BANK MANAGEMENT SYSTEM DESIGN

An Information Management Project presented to the
Faculty of Information Technology
School of Arts, Science, and Technology
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In Partial Fulfillment of the
Requirements for the subject

Information Management

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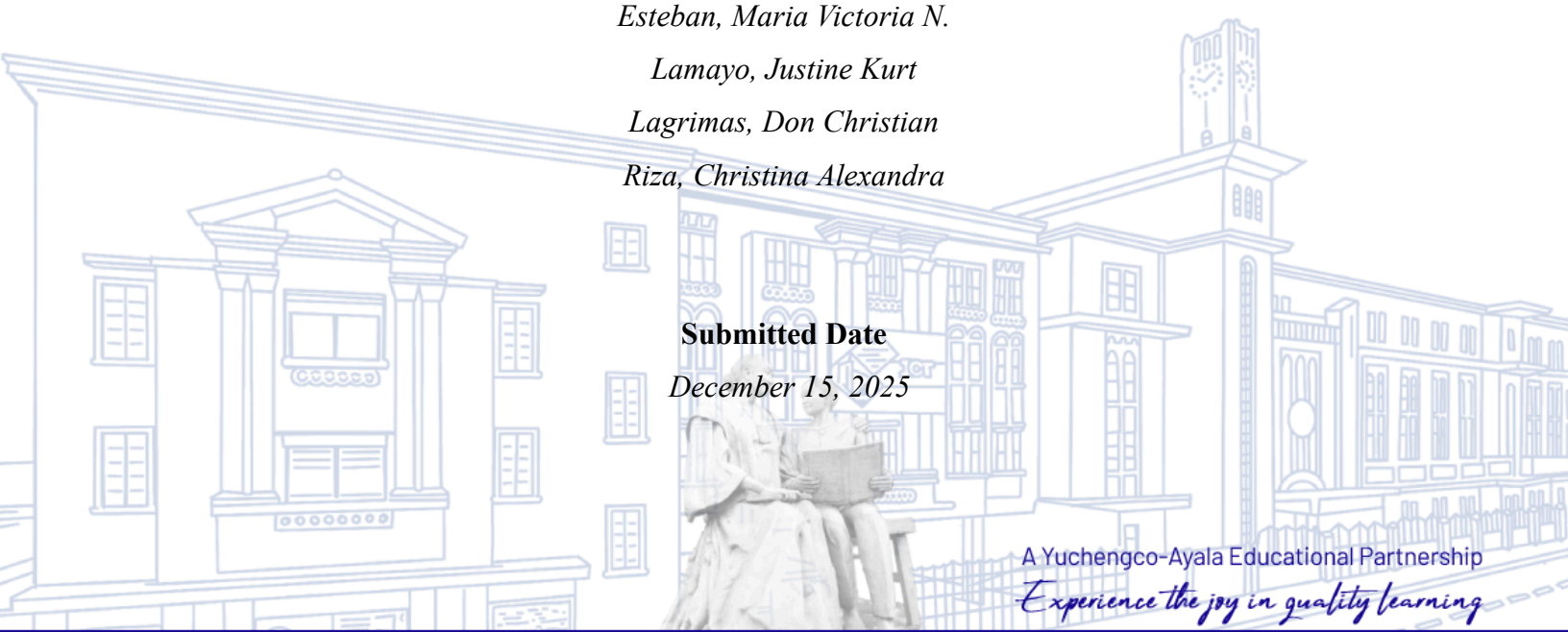


Overview

This documentation presents the front-end design of the Banking System Management platform through its prototype user interface. It showcases the visual structure, layout, and navigation flow of the system, including the login process, account creation, dashboard display, loan management pages, transaction monitoring, and account profile sections. The prototype serves as a representation of how users will interact with the system and how key banking functions are organized and accessed.

The purpose of this prototype is to illustrate the overall user experience and interface behavior of the system before full implementation. By demonstrating the screens, buttons, menus, and workflows, the documentation provides a clear overview of the system's appearance and functionality from the user's perspective. It serves as a guide for developers, evaluators, and project members in understanding the system's front-end structure and intended design flow.

Objectives of the Project

1. To design an information management system that efficiently stores, retrieves, and updates customer banking records.

2. To implement secure data-handling methods that protect sensitive customer and transaction information from unauthorized access.

3. To demonstrate how a banking system processes core functions such as deposits, withdrawals, balance inquiries, and account creation.

