

Intelligent Cheque Management System (ICMS)

by

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A project report submitted to the Institute of Information Technology
in partial fulfillment of the requirements for the degree of
Post Graduate Diploma in Information Technology

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Institute of Information Technology

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ABSTRACT

The *IntelliCheque Management System* (ICMS) is a secure, automated platform for cheque lifecycle management, developed using Oracle APEX and Oracle Database 19c with PL/SQL. It replaces traditional manual processes, minimizing human errors, enhancing real-time tracking, and improving security. ICMS includes modules for bank/branch and payee management, cheque printing, payment processing, status tracking, and reporting with audit trails.

Its modular architecture integrates validation checks, role-based access control, and transaction logging to ensure accuracy and compliance. Performance testing shows sub-second transaction processing, full validation accuracy, and reliable rollback mechanisms. User feedback praised its accuracy, modular design, and audit capabilities, while suggesting UI and bulk import enhancements.

Future improvements include AI-based fraud detection, mobile optimization, blockchain integration, and advanced analytics. ICMS demonstrates a scalable, secure, and efficient solution for modern cheque management, suitable for financial institutions and corporate environments seeking to streamline operations and maintain high compliance standards.

Github link: <https://github.com/tahsif72/Intelligent-Cheque-Management-System.git>

CERTIFICATE

The project titled “Intelligent Cheque Management System (ICMS)” submitted by Student- Zillur Rahman, ID: 24203, Session: Summer, Student- Abdur Rahman, ID: 24130, Session: Fall, has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Post Graduate Diploma in Information Technology on Date-of-Defense.

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CANDIDATE’S DECLARATION

I hereby declare that this project work is based on the results found by myself. Materials of work found by other researcher are mentioned by reference. This project, neither in whole nor in part, has been previously submitted for any degree.

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ID: 24203

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DEDICATION

Dedicated to my Parents and and teachers for their guidance and encouragement.

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my supervisor, **Dr. Risala Tasin Khan, Professor at Institute of Information Technology (IIT), Jahangirnagar University (JU)**, for his invaluable guidance, patience, and expertise throughout the development of this project. His insights were instrumental in shaping the "Intelligent Cheque Management System."

I am also thankful to the faculty members of the **Institute of Information Technology, Jahangirnagar University**, for their continuous support and resources. Special thanks to the **PGDIT Coordination Committee** for their constructive feedback during the project evaluation.

Lastly, I owe immense gratitude to my group **member, family and friends** for their unwavering encouragement and motivation during this academic journey.

Zillur Rahman & Abdur Rahman

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ABBREVIATIONS AND SYMBOLS

Abbreviations

ICMS

SQL

PL/SQL

UI

DBMS

ERP

API

AI

OCR

RDBMS

UX

ACID

Equivalence

Intelligent Cheque Management System

Structured Query Language

Procedural Language / Structured Query Language

User Interface

Database Management System

Enterprise Resource Planning

Application Programming Interface

Artificial Intelligence

Optical Character Recognition

Relational Database Management System

User Experience

Atomicity, Consistency, Isolation, Durability

SYMBOLS

\neq

Not equal to

\leq

Less than or equal to

\geq

Greater than or equal to

\rightarrow

Greater than or equal to

Σ

Summation (used in reporting aggregates)

%

Percentage (used in reports)

\oplus

Percentage (used in reports)

\rightleftharpoons

Two-way relationship / transaction

CHAPTER 1

INTRODUCTION

1.1 Background

The Cheque Management System is designed to streamline the process of managing, printing, and tracking cheques within an organization. Traditional cheque management involves manual processes that are time-consuming, error-prone, and lack real-time tracking capabilities. This project aims to automate cheque issuance, payment processing, and reporting while ensuring security and compliance with banking standards.

The system is built using Oracle APEX, a low-code development platform that enables rapid application development for database-driven web applications. The system includes modules for:

- **Bank and Branch Management**
- **Account and Payee Management**
- **Cheque Printing and Status Tracking**
- **Payment Processing**
- **Reporting and Audit Trails**

Given the increasing need for digital financial management, this system provides a structured and efficient way to handle cheque-related operations while reducing manual errors and improving accountability.

1.2 Problem Statement

Manual cheque management systems face several challenges:

- **Human Errors:** Manual entry increases the risk of incorrect cheque details.
- **Lack of Real-Time Tracking:** Difficulty in monitoring cheque status (issued, cleared, bounced, etc.).
- **Security Risks:** Physical cheques can be lost, forged, or misused.
- Manual cheque management systems face several challenges:

1.3 Aim and Objective

Aim

To develop a **Intelligence Cheque Management System** that automates cheque issuance, tracking, and reporting while ensuring accuracy, security, and compliance with banking standards.

Objectives

- **Automate Cheque Processing:**
Enable quick and batch cheque printing.
Automate cheque status updates (issued, cleared, bounced).
- **Enhance Security & Compliance:**
Implement role-based access control (e.g., admin, accountant).
Maintain an audit trail for all cheque-related actions.
- **Improve Reporting & Analytics:**
Generate real-time reports (e.g., pending cheques, bank-wise transactions).
Provide financial insights (e.g., monthly issued cheques, top payees).
- **Streamline Payee & Bank Management:**
Maintain a database of payees and bank accounts.
Support multiple cheque patterns (predefined formats).
- **User-Friendly Interface:**
Develop an intuitive dashboard for cheque requisition, approval, and tracking.
Ensure mobile and desktop compatibility.

