

DataBase report

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Introduction:

This report provides a detailed overview of the database schema used to manage customer information, services offered, subscriptions, employees, departments, and other aspects of the company's operations. The report includes an Entity Relationship Diagram (ERD) to visualize the relationships between tables, followed by in-depth descriptions of each table's structure and functionalities.

ER DIAGRAM

This section dives deeper into the individual building blocks of the database schema: the tables. Each table will be presented in detail, starting with its name, which reflects the type of data it stores. We'll then identify the primary key (PK) column(s), which act as unique identifiers for each record within that table. Additionally, foreign key (FK) columns will be highlighted. These establish crucial relationships between tables, allowing data from one table to be linked to another.

For each table, we'll examine each column's name, data type (such as integer, character string, or date), and its purpose within the table's context. This will provide a clear understanding of the specific data each column holds and its relevance to the overall functionality of the table. Finally, any constraints or limitations placed on the data (e.g., a column cannot be empty or must hold unique values) will be explained to ensure data integrity and consistency. By examining these details for each table, we'll gain a comprehensive understanding of the database schema's structure and how it manages information.

Customers	
PK	<u>cid int NOT NULL</u>
	Name char(50) NOT NULL ContactInfo char(50) NOT NULL Address char(50) NOT NULL

Services	
PK	<u>pid int NOT NULL</u>
	Name char(50) NOT NULL Description char(50) NOT NULL Price decimal NOT NULL

Subscriptions	
PK	<u>sub_id int NOT NULL</u>
FK1	pid int NOT NULL
FK2	IMSI char(50) NOT NULL
	Start_Date date NOT NULL End_Date date NOT NULL Renewal enum('Auto', 'Manual')

Employees	
PK	<u>eid int NOT NULL</u>
	Name char(50) NOT NULL ContactInfo char(50) NOT NULL Address char(50) NOT NULL Department enum('POS', 'Site', 'Warehouse') Job_Title char(50) NOT NULL

Departments	
PK	<u>did int NOT NULL</u>
FK1	eid int NOT NULL
	Description char(50) Capacity int Address char(50) NOT NULL Name enum('POS', 'Site', 'Warehouse')

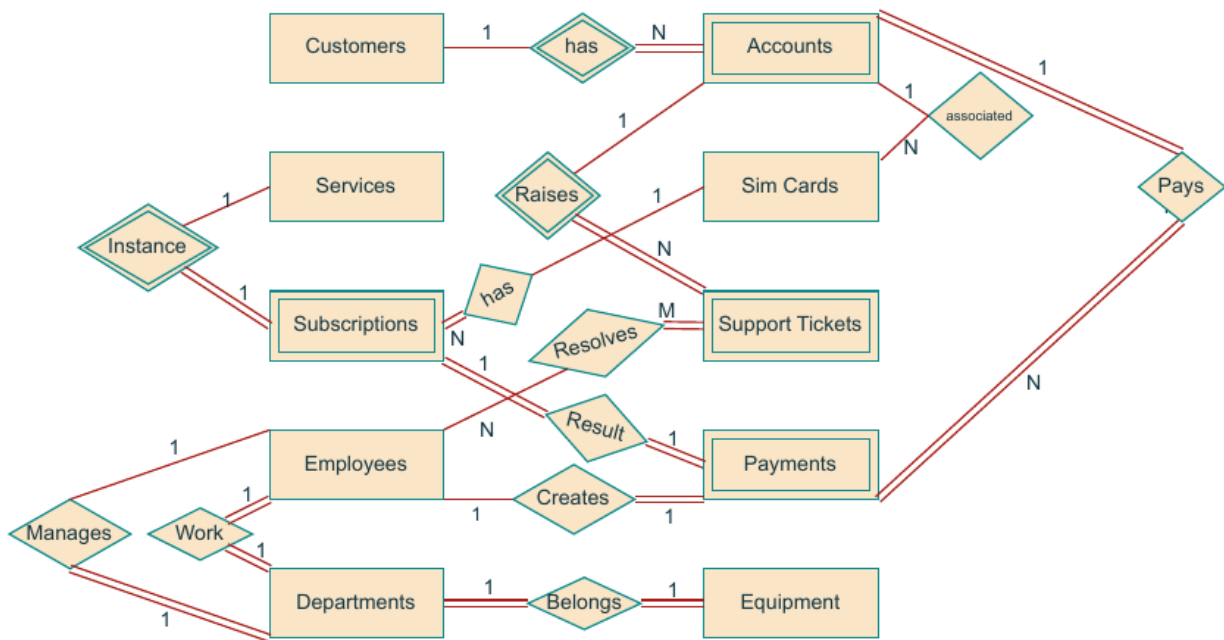
Accounts	
PK	<u>aid int NOT NULL</u>
FK1	cid int NOT NULL
	AccountType enum('Individual','Business') Status enum('Active','Inactive')