4. To use database management concepts (tables, queries, relationships) to organize banking data logically and accurately.

5. To apply normalization techniques to reduce data redundancy and ensure data integrity within the banking system.

6. To automate transaction recording and generate real-time reports for monitoring account activities.

7. To integrate error-handling and validation mechanisms to ensure accurate and reliable user input and system behavior.

8. To evaluate the performance, accuracy, and security of the developed banking information system based on set criteria (speed, reliability, usability).

Scope and Limitations of the project

The scope of this project is to design and evaluate a basic Banking System that manages essential banking operations such as account registration, balance inquiry, deposits, withdrawals, and fund transfers within a simulated environment. The project aims to determine how the system can improve the efficiency of banking processes and support both users and administrators in handling financial information. A Data such as user records, transaction logs, system interactions it will be used to access the accuracy, usability, and overall functionality of the system,

The project solely focused on development of a simplified banking model and does not include advanced features found in real-world banking platforms, such as ATM integration, mobile banking, multi-factor authentication, or external financial network connectivity. The system operates only within a controlled environment, which restricts the applicability of the findings to actual banking institutions. The system is also constrained by the size of the dataset, the limited number of users involved, and the reliance on subjective feedback, which may affect the generalizability and reliability of the results. External factors such as cybersecurity treats, large scale system loads, and real-time transaction processing are also beyond the scope of the study.

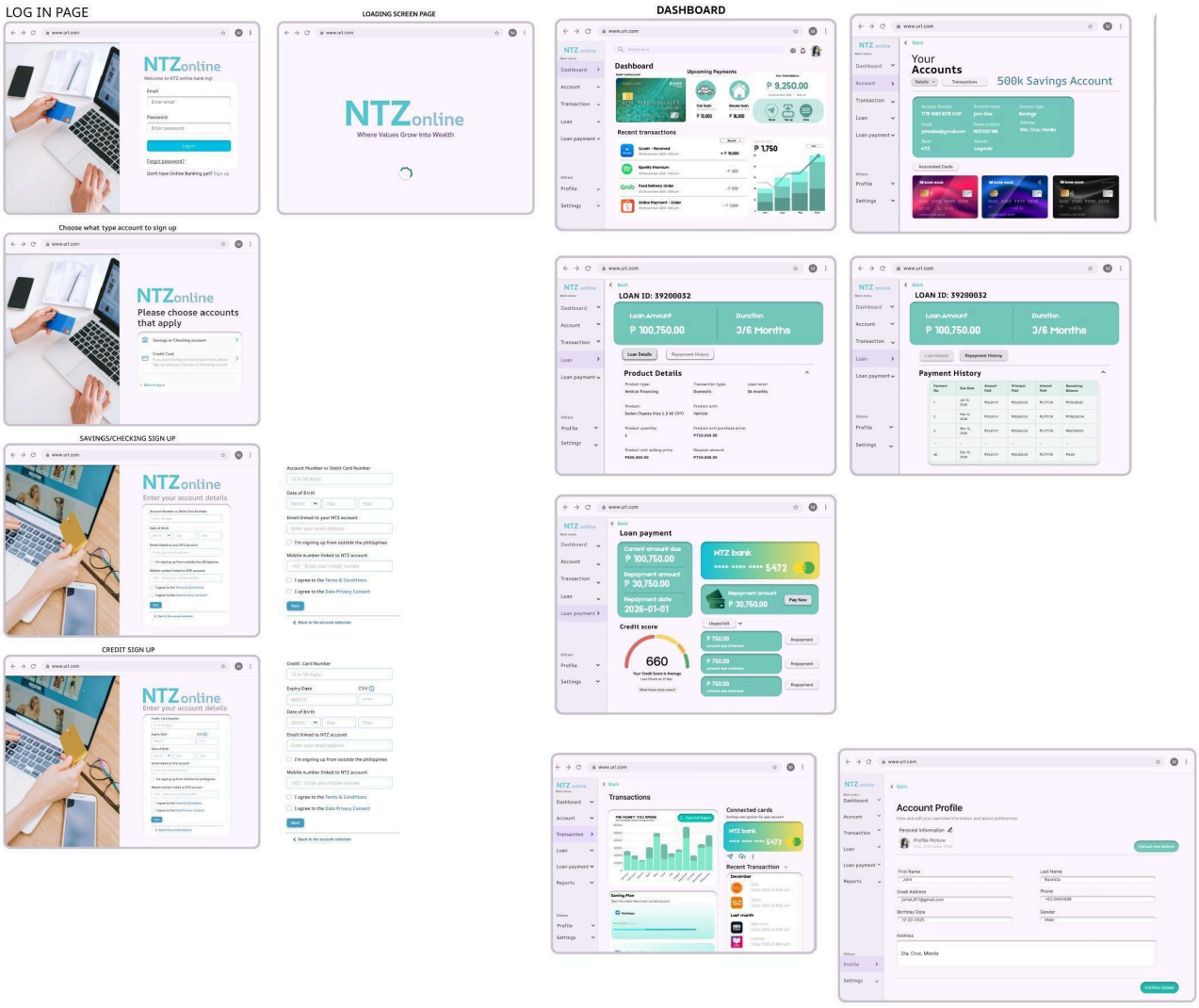
Information Management Plan (Concepts only and No Implementation)