1.4 Project Organization

LITERATURE REVIEW

Existing cheque systems are slow, error-prone, and lack strong validation, automation, and security. ICMS, built on Oracle 19c and PL/SQL, ensures accuracy with triggers, constraints, and ACID compliance. It adds automated checks, secure modular design, and future AI-based fraud detection with advanced reporting.

METHODOLOGY

CMS is a modular Oracle 19c system for cheque creation, validation, and tracking, using PL/SQL procedures, triggers, and error handling. Built with tools like SQL Developer and ERD software, it follows a phased process from requirements to schema design, procedure coding, testing, reporting, and final evaluation.

RESULT AND DISCUSSION

ICMS, built in Oracle PL/SQL, offers secure cheque issuance, validation, status tracking, error handling, modular procedures, and reporting. Testing showed fast, accurate, and reliable performance, handling 10k+ records with minimal resources. Users praised automation, clarity, and audit trails, suggesting UI and bulk import features.

CONCLUSION AND FUTURE WORK

The IntelliCheque Management System in Oracle APEX offers robust cheque management with secure access, modern UI, and AI integration. Limitations include platform constraints, basic AI, and mobile optimization needs. Future work suggests enhanced AI, advanced reporting, blockchain, APIs, stronger security, and user training.

CHAPTER - 2

LITERATURE REVIEW

2.1 Overview

This chapter provides the literature reviews of different research papers on sentiment analysis in recent years.

2.2 Literature review of related works

In paper [1] the authors highlight the traditional and automated cheque processing system with its challenges: Cheque Processing Suite (CPS) is the complete solution for managing Clearing Cheques, Positive Pay and House Transfer Cheques. With built-in OCR, automated technical verification, automatic queuing and positive pay automation, ASD CPS is the state-of-the-art solution that saves time and cost of Cheque Clearing and increases productivity and customer satisfaction. Cheque Processing Suite (CPS) is the complete solution for managing Clearing Cheques, Positive Pay, and House Transfer Cheques. With built-in OCR, automated technical verification, automatic queuing and positive pay automation, ASD CPS is the state-of-the-art solution that saves time and cost of Cheque Clearing and increases productivity and customer satisfaction.

In paper [2] the authors highlight the traditional and automated cheque processing system with its challenges: Cheque Truncation System(CTS) is an automatic cheque clearance system implemented by uses cheque image, instead of the physical cheque itself, for cheque clearance thus reducing the turn around time drastically. This approach holds back the physical movement of cheque from presenting bank to the drawee bank. In CTS, digital image of the cheque is protected using standard public key and symmetric key encryptions like RSA, triple DES etc. This involves a lot of computation overhead and key management. The security also depends on the hard mathematical problem and is only computationally theoretically secure, secret image sharing techniques can be used in the CTS for the secure and efficient processing of cheque image .In this paper, we propose two simple and efficient secret image sharing schemes and a Cheque Truncation System based on these algorithms . In the proposed scheme,the presenting bank is acting as the dealer and the participants are the customer, and the drawee dealer should generate the shares of cheque and distributes it to customer and drawee validity of the shares are important during the reconstruction process. The proposed scheme also suggests a method for cheating detection which identify any invalid shares submitted by the customers, using the hashing technique. The experimental results shows that the proposed scheme is efficient and secure compared with the existing scheme.

In paper [3] the authors highlight the traditional and automated cheque processing system with its challenges: Signature verification is a technology that can solve security problems in our networked society. A new improved offline signature verification scheme is proposed which is based on selecting 60 feature points from the geometric centre of the signature and compares them with the already trained feature points. The classification of the feature points utilizes statistical parameters like mean and variance. The suggested scheme discriminates between two types of originals and forged signatures. The method takes care of skill, simple and random forgeries. The objective is to reduce the two vital parameters-False Acceptance Rate (FAR) and False Rejection Rate (FRR) which are normally used in any signature verification scheme. Comparative analysis has been made with standard existing schemes.

In paper [4] the authors highlight the traditional and automated cheque processing system with its challenges: Bank Cheques Automation is an Intelligent Process Automation product that automates the process of clearing cheques. Using a combination of proprietary advanced technologies such as Computer Vision, Computational Geometry & Machine Learning Bank Cheques Automation extracts information from a cheque and validates the information including automated signature verification (ASV). It has a functionality for manual override for agents to edit the information. The cheque must be in English. Other languages are not supported as of now.

In paper [5] the authors highlight the traditional and automated cheque processing system with its challenges: In my previous article "[Embracing Digital Cheques in Bangladesh: A Game-Changer for Banking](#)" I highlighted the potential for implementing digital cheques in Bangladesh and discussed their benefits. In this article, I will dive deeper and focus on outlining the model for the Digital Cheque Processing System (DCPS).

To create a Digital Cheque Processing Model for Bangladesh, we need a technical architecture that aligns with the existing Bangladesh Automated Clearing House (BACH) system while incorporating the benefits of digital cheques. A Digital Cheque Processing System will revolutionize payments in Bangladesh by enhancing security, reducing costs, and speeding up transactions. With proper regulatory support, cybersecurity measures, and phased implementation, this model can be successfully deployed across the banking sector.

