**Group-13: Integrated Banking Information System (IBIS)**

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**INFO 5707 Data Modelling**

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Integrated Banking Information System (IBIS)

**Description:**

The Integrated Banking Information System (IBIS) was developed to improve the way banking works more effectively and productively. The design is a complete, safe, and extensible system. This serves as an extremely helpful instrument for banking. This can be used to manage money, make transactions, and repay loans, among other functions. The business known as IBIS, ensures sure that all deals are fair. This additionally makes clear that arrangements can be modified to comply with the regulations of various nations. It is designed for handling both easy and hard cash duties.

Protection and the customer journey are essential to IBIS. The organization performs this by offering customers a set of personal banking features and improved protection of data. Bankers can easily talk with customers, identify hazards, and send in reports on compliance with this application. IBIS wants to help banks identify fraudulent activities, manage hazards, and maintain a step ahead of the competition in the rapid-fire financial sector by improving and streamlining processes.

**Objectives:**

* To develop one application for managing all banking assignments, which include loans, accounts for consumers, payment transfers, and employee records.
* With continuous monitoring, you can make sure that addresses are handled securely and efficiently.
* Analysis of data may be utilized to look at economic patterns, measure potential hazards and provide better service to customers.
* Better awareness of requirements by using automatic check records and findings.
* To provide a uniform customer experience throughout all banking methods, which includes the Internet, mobile devices, and in-branch operations.
* Establish machine learning algorithms to identify and block fraudulent transactions and to review a customer's reputation.
* Support management of several banking accounts, offering customers and bank managers an integrated overview of resources.
* Connect to foreign banking systems to make it simple to perform business as well as exchange funds across boundaries.
* Prepare an atmosphere for the digital transformation of banking institutions so that fresh financial products and services can be launched.

**Scope:**

* The Integrated Banking Information System will manage all the banking responsibilities and become the primary center for both the front office (which deals with customers) and the back office (which operates the business).
* This will be utilized by every department in the bank and fulfil the requirements in various areas, like funds, loans, regulation, and employees.
* The design will have the capacity to manage plenty of transactions including complex financial products, as well as various currencies and regulations.
* To maintain customer trust and protect confidential financial information, modern safety measures will be important.
* Bank Sphere will continue to provide additional features for individuals in retail banking, business banking, economic banking, and asset management.
* This will be able to establish connections to exterior banking systems like gateways for payments, stock exchanges, and credit report agencies.
* The platform will include a great deal of information storage facility features that will allow users to review historical information, develop forecasts, and prepare effectively.
* The design will also make it simpler for people who have disabilities to access as well as make sure it satisfies worldwide accessibility instructions.
* As the bank's customer base and the number of transactions expand, the system will be designed to be flexible, which means it can manage them.

**User requirements:**

* Each customer will be given a unique ID number and will be able to safely access information about their accounts, transactions, and loans.
* The employees who work in banks can manage deals and documentation, maintain records of customer information, and prepare financial statements.
* Customers will be able to submit requests for loans and check on the advancement of their requests through the system.
* Loan supervisors will be ready to perform checks for creditworthiness, make interest rates, and maintain a watchful eye on the payment of loans.
* Automatic notifications for purchases which appear to be correct to stop fraudulent activities while maintaining the funds safe.
* The approach will be utilized by accountability employees to generate the findings that government groups need and to make sure the bank follows financial rules.
* Customers will be able to do their banking on the system, which includes beginning fresh accounts and keeping track of their money saved.
* Managers of relationships will be able to give personalized banking tips based on customer data analytics thanks to Bank Sphere.
* The approach allows rates of interest and fees charged by banks to change immediately based on the way the economy performs along with how the bank runs.
* The technique will be utilized by internal examiners for continual monitoring and evaluating danger in real-time.
* The system's architecture will deal with various languages so it may operate in a variety of places and with an extensive number of customers.
* Make out encrypted messages and recognize methods to ensure customers and bank employees can speak with one another straight.
* Ensure that the platform includes an interface to feed customers to raise difficulties and recommend approaches to improve it.
* Provide a comprehensive instructional resource within the system for new customers and employees.

**Entity Relationship Diagram:**

A diagram of a company

Description automatically generated

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Entity | Relationship | Connectivity | Related Entity | Entity |
| CUSTOMER | Has | 1:M | PAYMENT | CUSTOMER |
| CUSTOMER | Has | 1:M | LOAN | CUSTOMER |
| CUSTOMER | Has | 1:M | ACCOUNTS | CUSTOMER |
| CUSTOMER | Initiates | 1:M | TRANSACTIONS | CUSTOMER |
| EMPLOYEES | Manages | 1:M | LOAN | EMPLOYEES |
| EMPLOYEES | Conducts | 1:M | TRANSACTIONS | EMPLOYEES |
| EMPLOYEES | Logs Into | 1:M | USER\_SESSIONS | EMPLOYEES |
| ACCOUNTS | Recorded in | 1:M | REPORT\_DETAILS | ACCOUNTS |
| LOAN | Repaid by | 1:M | PAYMENT | LOAN |
| TRANSACTIONS | Recorded in | 1:M | REPORT\_DETAILS | TRANSACTIONS |
| USER\_SESSIONS | Tracked in | 1:M | REPORT\_DETAILS | USER\_SESSIONS |

**Business Rules**:

1. For customers to have access to their banking information, each customer needs a unique ID.
2. The primary objective of employees is to manage communications with customers, maintain information, and prepare reports on finances.
3. Customers need to be ready to make applications for loans and report on the status of their queries via the system.
4. Loan agents review people's finances, create rates of interest, as well as make sure they pay to return the loans on time.
5. For the sake of safety reasons, transactions of more than a certain amount should generate alerts to stop fraud.
6. Compliance employees utilize the technique to prepare reports for government agencies and make sure that financial regulations are obeyed.
7. The system requires us to be ready to create and manage new customer accounts as well as keep up to date on existing ones.
8. customers' personal banking advice and relationship supervisors are required to utilize customer information analytics.
9. The system must be able to modify interest rates and bank charges depending on how the market is performing and how banks are operating.
10. The procedure must be utilized by internal officials to maintain an eye on activities and determine problems constantly.
11. The system is required to be ready to function in many various locations and languages.
12. Every interaction between customers and the system requires to be recorded to ensure that they can be traced and verified.
13. The system must be linked to foreign banking systems as well as provide a secure means for people to conduct operations with one another globally.
14. The most up-to-date safety precautions must be utilized to keep all confidential customer and bank data safe.
15. The structure of the system must be ready to expand as the total number of users and interactions occurs.
16. Global requirements for accessibility indicate that user platforms need to be able to be utilized by people with challenges.
17. For modern financial products and services to eventually become available, the system must make it simple for banking institutions to become digital.
18. To identify and prevent fake operations, methods of machine learning must be utilized.
19. The program needs to be available to keep a great deal of data to ensure knowledge is useful for forecasting and evaluating recent events.
20. For a uniform customer experience, each of the banking activities needs to be performed by one user platform.

**Data Dictionary:**



