



**OBJECT ORIENTED PROGRAMMING**  
**MAY 2024 SEMESTER**  
**PROJECT PROPOSAL**

**PROJECT:** Automated Teller Machine (ATM) System

**LECTURER:** DR. NORDIN ZAKARIA

**PREPARED BY:**

NAME	ID NUMBER	COURSE
Lydia Natasha binti Muharral	24000481	Information Technology
Wardina Saffiya binti Jamalulil	24000996	Information Technology
Wan Nur Irdina binti Wan Hasbullah	24000247	Information Technology
Nur Aisya' Sofea binti Husin	22012332	Information Technology
Muhammad Aiman Haikal bin Mohammad Akmal Surish	24000458	Computer Science

## **PROJECT DESCRIPTION**

The Automated Teller Machine (ATM) System is designed to provide secure, efficient, and convenient banking services to customers around the clock. Utilizing a robust client-server architecture, the system is designed to revolutionize the traditional banking experience through a blend of cutting-edge technology and user-centric features to perform a variety of financial transactions such as cash withdrawals, deposits, balance inquiries, and fund transfers without the need for a human teller. This innovative system is crafted to offer unparalleled security, efficiency, and convenience, transforming how users interact with their financial institutions.

## **PROBLEM STATEMENT**

Many customers experience inconvenience and delays due to limited banking hours and long queues at bank branches. Additionally, there is a need to extend banking services to underserved and remote areas. Security concerns also remain a critical issue, with the increasing risk of fraud and unauthorized access to customer data.

## **SOLUTIONS**

The proposed solution is an advanced ATM system that offers a wide range of banking services, including cash withdrawals, deposits, balance inquiries, and fund transfers. The system will be designed with robust security measures such as PIN authentication, encryption, and anti-skimming devices. It will feature a user-friendly touchscreen interface and support multiple languages to cater to a diverse customer base.

## **PROJECT OBJECTIVES**

- 1) To improve banking accessibility, provide 24/7 access to essential banking services such as cash withdrawals, deposits, balance inquiries, and fund transfers.
- 2) To Enhance user convenience by reducing the need for customers to visit bank branches by offering a wide range of banking services through ATMs.
- 3) To ensure security and implement robust security measures to protect customer data and prevent fraud.

## **MARKET POTENTIAL:**

The market for ATMs remains robust and is poised for growth due to several key factors. The global ATM market is driven by urbanization, financial inclusion initiatives, and advancements in ATM technology. The demand for ATMs is bolstered by the need for convenient banking services, especially in areas with limited access to traditional bank branches.

## **Target Audience:**

- Banks and Financial Institutions: Seeking to expand their service reach and provide convenient banking options to their customers.
- Retailers and Shopping Centers: Installing ATMs to offer added convenience to shoppers and drive foot traffic.
- Government and Public Sector: Providing access to banking services in underserved and remote areas to promote financial inclusion.
- Corporate Offices: Offering employees easy access to banking services on-site.

**Competitive Advantage:**

- 24/7 Availability: Providing continuous access to banking services, reducing the need for customers to visit bank branches.
- Enhanced Security: Implementing robust security measures to protect customer data and prevent fraud.
- Comprehensive Services: Offering a wide range of banking services beyond basic cash withdrawals and deposits, enhancing user experience.
- User-Friendly Design: Featuring an intuitive interface with multi-language support to cater to a diverse customer base.

**Revenue Model:**

- Transaction Fees: Charging fees for specific transactions such as cash withdrawals, fund transfers, and bill payments.
- Service Contracts: Offering maintenance and support contracts to banks and other institutions for the upkeep of ATM terminals.
- Advertising: Generating revenue through on-screen advertisements and printed receipts.
- Data Analytics: Providing banks with valuable data insights on transaction patterns and customer behavior for a fee.

By addressing the increasing demand for secure, accessible, and convenient banking services, the Automated Teller Machine (ATM) System is well-positioned to capture significant market share and drive substantial growth in the financial services sector.

## **PROJECT FEATURES**

### **Improve Banking Accessibility:**

**System Design:** Develop ATM terminals that are accessible 24/7 and equipped with essential hardware such as card readers, cash dispensers, deposit slots, and touchscreens.

**Service Range:** Ensure ATMs offer a comprehensive range of services, including cash withdrawals, deposits, balance inquiries, fund transfers, and bill payments, to meet diverse banking needs.

### **Enhance User Convenience:**

**User-Friendly Interface:** Design an intuitive touchscreen interface that supports multiple languages to cater to a diverse customer base.

**Reduced Branch Visits:** By offering a wide range of banking services through ATMs, customers can perform most banking activities without the need to visit a bank branch, thus saving time and reducing inconvenience.

### **Ensure Security:**

**Authentication:** Implement robust PIN-based authentication and consider biometric verification methods (e.g., fingerprint or facial recognition) to enhance security.

**Encryption:** Use end-to-end encryption to secure data during transmission and storage, protecting customer information from unauthorized access.

**Fraud Prevention:** Integrate advanced security features such as anti-skimming devices, real-time transaction monitoring, and immediate fraud detection mechanisms to prevent fraudulent activities.