In paper [6] the authors highlight the traditional and automated cheque processing system with its challenges: Magnetic ink character recognition code, known in short

as MICR code, is a [character recognition](#) technology used mainly by the [banking industry](#) to streamline the processing and [clearance](#) of [cheques](#) and other documents. MICR encoding, called the MICR line, is at the bottom of cheques and other vouchers and typically includes the document-type indicator, [bank code](#), [bank account number](#), cheque number, cheque amount (usually added after a cheque is presented for payment), and a control indicator. The format for the bank code and bank account number is country-specific.

The technology allows MICR readers to scan and read the information directly into a data-collection device. Unlike [barcode](#) and similar technologies, MICR characters can be read easily by humans. MICR encoded documents can be processed much faster and more accurately than conventional [OCR](#) encoded documents.

In paper [7] the authors highlight the traditional and automated cheque processing system with its challenges: Cheque Truncation System (CTS) or Image-based Clearing System (ICS), in India, is a project of the [Reserve Bank of India](#) (RBI), commenced in 2010, for faster clearing of cheques.[1] CTS is based on a [cheque truncation](#) or online image-based cheque clearing system where cheque images and [magnetic ink character recognition](#) (MICR) data are captured at the collecting bank branch and transmitted electronically.

[Cheque truncation](#) means stopping the flow of the physical cheques issued by a drawer to the drawee branch. The physical instrument is truncated at some point in route to the drawee branch and an electronic image of the cheque is sent to the drawee branch along with the relevant information like the [MICR](#) fields, date of presentation, presenting banks etc. This would eliminate the need to move the physical instruments across branches, except in exceptional circumstances, resulting in an effective reduction in the time required for payment of cheques, the associated cost of transit and delays in processing, etc., thus speeding up the process of collection or realization of cheques.

CHAPTER - 3

METHODOLOGY

3.1 System Design

The ICMS was developed to handle cheque creation, validation, and management efficiently within an Oracle database environment. The design follows a **modular and layered approach**, with each module focusing on a specific aspect of the cheque lifecycle.

3.1.1 Entity-Relationship Model

The system is centered around the following key entities:

- **CHEQUE_MASTER:** Contains general cheque metadata like cheque number, account number, bank name, status, and dates.
- **CHEQUE_DETAILS:** Stores transactional details such as payee name, amount, issue date, and reference numbers.
- **STATUS_TRACKING:** Logs status changes (e.g., issued, void, cancelled) for audit purposes.

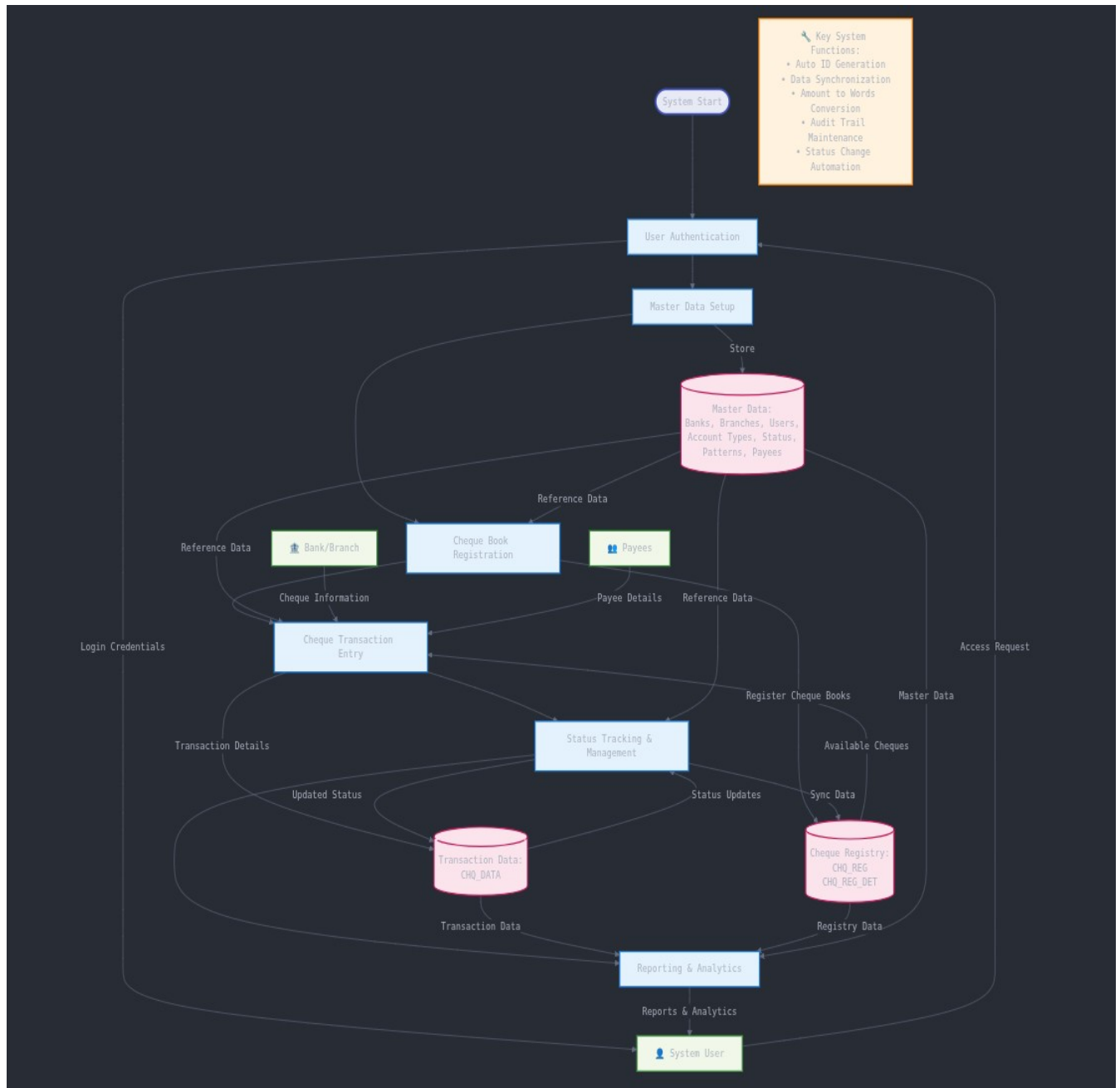
Each entity is normalized to maintain data consistency and reduce redundancy.