SIM Cards	
PK	<u>IMSI char(50) NOT NULL</u>
FK1	aid int NOT NULL
	Phone_Number char(50) NOT NULL Status enum('Active', 'Inactive') ICCID char(50) NOT NULL Unique PUK char(50) NOT NULL Unique PIN char(50) NOT NULL Unique

Support Tickets	
PK	<u>tid int NOT NULL</u>
FK1	aid int NOT NULL
	IssueDescription char(50) NOT NULL Status enum('Active', 'Inactive') ResolutionDetails char(50)

Payments	
PK	<u>pay_id int NOT NULL</u>
FK1	aid int NOT NULL
FK2	eid int Not NULL
FK3	sub_id int Not NULL
	Due_Date date NOT NULL Amount int NOT NULL Method enum('Credit Card', 'Cash') Date date

Equipment	
PK	<u>eqid int NOT NULL</u>
	Name char(50) NOT NULL Model char(50) NOT NULL Unique Department enum('POS', 'Site', 'Warehouse') Status enum('Active', 'Inactive')

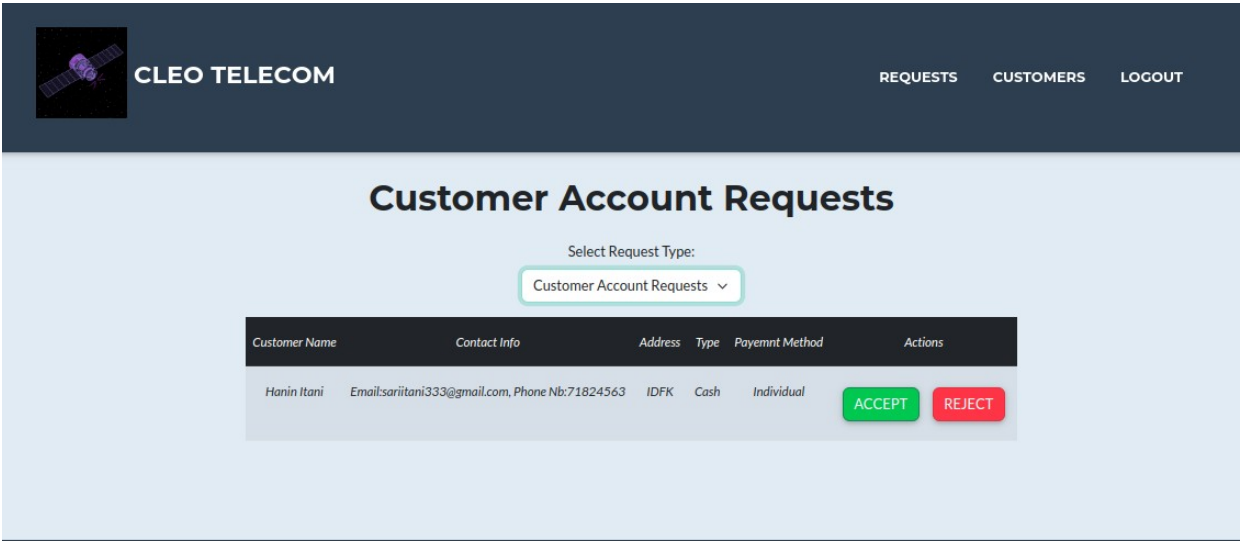
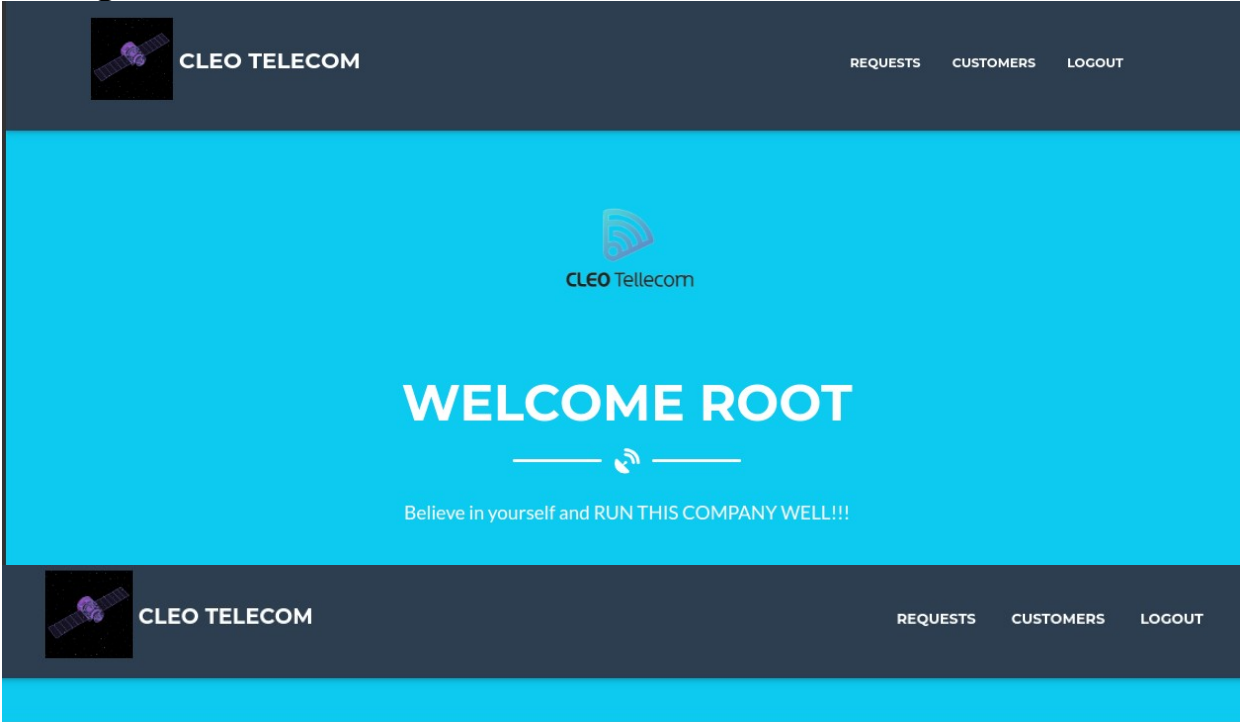