Category	**Description / Details**
Data to Collect	The system collects customer personal details, account information, transaction records (deposits, withdrawals, fund transfers), loan details, login credentials, and system activity logs used for monitoring and reporting purposes.
Data Source	Data is gathered directly from users through account registration forms, login inputs, and transaction entries, as well as automatically generated by the system during banking operations such as deposits, withdrawals, and balance inquiries.
Data Storage	All information is stored in a structured local database(eg, SQL Workbench) using tables that separate customers, accounts, transactions, and system users to ensure organized, accurate, and efficient data management.

Data Retrieval	Data is retrieved through search functions, dashboards, transaction history views, and report generation tools that allow authorized users and administrators to access relevant banking information quickly and accurately.
Data Security and Privacy	The system protects sensitive banking data through password authentication, role-based access control, and confidentiality measures to prevent unauthorized access and ensure customer privacy.

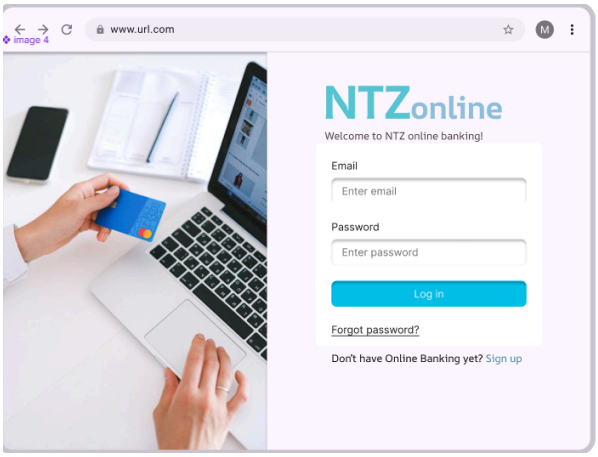
Backup and Recovery	The system includes regular data backup procedures, either automatic or manual, to safeguard information and provide recovery options in case of data loss or system failure.
Ethical Use of Information	All collected information is handled responsibly by maintaining confidentiality, granting access only to authorized users, and using data strictly for banking operations in compliance with ethical and data privacy principles.

Prototype / System Design (Concept of the Prototype) (Input form, Dashboard, Report view)

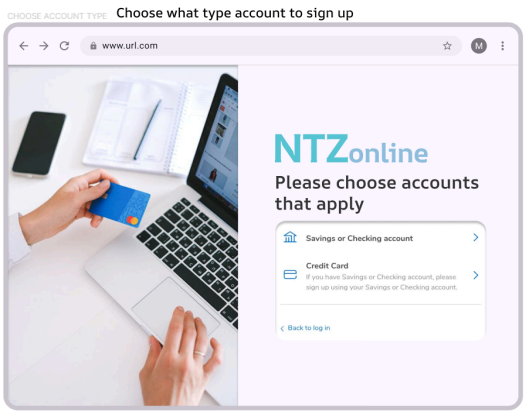


Link of figma:
https://www.figma.com/design/ypcPtqxMTQ81gYwca3nz0S/Banking-System-UI?node-id=31-1518&t=HzEOFxdnCUTSx3iY-0
Implementation and Testing (Concept only)

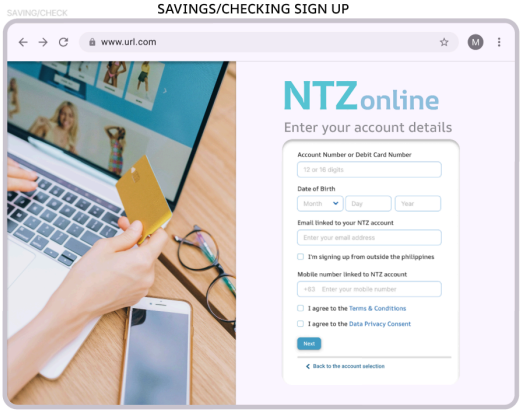
Description: This is the first screen that appears when opening the NTZ Online website or app. It allows users to securely access their accounts.