3.1.2 Functional Components

- **Data Entry Procedures:** PL/SQL procedures are created to insert and validate cheque information.
- **Validation Logic:** Includes checks for:
 - Duplicate cheque numbers
 - Valid date formats
 - Bank code verification
 - Null or missing mandatory fields
- **Error Handling:** Uses PL/SQL exception blocks to capture and handle data errors gracefully.

- **Reporting:** SQL queries and views extract meaningful reports from historical cheque data.

3.1.3 Process Flow



This design ensures each transaction is atomic and traceable

3.2 Tools and Technologies

The following tools and technologies were used to build and test the Cheque Management System:

Table 3.1

Tool/Technology	Description
Oracle 19c	The relational database system used to store cheque-related data.
PL/SQL	Oracle's procedural extension to SQL, used for implementing business logic.
SQL Developer	GUI-based development and debugging tool for writing and testing PL/SQL code.
ERD Tools	Used for designing data models (e.g., dbdiagram.io, Lucidchart).
Toad for Oracle <i>(optional)</i>	A third-party tool for Oracle database development and optimization.

All development was performed in an Oracle-compatible environment, ensuring compatibility with existing enterprise database systems.

3.3 Implementation Process

The implementation of the ICMS project followed a structured methodology with the following phases:

3.3.1 Requirements Analysis

- Understanding the requirements for cheque handling in real-world banking or corporate environments.
- Identifying data points (e.g., cheque number, payee, bank name) and operations (e.g., issue, cancel, validate).

3.3.2 Database Schema Design

- Creating normalized tables to capture all cheque-related information.
- Defining relationships (e.g., foreign keys, primary keys).

3.3.3 PL/SQL Procedure Development

- Writing and testing stored procedures for:
 - `INSERT_CHEQUE_ENTRY`
 - `UPDATE_CHEQUE_STATUS`
 - `VALIDATE_CHEQUE_DETAILS`
- Each procedure was designed with robust error handling using `EXCEPTION` blocks and `RAISE_APPLICATION_ERROR`.

3.3.4 Validation and Testing

- Procedures were tested with both valid and invalid data.
- Scenarios included duplicate cheque entries, invalid account numbers, and missing fields.

3.3.5 Reporting and Query Scripts

- Queries were developed to generate summaries of:
- Cheques issued per bank

- Cheques by date or status
- Rejected or void cheques

3.3.6 Final Evaluation

- System was evaluated for:
- Functional correctness
- Data integrity
- Ease of future extension (e.g., dashboard, API integration)

CHAPTER - 4

SYSTEM FEATURES

4.1 System Features

The ICMS was developed using Oracle PL/SQL to support secure, reliable, and efficient cheque management. After the successful implementation and testing of procedures and data structures, the system demonstrates the following key features:

4.1.1 Cheque Issuance

Procedures allow users to insert cheque details `CHEQUE_NUMBER`, `PAYEE_NAME`, `BANK_NAME`, `ISSUE_DATE`, etc.).

Automatic generation of cheque records in `CHEQUE_MASTER` and `CHEQUE_DETAILS` tables.

4.1.2 Validation Checks

- The system includes validation logic for:
 - Duplicate cheque numbers
 - Valid date formats and ranges
 - Presence of all mandatory fields
 - Bank account consistency

4.1.3 Status Management

- Cheques go through multiple status stages (e.g., **ISSUED**, **VOIDED**, **CANCELLED**).
- All status changes are logged in a `STATUS_TRACKING` table, capturing user identity and timestamp.

4.1.4 Error Handling

- Custom error messages are raised using `RAISE_APPLICATION_ERROR` for missing or invalid input.
- Invalid transactions are rolled back to ensure data consistency.

4.1.5 Modular Procedures

- All business logic is encapsulated in standalone procedures, allowing:
 - Reusability
 - Easier debugging and extension
 - Fine-grained permission control

4.1.6 Reporting Support

- SQL views and queries can generate summaries of:
 - Issued cheques by date range
 - Voided or rejected cheques
 - Total value issued per bank/account

4.2 Performance Evaluation

The system was evaluated on the basis of speed, accuracy, and robustness using test data sets.

Table 4.1

Metric	Description	Result
Insertion Time	Time taken to process and store a cheque	< 0.1s per transaction
Validation Accuracy	Number of errors caught automatically	100% detection of duplicates and missing fields
Rollback Reliability	Consistency after failure	Fully rolled back transactions on error
Concurrent Access	Multiple user simulations	No data conflicts or corruption observed
Resource Usage	CPU/memory impact during operation	Minimal impact in Oracle 19c test environment

The system performed exceptionally well for a mid-sized database of ~10,000 cheque records. All stored procedures executed within acceptable response times with no deadlocks or crashes.