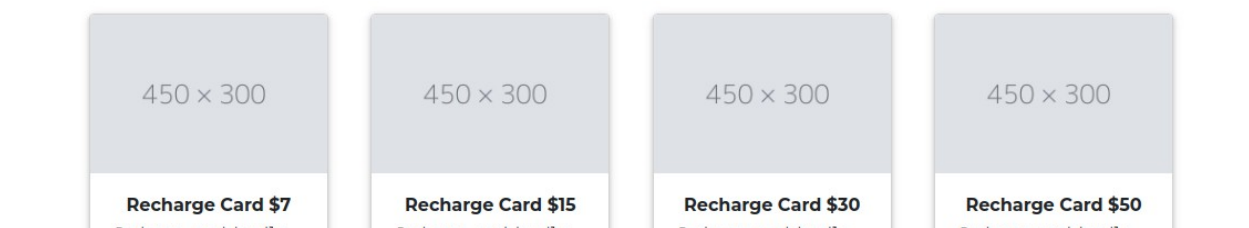
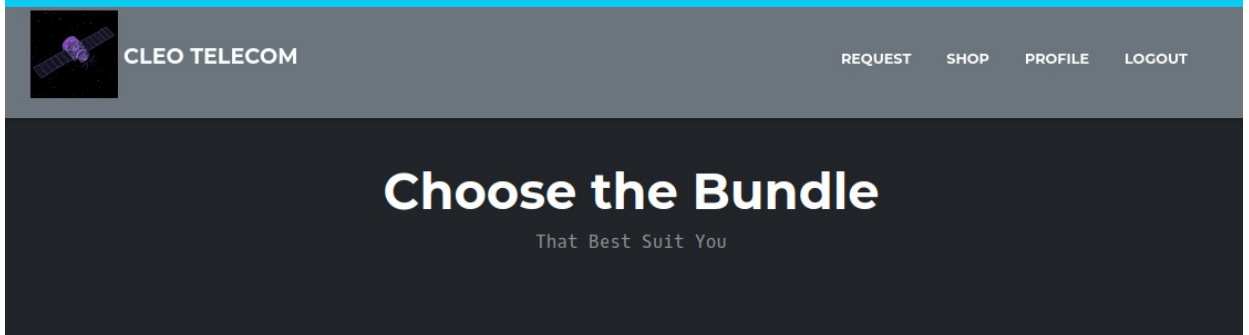