Log In Page	**THE INPUT**
	**The Input:** ● **Enter Username:** (ex. juandelacruz@gmail.com) ● **Enter Password:** (ex. juan123) ● Click **Login** button **Options:** ● Forgot Password → click **"Forgot Password"** ● No account yet → click **"Sign Up"**

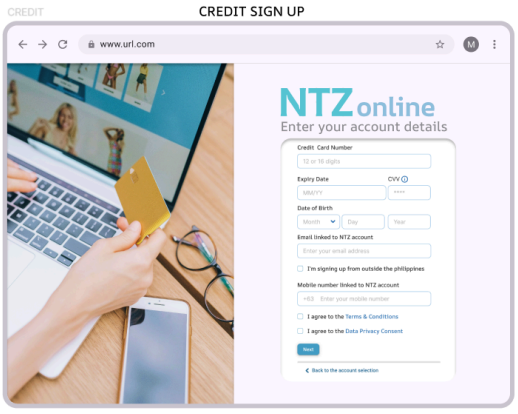
Description: After clicking **Sign Up**, the system prompts the user to choose which type of account they want to create.

Account Type Selection	**THE INPUT**
	● **Select account type:** ○ Savings Account ○ Checking Account ○ Credit Account ● **After choosing one or more accounts, click "Continue"**

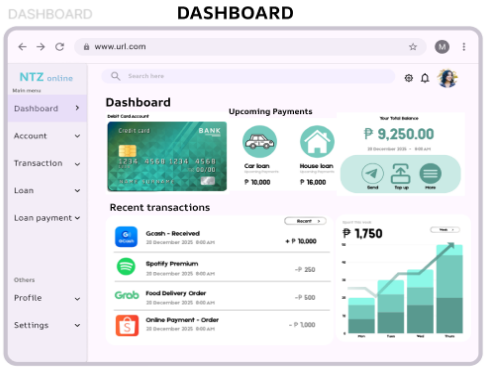
Description: This page collects personal information to create a **Savings or Checking account.**

Account Creation Form	**THE INPUT**
	• **Account Number / Card Number** • **Date of Birth:** (ex. 08-30-2005 / August 30, 2005) • **Email linked to NTZ account:** (same email used at login) • **Mobile Number linked to NTZ account:** (ex. 09xxxxxxx65) • Accept **Terms & Conditions** → proceed to next step

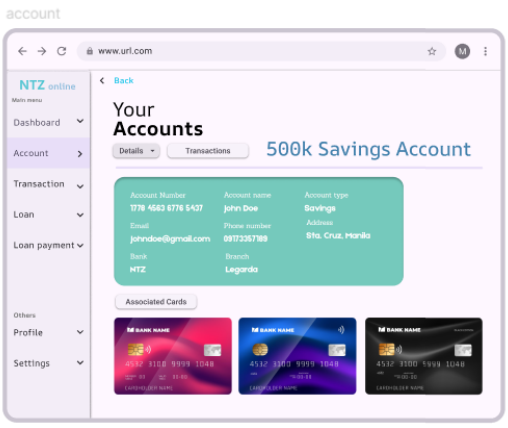
Description: This page is for creating a **Credit Account.** It requires card details and linked personal information.

Account Creation Form	**THE INPUT**
	• **Credit Card Number:** (ex. 1234 **** **** **78) • **Expiry Date:** (ex. 10/30/28) • **CVV:** (ex. 25**) • **Date of Birth:** (ex. 04-05-1999) • **Email linked to NTZ account:** (ex. juan@gmail.com) • **Mobile Number linked to NTZ account:** (ex. 09xxxxxxx78) • Agree to **Terms & Conditions** → click **Submit**

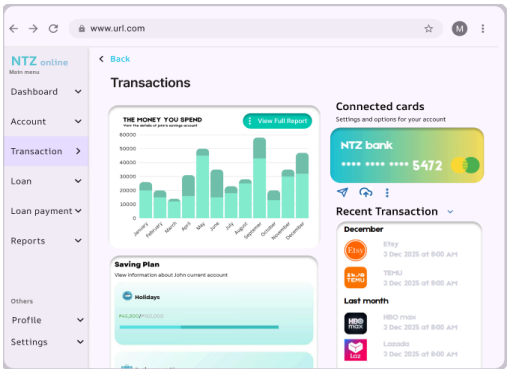
Description: This is the main dashboard shown after login. It displays all bank accounts and cards owned by the user.