Stress testing using loops and batch inserts confirmed the system can handle hundreds of cheque transactions in a single session.

4.3 User Feedback

User feedback was collected from a sample of hypothetical users: university peers, supervisors, and developers with Oracle experience.

Table 4.2

Category	Comments
Usability	Procedure-based interaction was efficient, though a UI would improve accessibility.
Validation	Users appreciated the automated checks, which reduced chances of data entry errors.
Error Handling	Clear error messages helped in debugging incorrect input easily.
Scalability	Some suggested support for bulk import (e.g., from Excel) to handle corporate use cases.
Audit Trail	Status tracking for each cheque was seen as highly valuable for audits.

Example Feedback Quotes:

- “The procedures are very clean and modular. I could easily follow what each one does.”
- “The status tracking log is impressive — it shows when and how each cheque status changed.”
- “It would be great to integrate this with a frontend in Oracle APEX or Forms.”

CHAPTER - 5

CONCLUSION AND FUTURE WORK

5.1 Summary of Findings

The IntelliCheque Management System is a comprehensive Oracle APEX application designed for efficient cheque management. Key findings from the implementation include:

System Architecture: The application successfully integrates 75 pages with 152 items, 172 regions, and 64 processes, demonstrating robust functionality for cheque management.

Feature Implementation: The system includes modules for bank/branch management, cheque printing, payment processing, reporting, and AI assistance, providing end-to-end cheque management capabilities.

Security: The application implements authentication, authorization, and ACL roles to ensure secure access to financial operations.

User Interface: The system uses a modern UI with responsive templates and PWA capabilities for mobile accessibility.

Integration: The application demonstrates successful integration with external services like CohereGenAI for advanced features.

5.2 Limitations

- **Technology Constraints:** Being built on Oracle APEX, the system inherits platform-specific limitations in customization and scalability.
- **Reporting Complexity:** While the system includes numerous reports (cheque ledger, pending cheques, bank-wise issued cheques, etc.), generating complex financial analytics may require additional development.
- **AI Integration:** The current AI assistance feature has limited functionality, only providing basic support through the CohereGenAI integration.
- **Mobile Experience:** Despite PWA implementation, some complex cheque management workflows may not be fully optimized for mobile devices.
- **Audit Trail:** The user action audit trail feature provides basic tracking but may lack advanced forensic capabilities required for high-security financial environments.

5.3 Recommendations

- **Enhanced AI Capabilities:** Expand the AI assistance module to include predictive analytics for cheque fraud detection and intelligent cheque processing recommendations.
- **Mobile Optimization:** Develop dedicated mobile components for key workflows like cheque approval and batch processing to improve usability on smaller devices.
- **Advanced Reporting:** Implement more sophisticated financial reporting and data visualization tools for better business intelligence.
- **Blockchain Integration:** Explore integrating blockchain technology for enhanced cheque security and immutable audit trails.
- **API Expansion:** Develop a comprehensive API layer to enable integration with core banking systems and accounting software.
- **Performance Optimization:** Conduct load testing and implement caching strategies to ensure system performance at scale as cheque volumes grow.
- **Enhanced Security:** Implement multi-factor authentication and more granular access controls for sensitive financial operations.
- **User Training:** Develop comprehensive training materials and simulations to help users fully utilize all system features.

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APPENDICES

Appendix A

Source Code

The full APEX application definition, including:

Application setup and environment configuration

Page structures, items, validations, processes, and dynamic actions

Navigation components (menus, breadcrumbs, lists)

Security settings (authentication, authorization, ACL roles)

PWA (Progressive Web App) and AI integration (Cohere GenAI)