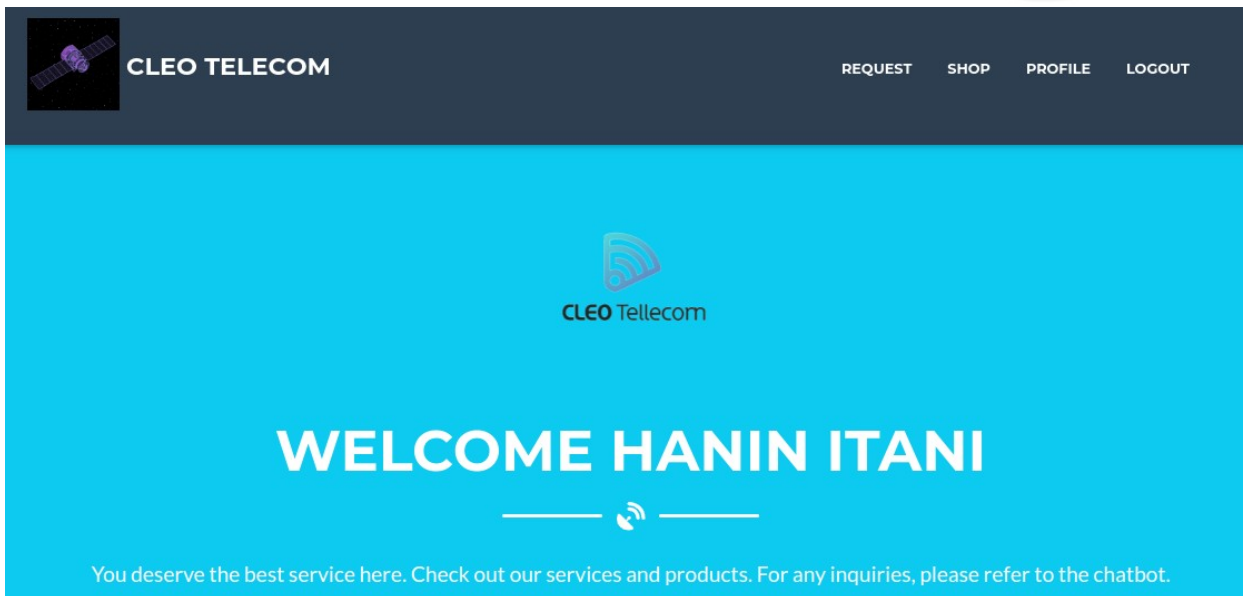
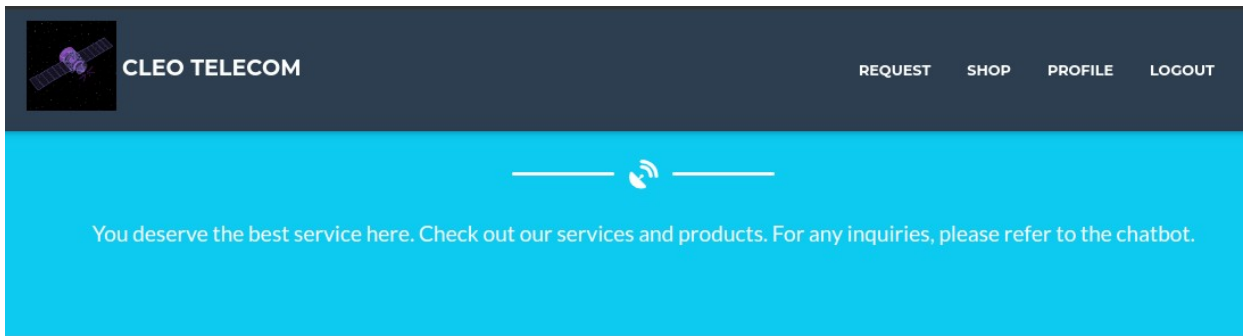
Functionalities and Use Cases

