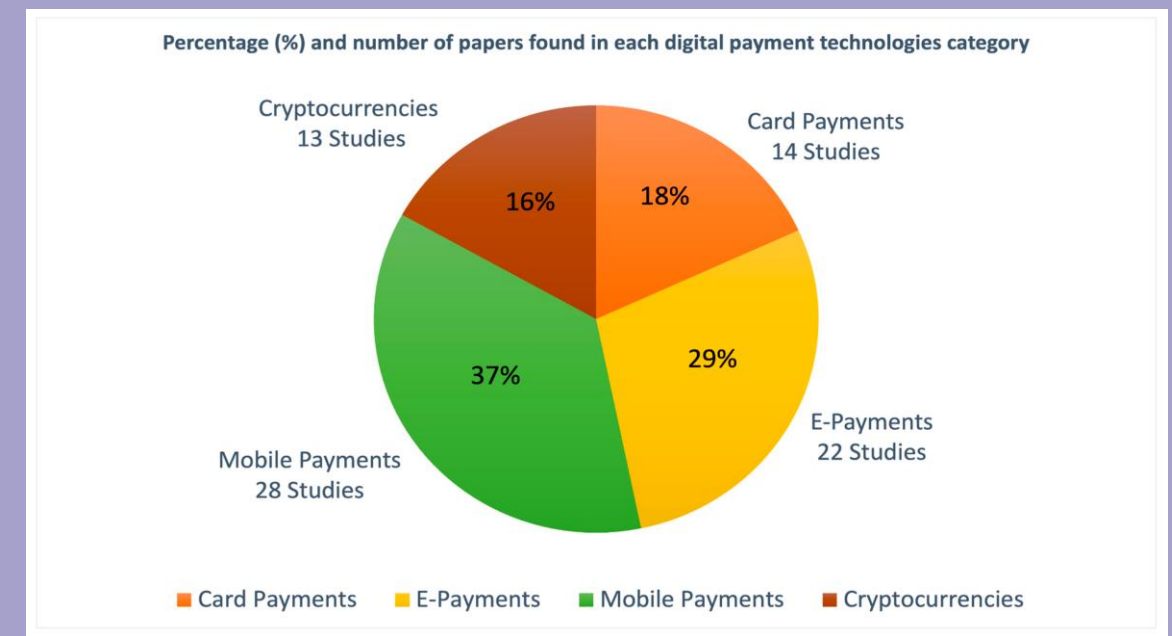


Fig. 2 – Numbers of studies related to each payment technologies

Tech Stack

Frontend

- React & React Native:** For building responsive, cross-platform user interfaces (web and mobile).
- Redux:** Manages app state across platforms.
- CSS/SCSS:** Styling for responsive designs.

Backend

- Node.js:** Fast and scalable backend for handling requests.
- Express.js:** Framework for building APIs.
- MongoDB:** NoSQL database for storing user data and transactions.
- JWT:** Secure authentication for users.

Payment Integration

- UPI APIs:** For fast and secure money transfers.
- Stripe/PayPal/Razorpay:** Payment gateways for card, UPI, and net banking transactions.

This tech stack ensures **SonicFund** is secure, scalable, and delivers a seamless user experience.