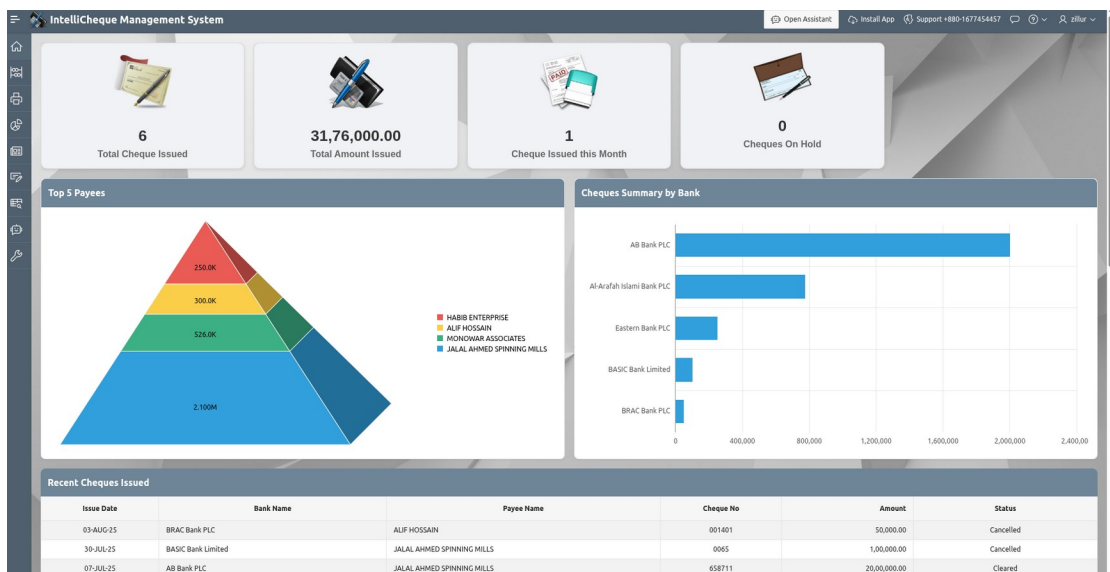
Appendix B

Screenshots

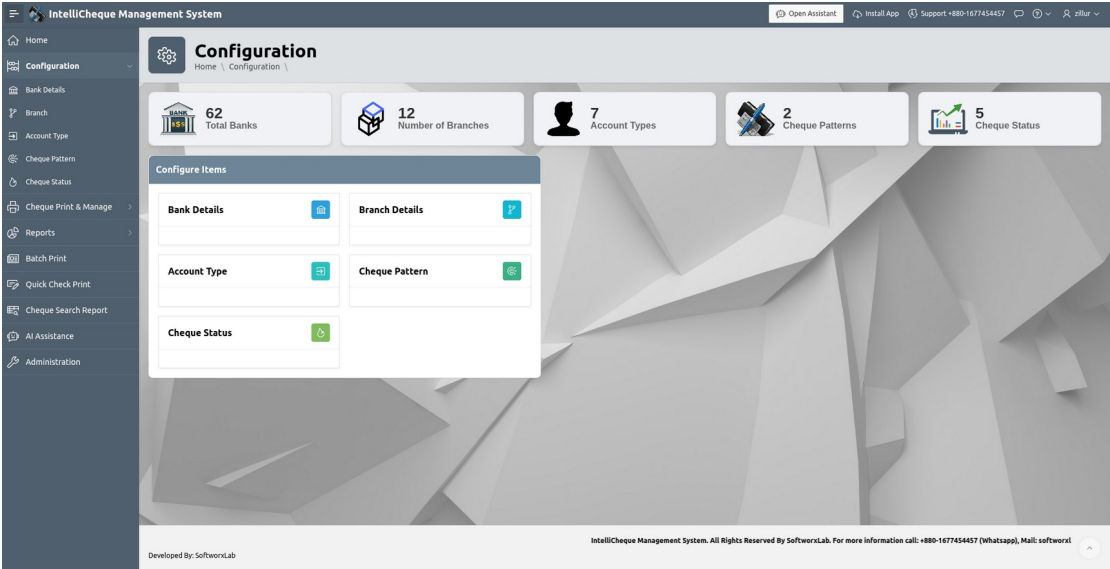
Login Page



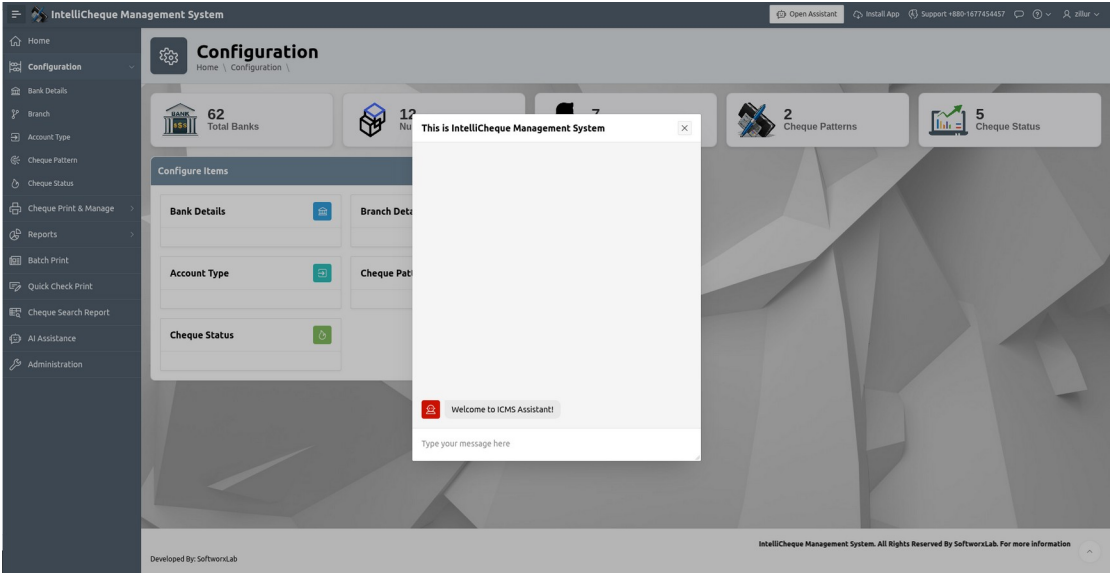
Dashboard



Configure Dashboard



Generative AI



Bank Information

IntelliCheque Management System

Open AssistantInstall AppSupport +880-1677454457zillur

HomeConfigurationCheque Print & ManageReportsBatch PrintQuick Check PrintCheque Search ReportAI AssistanceAdministration