This section delves into the practical applications of the database schema. We'll explore the functionalities it supports, showcasing how this intricate data structure translates into real-world operations. Imagine scenarios like:

- **Streamlining Customer Management:** New customers can be effortlessly added to the system, with their contact information readily accessible. This facilitates efficient communication and service delivery.
- **Tracking Service Subscriptions:** The database meticulously tracks subscriptions to various services offered. This allows for monitoring subscription status, expiration dates, and potential renewal needs.
- **Empowering Employee Management:** Employee details are centrally stored, enabling effective management of departments and job assignments. The system facilitates tracking employee information and assigning them responsibilities based on skillsets.
- **Resolving Customer Issues:** Support tickets submitted by customers can be efficiently logged and tracked within the system. This allows for prompt resolution and recording of solutions, ensuring a seamless customer experience.
- **Recording Financial Transactions:** Payments for services and subscriptions are meticulously recorded, providing a clear financial

audit trail. This ensures accurate accounting and simplifies financial management.





**Basic Data Package**

500MB Internet Access

\$10.00

[APPLY](#)**Standard Data Package**

1500MB Internet Access

\$20.00

[APPLY](#)**Premium Data Package**

5000MB Internet Access

\$30.00

[APPLY](#)**Basic Voice Package**

90Mins Voice

\$10.00

[APPLY](#)

450 × 300

Standard Voice Package

270Mins Voice

\$20.00

[APPLY](#)

450 × 300

Unlimited Voice Package

Unlimited Voice

\$40.00

[APPLY](#)

450 × 300

Data + Voice Combo

750MB Internet and 75 Mins Voice

\$25.00

[APPLY](#)

450 × 300

Data + SMS Combo

750MB Internet and 1000SMS Messages

\$25.00

[APPLY](#)

View Profile Details

SIM Card Details

IMSI: 7965146939

Phone Number: 3259652260

Status: Active

ICCID: 7624168273

PUK: 1266942498

PIN: 2887832198

Account Details

Account ID: 2

Balance: 7.00

Type: Individual

Status: Active


Personal Details

Name: Hanin Itani

Contact Info:

Email: sariitani333@gmail.com, Phone Nb: 71824563

Address: IDFK


CLEO TELECOM

REQUESTSHOPPROFILELOGOUT

Subscription Details

Service Name	Starting Date	Ending Date	Renewal
Standard Bundle	2024-05-02	2024-06-01	Auto
Premium Data Package	2024-05-02	2024-06-01	Auto
Recharge Card \$30	2024-05-02	2024-05-02	Manual

Payment History

CLEO TELECOM

REQUESTSHOPPROFILELOGOUT

Payment History

Amount	Due Date	Payment Date	Employee Name	Service Name
5.67	2024-05-02	2024-05-02	root	-
30.00	2024-05-02	2024-05-02	-	Premium Data Package
30.00	2024-05-02	2024-05-02	-	Recharge Card \$30

Due Payments

Amount	Due Date	Employee Name	Service Name
30.00	2024-06-01	Premium Data Package	Premium Data Package

We created a website using Flask and Bootstrap5 to demonstrate some features of this DBMS.

Conclusion

In conclusion, this report has comprehensively explored the database schema that serves as the foundation for managing various aspects of the company's operations. The detailed explanations of the Entity Relationship Diagram (ERD) and individual tables provide a clear understanding of the data structure and its relationships. We've seen how the schema facilitates functionalities like efficient customer management, subscription tracking, employee management, and financial record-keeping.

Furthermore, the development of a website utilizing Flask and Bootstrap5 demonstrates the potential for leveraging this database schema to create user-friendly interfaces for interacting with the data. Moving forward, this robust database schema can be continuously optimized and expanded

to accommodate the evolving needs of the company, ensuring efficient data management and supporting future growth.