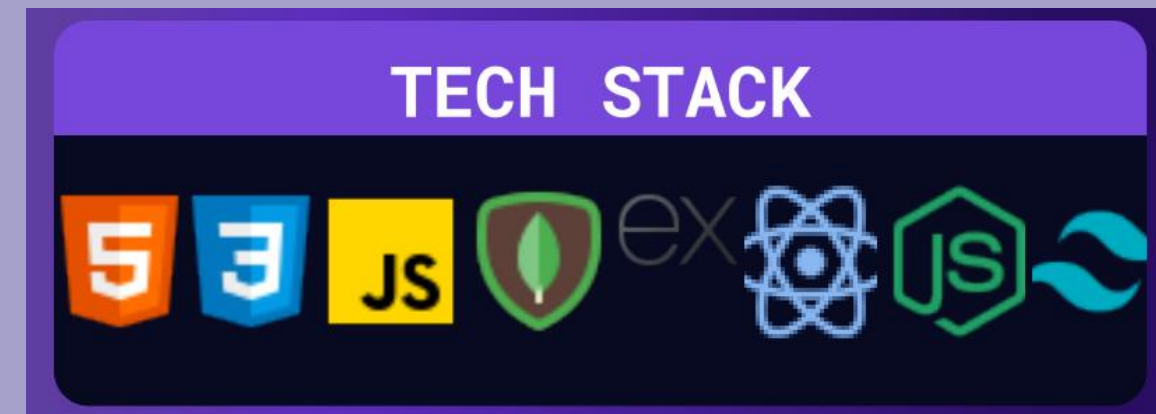


Fig. 2 – Image showing tech stack used in development

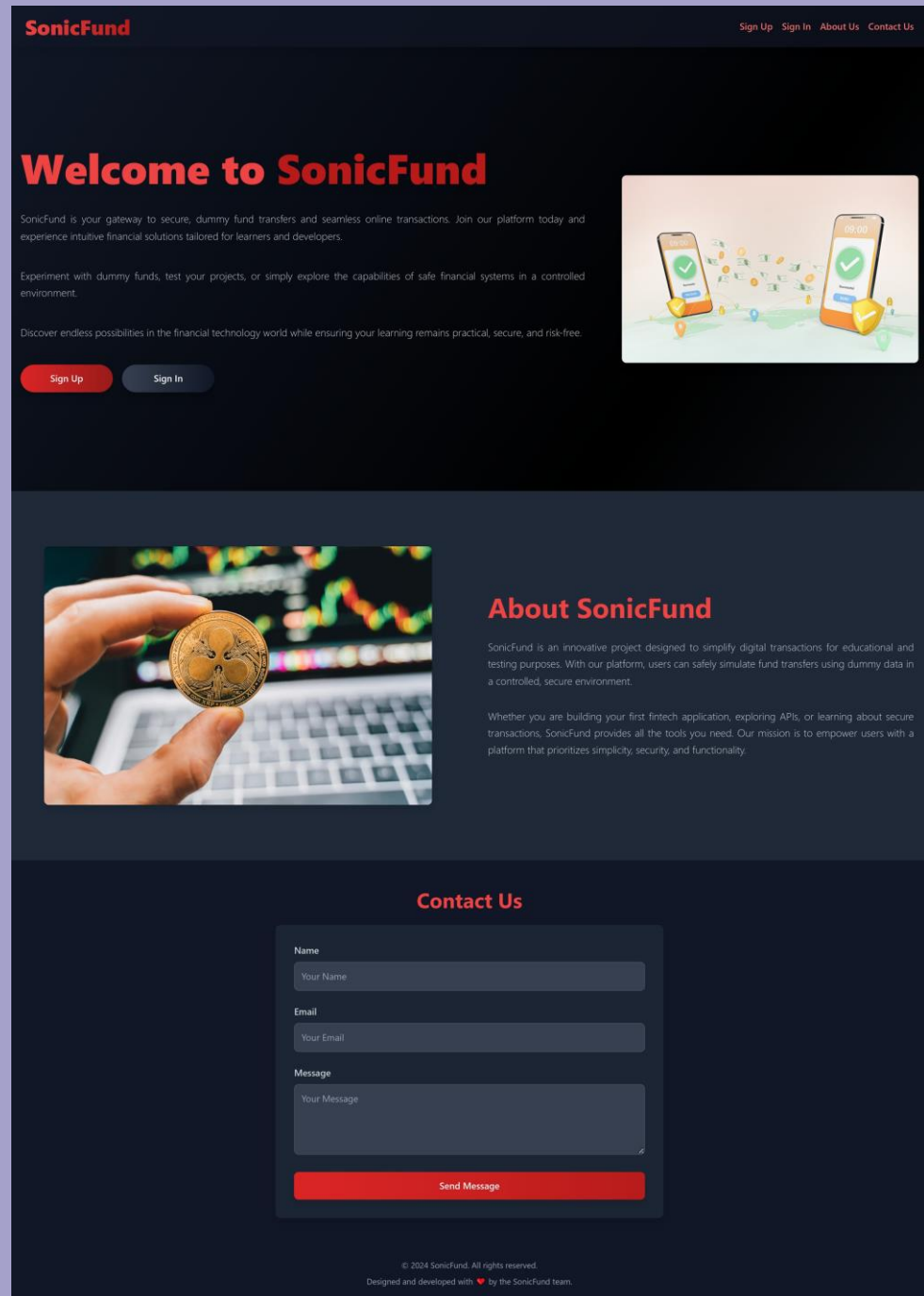


Fig. 3 – Overview of our Website

Our Solution: SONICFUND

A Comprehensive Digital Wallet Platform

- **What is SonicFund?**
 - A next-gen **secure digital wallet** based website designed to ensure fast, safe, and private online payments.
- **Core Features of SonicFund:**
 - **Security First:** Multi-factor authentication (MFA), end-to-end encryption, and real-time fraud detection.
 - **Multiple Payment Options:** Supports UPI, credit/debit cards, and net banking to give users flexibility.
 - **User-Centric Design:** A clean, easy-to-use interface that works on mobile, web, and desktop platforms.
 - **How it Solves the Problem:** By focusing on security, speed, and ease of use, SonicFund directly addresses user concerns with existing digital wallets.

Methodology:

Flowchart (Simple Payment Flow):

- **User Registration:** Users sign up and verify via email/phone OTP.
- **User Authentication:** Multi-factor authentication (MFA) using biometrics or OTP.
- **Payment Initiation:** User selects payment method (UPI, card, or net banking).
- **Transaction Processing:** Payment is processed with encryption to ensure security.
- **Response:** User receives confirmation of success or failure of the transaction.

System Model:

- **User Layer:** Mobile app and web platform for direct user interaction.
- **Application Layer:** API services to handle payment requests, security, and data processing.
- **Data Layer:** Secure database with encryption to store transaction history and user details.
- **Security Layer:** Advanced security protocols like end-to-end encryption (E2EE), Multi-Factor Authentication (MFA), and Firewalls.