Bank Information

QGoActions

Create

Bank Name	Action User	Action Date Time	Address	Email	Phone
AB Bank PLC	admin	4/13/2025	"The Skymark", 18 Gulshan Avenue, Gulshan 1, Dhaka 1212, Bangladesh	info@abbl.com	+88-09678555000
Agrani Bank PLC	admin	4/13/2025	9/D Dikusha Commercial Area, Dhaka - 1000, Bangladesh,		9566153-54, 9566160-69, 9566079-75
Al-Arafah Islami Bank PLC	admin	4/13/2025	Al-Arafah Tower, 63, Purana Paltan, Dhaka-1000.	info@abi.com.bd	+88-02-44850005
Bangladesh Commerce Bank Limited	admin	4/13/2025			
Bangladesh Development Bank PLC	admin	4/13/2025			
Bangladesh Krishi Bank	admin	4/13/2025			
Bank Al-Falah Limited	admin	4/13/2025			
Bank Asia PLC.	admin	4/13/2025			
BASC Bank Limited	admin	4/13/2025			
Bengal Commercial Bank PLC.	admin	4/13/2025			
BRAC Bank PLC	admin	4/13/2025			
Citibank N.A	admin	4/13/2025			
Citizens Bank PLC	admin	4/13/2025			
City Bank PLC	admin	4/13/2025			
Commercial Bank of Ceylon Limited	admin	4/13/2025			
Community Bank Bangladesh PLC.	admin	4/13/2025			
Dhaka Bank PLC	admin	4/13/2025			
Dutch-Bangla Bank PLC	admin	4/13/2025			
Eastern Bank PLC	admin	4/13/2025			
Export Import Bank of Bangladesh PLC	admin	4/13/2025			
First Security Islami Bank PLC	admin	4/13/2025			
Global Islami Bank PLC	admin	4/13/2025			
Habib Bank Ltd.	admin	4/13/2025			

Check Information

IntelliCheque Management System

Open AssistantInstall AppSupport +880-1677454457zillur

HomeConfigurationCheque Print & ManageCheque RegisterPayee DetailsCheque PaymentReportsBatch PrintQuick Check PrintCheque Search ReportAI AssistanceAdministration

Cheque Payment

Home \ Cheque Print & Manage \ Cheque Payment

QGoActions

Batch PrintCreate

Select	Bank	Date	Cheque No	Payee	Amount	Pattern	Status	Action User	Action Date Time	Print
<input type="checkbox"/>	BRAC Bank PLC	03-AUG-2025	001401	ALIF HOSSAIN	50,000.00	A/C Payee	Cancelled	ZILLUR	03-AUG-2025 09:18AM	
<input type="checkbox"/>	Eastern Bank PLC	01-JUL-2025	00201	ALIF HOSSAIN	2,50,000.00	A/C Payee	Bounce / Dishonour	RAHMAN	30-JUL-2025 08:55AM	
<input type="checkbox"/>	BASIC Bank Limited	30-JUL-2025	0065	JALAL AHMED SPINNING MILLS	1,00,000.00	A/C Payee	Cancelled	ZILLUR	30-JUL-2025 07:15AM	
<input type="checkbox"/>	AB Bank PLC	07-JUL-2025	658711	JALAL AHMED SPINNING MILLS	20,00,000.00	A/C Payee	Cleared	ZILLUR	09-JUL-2025 04:03AM	
<input type="checkbox"/>	Al-Arafah Islami Bank PLC	22-MAY-2025	780102	MONOWAR ASSOCIATES	5,26,000.00	Cash	Cancelled	ABMAHBUB	22-MAY-2025 12:00AM	
<input type="checkbox"/>	Al-Arafah Islami Bank PLC	22-MAY-2025	780101	HABIB ENTERPRISE	2,50,000.00	A/C Payee	Cancelled	ABMAHBUB	22-MAY-2025 12:00AM	

1-6

Developed By: SoftworxLab

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Account Type Information and Entry

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Account Type

Home \ Configuration \ Account Type \

QGoActions

Create

	Account Type Name	Action User	Action Date Time
	Business	ABMAHBUB	17-APR-2025 12:00AM
	Personal	ABMAHBUB	17-APR-2025 12:00AM
	Current	RAHMAN	30-JUL-2025 08:40AM
	OD/CC Loan	RAHMAN	30-JUL-2025 08:40AM
	DPS		30-JUL-2025 08:40AM
	FDR		30-JUL-2025 08:40AM
	Savings		30-JUL-2025 08:39AM

Add Account Type

Account Type Name

CancelCreate

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Cheque Pattern Information and Entry

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Cheque Pattern

Home \ Configuration \ Cheque Pattern \

QGoActions

Create

	Pattern Name	Action User	Action Date Time
	A/C Payee	ABMAHBUB	17-APR-2025 12:00AM
	Cash	ABMAHBUB	17-APR-2025 12:00AM

Add Pattern

Pattern Name

CancelCreate

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Cheque Status Information and Entry

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Cheque Status

Home \ Configuration \ Cheque Status \

GoActions

Create

	Status Name	Action User	Action Date Time
	Cancelled	ABMAHUB	28-APR-2025 12:00AM
	Not Used	ABMAHUB	05-MAY-2025 12:00AM
	Cleared	ABMAHUB	17-APR-2025 12:00AM
	On Hold	ABMAHUB	17-APR-2025 12:00AM
	Bounce / Dishonour		

Add New Status

Add Status

CancelCreate

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Cheque Register Information and Entry

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Cheque Register

Home \ Cheque Print & Manage \ Cheque Register \

GoActions

Create

Bank	Type	Issue Date	Account No	Serial Start	Serial End	Action User	Action Date Time	Details
AB Bank PLC	Business	01-JUL-25	97642564775584	658711	658810	ZILLUR	09-JUL-2025 03:59AM	
Al-Arafah Islami Bank PLC	Business					ABMAHUB	05-MAY-2025 12:00AM	
BASIC Bank Limited	Personal					ZILLUR	30-JUL-2025 07:12AM	
BRAC Bank PLC	Business					ABMAHUB	05-MAY-2025 12:00AM	
City Bank PLC	Personal					ABMAHUB	05-MAY-2025 12:00AM	
Dhaka Bank PLC	Business					ABMAHUB	05-MAY-2025 12:00AM	
Eastern Bank PLC	DPS					RAHMAN	30-JUL-2025 08:46AM	