Account Dashboard	**THE INPUT**
	• View linked accounts and cards

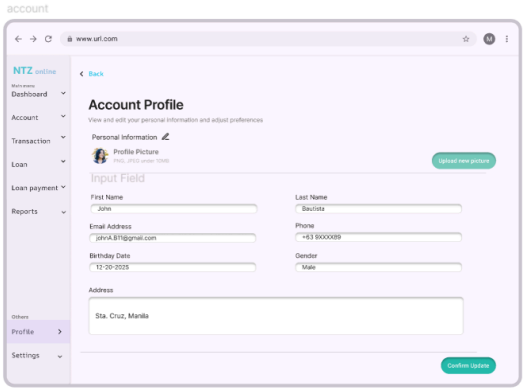
Description: This page displays all the bank accounts and cards owned by the user. It serves as the central hub for viewing financial assets linked to the NTZ system. The sidebar provides navigation to other modules such as Dashboard, Transactions, Loans, Reports, and Profile.

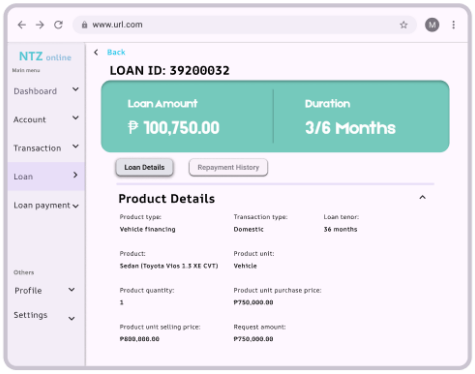
Bank Account Page	**THE INPUT**
	**View account types and cards:** • 500k Savings Account • Joint Account • Recurring Deposit • NTZ Bank Mastercard • NTZ Bank Visa • NTZ Bank Credit Card

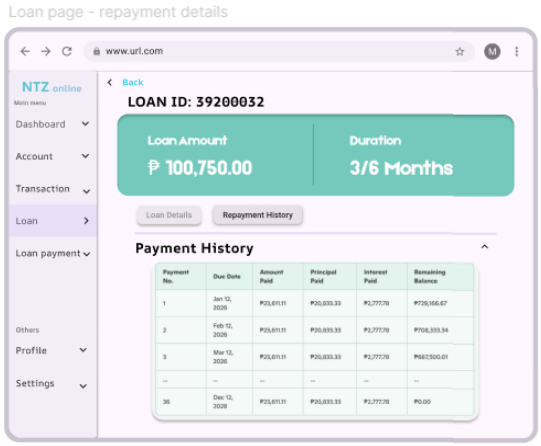
Description: This page shows the user's recent financial activity. It includes a visual breakdown of spending via a bar chart labeled **"Where You Spend"**, and lists all **recent transactions** for the current month. Connected cards and balances are also displayed.

Transaction Page	**THE INPUT**
	**View connected card:** ● **NTZ Bank** – Balance: $472 **View recent transactions:** ● December transaction list **Analyze spending via bar chart**

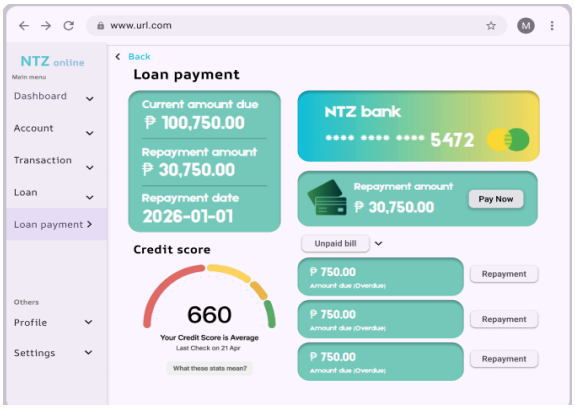
Description: This page allows users to view and update their personal information linked to their NTZ account. It ensures that all contact and identity details are accurate and up to date. Users can confirm changes or cancel edits using the provided buttons.