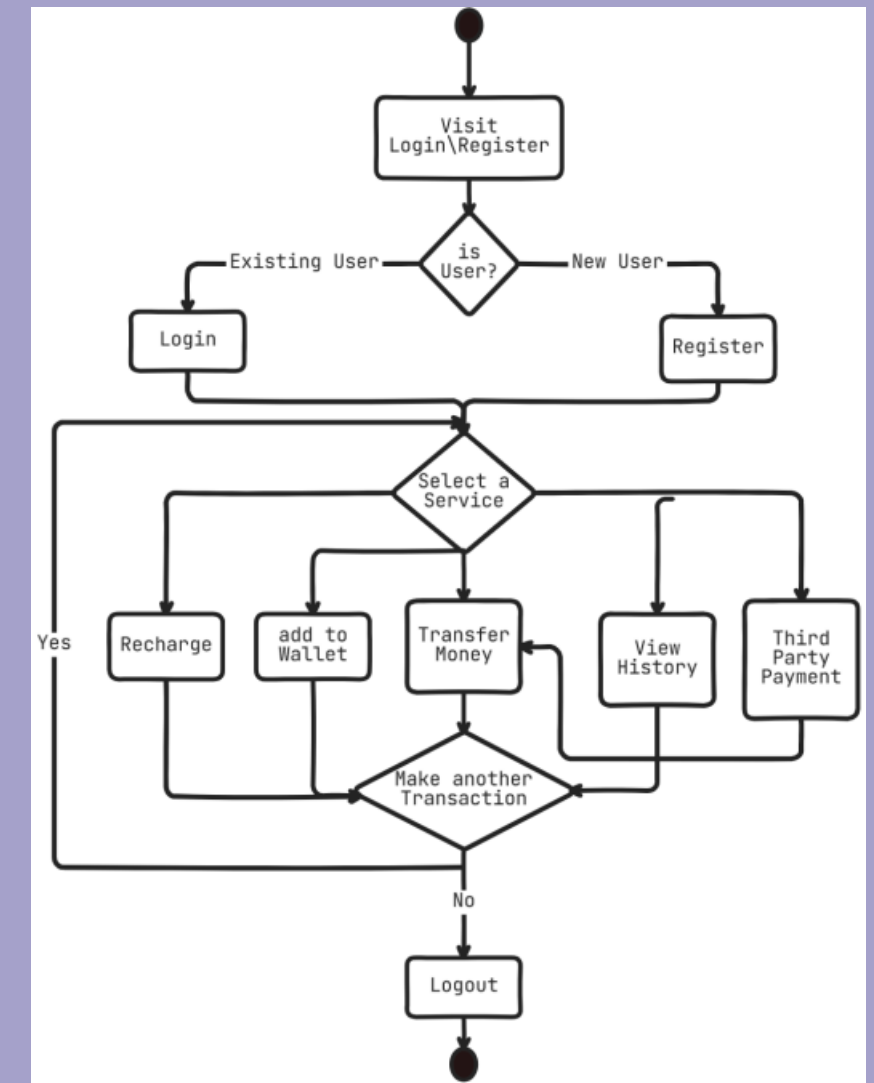


Fig. 4 – Flow Chart

Implementation Timeline: Phased Rollout and Milestones

SonicFund follows a structured timeline, ensuring that all key tasks are completed efficiently and effectively to create a secure, user-friendly digital wallet.

- **Phase 1: Research & Feasibility (2 Weeks)**
- **Phase 2: UI/UX Design (2 Weeks)**
- **Phase 3: Core Development (4 Weeks)**
- **Phase 4: Security Integration (3 Weeks)**
- **Phase 5: Testing & Debugging (2 Weeks)**
- **Phase 6: Final Deployment (1 Week)**

Each phase ensures that SonicFund is developed with careful attention to detail, from design to deployment, making it a robust and secure digital wallet solution.

Phase	Task	Duration
Phase 1	Research & Feasibility	2 weeks
Phase 2	UI/UX Design	2 weeks
Phase 3	Core Development	4 weeks
Phase 4	Security Integration	3 weeks
Phase 5	Testing & Debugging	2 weeks
Phase 6	Final Deployment	1 week

Fig. 4 – Timeline table

Future Scope:

Expanding Services and Integrations

- **Advanced Security Upgrades:** Use of AI/ML for anomaly detection and enhanced fraud prevention.
- **International Payment Support:** Enable cross-border payments to make SonicFund a global wallet.
- **Cryptocurrency Integration:** Support for payments using Bitcoin, Ethereum, and other cryptocurrencies.
- **Offline Payments:** Integration of NFC (Near Field Communication) technology for offline transactions.
- **Voice-Powered Payments:** Use of voice commands for quick, hands-free payments.

Conclusion:

Revolutionizing Digital Transactions with SONICFUND

Summary of Key Points:

- SonicFund addresses key issues in the digital wallet space: **security, privacy, speed, and user experience**.
- By focusing on strong encryption, multi-factor authentication, and privacy-first principles, SonicFund is a unique and next-gen payment solution.
- The platform aims to offer fast, secure, and user-friendly payments with support for multiple payment methods like UPI, cards, and net banking.

Closing Remark: As digital payments grow worldwide, SonicFund positions itself as a **trusted and reliable alternative** to existing payment apps.

References

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