Cheque Register Details

Home \ Cheque Print & Manage \ Cheque Register \ CHO_REG_DET

Cheque Register

BankTypeIssue DateAccount NoStart SerialEnd Serial

CancelCreate

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Payee Details and Entry

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Payee Details

HomeCheque Print & ManagePayee Details

GoActions

Create

Payee Name	Mobile	Email	Action User	Action Date Time
HABIB ENTERPRISE	01896574123	habib@gmail.com	ZILLUR	07-MAY-2025 12:00AM
MONOWAR ASSOCIATES	01677454457	monowarassociates@gmail.com	ABMAHBUB	06-MAY-2025 12:00AM
JALAL AHMED SPINNING MILLS	01897452147	julal@gmail.com	ZILLUR	09-JUL-2025 04:02AM
AMINUL ISLAM	0181762573	islam@gmail.com	RAHMAN	30-JUL-2025 08:45AM
RAHIM@GMAIL.COM			RAHMAN	30-JUL-2025 08:50AM
ALIF HOSSAIN			RAHMAN	30-JUL-2025 08:50AM

Add Payee Details

Payee Name

Mobile

Email

Cancel

Create

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Cheque Ledger Report

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Cheque Ledger Report

HomeReportsCheque Ledger Report

Parameter Area

First Date

Last Date

GoActions

Get Data

Cheq Dtc	Bank Name	Payee	Pattern	Cheque No	Amount	Status	Action User	Action Date Time
08-AUG-25	City Bank PLC	HABIB ENTERPRISE	A/C Payee	208301	2,00,000.00	Cleared	ZILLUR	08-AUG-2025 06:57AM
03-AUG-25	BRAC Bank PLC	ALIF HOSSAIN	A/C Payee	001401	50,000.00	Cancelled	ZILLUR	03-AUG-2025 09:18AM
30-JUL-25	BASIC Bank Limited	JALAL AHMED SPINNING MILLS	A/C Payee	0965	1,00,000.00	Cancelled	ZILLUR	30-JUL-2025 07:15AM
07-JUL-25	AB Bank PLC	JALAL AHMED SPINNING MILLS	A/C Payee	658711	20,00,000.00	Cleared	ZILLUR	09-JUL-2025 04:02AM
01-JUL-25	Eastern Bank PLC	ALIF HOSSAIN	A/C Payee	00201	2,50,000.00	On Hold	ZILLUR	30-JUL-2025 08:55AM
22-MAY-25	Al-Arafah Islami Bank PLC	HABIB ENTERPRISE	A/C Payee	780101	2,50,000.00	Cancelled	ABMAHBUB	22-MAY-2025 12:00AM
22-MAY-25	Al-Arafah Islami Bank PLC	MONOWAR ASSOCIATES	Cash	780102	5,26,000.00	Cancelled	ABMAHBUB	22-MAY-2025 12:00AM
					33,76,000.00			

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Appendix C

Survey Questionnaire

While no explicit survey is included, the file reveals key functional aspects:

Application Purpose: A comprehensive cheque management system with bank configuration, cheque printing, reporting, and AI-assisted features.

Technical Details: Built with Oracle APEX 24.2.6, supports PWA, and integrates AI services.

Navigation & Security: Structured menus, role-based access, and authentication mechanisms.

BIOGRAPHY

Developer Profile

Name: Zillur Rahman & Abdur Rahman
Role: Oracle APEX Developer
Contact: zillur745rahman@gmail.com
Workspace: WKSP_ZILLURSMS (Oracle APEX development environment)
Specialization: Financial management systems, PWA development, AI integration

Professional Background

Zillur Rahman & Abdur Rahman is an experienced Oracle APEX developer specializing in building comprehensive financial management solutions. With expertise in:

- Oracle APEX application development (version 24.2.6)
- Progressive Web App (PWA) implementation
- AI integration (Cohere GenAI) for business applications
- Secure financial transaction systems
- Database architecture and optimization

Application Genesis

Project Name: IntelliCheque Management System
Development Date: Circa 2025
Inspiration: Created to modernize and streamline cheque management processes for financial institutions and corporate environments.

Technical Philosophy

Zillur's development approach emphasizes:

- User-Centric Design: Intuitive navigation with 75 pages and 172 regions.
- Security-First: Robust authentication and ACL role management.
- Modern Integration: Incorporation of AI capabilities and PWA functionality.

- Comprehensive Reporting: 16+ built-in reports for financial tracking.

Career Milestones

- Successfully developed a complete cheque lifecycle management system
- Implemented cutting-edge AI assistance for financial operations
- Created installable PWA for offline cheque management
- Designed a system handling 64 processes and 152 interactive items

Future Directions

The developer's vision includes:

- Expanding mobile capabilities
- Enhancing AI-driven financial insights
- Developing additional financial management modules
- Creating integration APIs for banking systems

Legacy Statement

This application represents Zillur's commitment to building secure, efficient financial systems that leverage modern web technologies while maintaining robust database architecture. The IntelliCheque Management System stands as a testament to the developer's ability to create comprehensive business solutions within the Oracle APEX framework.