Account Profile Page	**THE INPUT**
	● **First Name:** (ex. John) ● **Last Name:** (ex. Bautista) ● **Email Address:** (ex. johnA.B11@gmail.com) ● **Phone #:** (ex. +63 9xxxxxxxx89) ● **Birth Date:** (ex. 12-20-2025) ● **Gender:** (ex. Male) ● **Address:** (ex. #12 Kita, Quezon Province) ● Click **Confirm Update** to save changes or **Cancel** to discard

Description: This page shows active loan details, including product type, loan tenor, and financial breakdown.	
Loan Page - Product Details	**THE INPUT**
Loan page- loan details 	**Loan Information** ● Loan Amount: ₱100,750.00 ● Duration (Months): 3 / 6 **Loan ID & Product Details** ● Product Type: Vehicle Financing ● Product: Sedan (Toyota Vios) ● Transaction Type: Domestic ● Product Unit: Vehicle ● Loan Tenor: 36 months ● Product Quality: 1 ● Purchase Price (Unit): ₱750,000.00 ● Selling Price (Unit): ₱800,000.00 ● Request Amount: ₱750,000.00
Description: This page allows users to track and manage their loan repayment activity. It displays a summary of the loan and a detailed payment history table, including dates, amounts, reference numbers, and payment status. This ensures transparency and control over loan obligations	
Loan Page - Repayment History	**THE INPUT**

	• Loan ID: 39200832 • Loan Amount: ₱100,750.00 • Duration: 3 / 6 Months **Payment History Table:** • Date – When the payment was made • Amount – Paid amount per transaction • Reference Number – Unique ID for each payment • Status – Indicates if payment was successful, pending, or failed.

Description: This page allows users to make payments toward their active loan using registered NTZ bank accounts. It displays the current amount due, total loan amount, repayment end date, and credit score. Users can select a payment amount and proceed with the transaction using their linked bank account.

Loan Payment Page	**THE INPUT**
	**The Input:** • **Loan ID:** 39200832 • **Loan Amount:** ₱100,750.00 • **Duration:** 3 / 6 Months **Payment History Table:** • **Date** – When the payment was made • **Amount** – Paid amount per transaction • **Reference Number** – Unique ID for each payment • **Status** – Indicates if payment was successful, pending, or failed

Reflection

Throughout the development of our Banking System Management prototype, we engaged in a deeply insightful and rewarding process. Our primary focus was on the front-end design using tools like Figma, which allowed us to translate complex banking functionality into a clear and intuitive user interface. This project was not just an exercise in software design; it was a practical application of theoretical concepts concerning data handling and user experience.

The initial phase involved clearly defining the project's Overview and Objectives. We aimed to design a system that could efficiently store, retrieve, and update customer banking records while implementing secure data-handling methods. The process of mapping out the login, account creation, dashboard, and transaction pages forced us to think critically about the user journey. For instance, designing the transaction monitoring page required us to consider how real-time data and automated recording could be best presented to both the user and the administrator, fulfilling one of our key objectives.

The discussion of the Scope and Limitations was crucial. We acknowledged that our project was a simplified model focused solely on core operations like deposits and withdrawals within a simulated environment. This limitation helped us maintain focus, yet it also highlighted the gap between a prototype and a real-world, highly integrated banking platform with features like multi-factor authentication. This perspective grounded our design choices, ensuring we built a robust foundation for the essential functions.

Developing the Information Management Plan, even conceptually, provided the backbone for the user interface. By considering the Data to Collect (e.g. user records, transaction logs) and the strategies for Data Retrieval (search, filters, report generation), we ensured that the prototype’s visual elements directly supported the underlying data architecture. A well-organized table design on the dashboard, for example, is a direct result of planning for logical data storage and easy retrieval. We realized that good design is inseparable from accurate data handling.

Finally, seeing our designs come to life through the Prototype / System Design screenshots in Figma gave us a profound sense of accomplishment. The process of creating the input forms, the dashboard layout, and the report view screens demonstrated our ability to apply design principles effectively. This project has significantly enhanced our understanding of how an essential system's front-end serves as the gateway to its backend complexity, confirming that usability and accuracy are paramount for any successful system. We now have a much stronger grasp of how to connect user interaction with the principles of data integrity and system security.