

IGroup-name: Icon

Abakar Issa

Microfinance

Gilbert Sibomana

Patrick Metuschelah Moko

Industry: the Finance industry**The sub-industry:**

David Atebisun

The problem we are trying to solve:

UMURENGE SACCO is a microfinance company whose aim is to provide Rwanda's citizens in the local regions with credit and saving services, UMURENGE SACCO company is experiencing series of robberies caused by Managers, which has raised concerns among the general public and the management about the safety of their savings, another issue is People in Kigali are not using UMURENGE SACCO.

The Solution:

Based on the above problem statement, the only solution to avoid data breach and any form of cybercrime is to create a database system that cannot be a breach by any hackers by using the appropriate characters and a very strong password, ensure table and database normalization is done, avoid repetition in the database and embody firewall as protection.

Our solution is to design a database system which can minimize these problems.

Entity	Attributes	Description
Branch	<ul style="list-style-type: none">Assets;Branch city;<u>Branch name</u>...	Contains the details about the physical representation of the bank.
Account	<ul style="list-style-type: none"><u>Account_number</u>BalanceCategoryRecord_Id	The entity has the info of the customer account.
Customer	<ul style="list-style-type: none">Customer name;<u>Customer-id</u>Customer-streetCustomer city	This entity has the necessary information about the client.
Loan	<ul style="list-style-type: none"><u>Loan_number</u>Loan amountPaid_back_amountRemaining_amountRecord_Id	Contains the details about the loans made by the customer.
Teller	<ul style="list-style-type: none"><u>Teller id</u>...Teller name;Teller email;	This where we have the information about the teller.
Credit Card	<ul style="list-style-type: none"><u>Credit card_number</u>Limited_amountDate_expired	Credit Card entity has data about the customer.

	<ul style="list-style-type: none"> Record_Id 	
Transfer	<ul style="list-style-type: none"> <u>Transfer_ID</u> Account_Number Receaver_Account number Amount 	It has information about transfer transactions made by the customer.

Normalized ERD Database Table

branch-name	assets	Branch city
Gasabo_12	16000000	Gasabo
Huye_16	9000000	Huye
Kicukiro_11	15000000	Kicukiro
Muhanga_17	12000000	Muhanga

branch-name	Loan-Number	Amount
Gasabo_12	101	500,000
Huye_16	102	900,000
Kicukiro_11	103	300,000
Muhanga_17	104	700,000

Customer-Id	Loan-Number
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1	101
2	102
3	103
4	105

Customer-Id	Customer-Name	Customer-Street	Customer-City
1	NTISERURWA SULAIMAN	kigali,Gasabo 23 ave	Gasabo
2	NZOZINZIZA NYAMPINGA GLORIA	Rwamagana,Muhazi	Rwamagana
3	MUKARUKUNDO DELPHINE	Huye,Kaminuza,56 st	Huye
4	JABO DIVIN PARACLET	Kigali,Kicukiro 23 st	Kicukiro

Credit-Card-Number	Credit-Card-Limit	Expiry-date
0000-1111-1111-1111	500,000Rwf	10-Mar-2021
0000-1111-1111-2222	500,000Rwf	06-Jan-2023
0000-2222-2222-2222	150,000Rwf	05-Feb-2025
0000-3333-3333-3333	200,000Rwf	20-Mar-2020

Customer-Id	Credit-Card-Number	Account-Number
1	0000-1111-1111-1111	0-1-2222-3333-4444
2	0000-1111-1111-2222	0-1-2222-2222-2222
3	0000-2222-2222-2222	0-1-4444-4444-4444

4	0000-3333-3333-3333	0-1-7777-7777-7777
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Account-Number	Category	Balance
0000-1111-1111-1111	500,000Rwf	10-Mar-2021
0000-1111-1111-2222	500,000Rwf	06-Jan-2023
0000-2222-2222-2222	150,000Rwf	05-Feb-2025
0000-3333-3333-3333	200,000Rwf	20-Mar-2020

Banker-Id	Banker-Name	Banker-Email
1011	TUYISHIME ERIC	E.TUYISHIME@sacco.com
1022	KABATESI RUTH	R.KABATESI@sacco.com
1033	NIRAGIRE RUTAGENGWA EMERY	E.NIRAGIRE@sacco.com
1044	IRADUKUNDA UMUTONI LAETITIA	L.IRADUKUNDA@sacco.com

Branch-Name	Customer-Id	Banker-Id
Gasabo_12	1	1011
Huye_16	2	1022
Kicukiro_11	3	1033
Muhanga_17	4	1044