A Mini Project Synopsis on

Electrical Billing System

S.E. - I.T Engineering

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CERTIFICATE

This to certify that the Mini Project report on **Electrical Billing System** has been submitted by Kaushik Prabhu Nerurkar (21104016), Riya Patel (21104141) and Amogh Parulekar (21104001) who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2022-2023** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Chapter 1:

Introduction

The project is a web based application where users can get instant electricity bill and pay them online via credit card. The system automates the conventional process of paying electricity bill by visiting the place. Users have to stand in queue for paying bill and wait for their turn. The process is tiresome and time consuming. They even have to wait for the bill being delivered to their place which sometimes can be delivered late by the delivery boy. Hence the system is developed to automate the electricity bill calculation and payment for user convenience.

The system would be having two logins admin and user login. Admin can view user account details and can even add or updates things in their account. Admin has to feed the system with electricity usage data into respective users account. The system then calculates the electricity bill for every user and updates the information into their account every month. User can then view their electricity bill and pay on the spot before month end.

1.1 Purpose

The main need of the system is to satisfy customer by saving their time by payment Process, maintaining records, and allowing the customer to view his/her records and Permitting them to update their details.The firm handles all the work manually, which is very tedious and mismatched.

1.2 Objectives

This project is an innovation, which makes the paying electricity bills simple compared to other existing projects.
It maintains error free database and easily incorporates the future developments and changes. To develop and well-designed database to store employee information. Provides full functional reports to manage of electricity bill .
The major goal of our projects to please customer by saving them time via payment process, maintaining records , and allowing them to see their information. User friendly describes hardware device or software interface that is easy to use.Too have an secure environment. To increase efficiency.To keep track on customer.

1.4 Scope of the project.

Electricity Billing System will enable the customer and billing department staff to make things faster and can get information quickly. We can generate Bills and access it quickly

The scope of billing software solution services from simple invoice production to comprehensive business management.

Detailed information stored by these systems enables them to calculate and provide reports on various financial measures such as cash flow, profitability and payments errors in addition to use the regular billing software.

It will be useful to the suppliers of electricity.
The system will store the data efficiently

Chapter 2:

Problem Definition

The manual system is suffering from a series of drawbacks. Since whole of the bills is to be maintained with hands the process of keeping and maintaining the information is very tedious and lengthy to customer. It is very time consuming and laborious process because, staff need to be visited the customers place every month to give the bills and to receive the payments. For this reason, we have provided features present system is partially automated(computerized), existing system is quite laborious as one must enter same information at different places.

---- Proposed solution

1. This project system excludes the need of maintaining paper electricity bill as all the electricity bill records are managed electronically.
2. Administrator doesn't have to keep a manual track of the users. The system automatically calculates fine.
3. Users don't have to visit to the office for bill payment.
4. There is no need of delivery boy for delivery bills to user's place.
5. Thus, it saves human efforts and resources.

Chapter 3:

Proposed System

The conventional system of electricity billing is not so effective; one staff must visit each customer's house to note the meter readings and collect the data.Then, another staff must compute the consumed units and calculate the money to be paid. Again, the bills prepared are to be delivered to customers.Finally, individual customer must go to electricity office to pay their dues.Hence, the conventional electricity billing system is uneconomical, requires many staffs to do simple jobs and is a lengthy process overall. In order to solve this lengthy process of billing, a web based computerized system is essential.

This proposed electricity billing system project overcomes all these drawbacks with the features. It is beneficial to both consumers and the company which provides electricity. With the new system, there is reduction in the number of staffs to be employed by the company. The working speed and performance of the software is faster with high performance which saves times.

3.1 Features / Functionality

- ❖ It can store the data to help process it for later uses of developing bill
- ❖ Provides the searching facilities such as Electricity, Connection, Store Record , etc
- ❖ It's track all the information of bill, Electricity board , store record , etc .
- ❖ It deals with monitoring the information and transaction of store record.
- ❖ Editing of records is improved which proper in results resources management of electric data.
- ❖ It has high performance speed along with accuracy.
- ❖ It is protected by high – security measure and controls.
- ❖ Readings will generate directly to the system so no need to generate bills Door-to Door and no need to enter the data in the database manually.
- ❖ It allows the seamless sharing between the Electricity office and customer.
- ❖ It is a fully secured software.

Chapter 4

Project outcomes

- ❖ User can access the features are provided. Consumers electricity bills can be uploaded for viewing by the consumers.
- ❖ User can efficiently generate bills with no errors. Consumers can pay their bills without stress.
- ❖ User can view latest updates concerning the power supply. They can securely use the system.
- ❖ It’s help you to minimize your repeated works and take care of the complete functionality of billing department.
- ❖ The company’s contact details can be posted for the public to see and contact easily.
- ❖ Both customer and staff(System administrator) can log into the system through a secure and validated login portal

Chapter 5

Software Requirements

Development :Netbeans IDE

NetBeans IDE 12.6 is used for development of application

Frontend: Java JDK 1.7

Java Swing and AWT is used for design of the Frontend

Backend: MySQL

MySQL is used for storing data

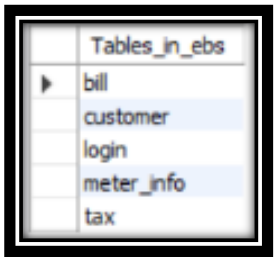
Chapter 6:

Project Design

The given below table is a snapshot of backend view of the localhost and the structures of the tables present in Electricity Billing System.

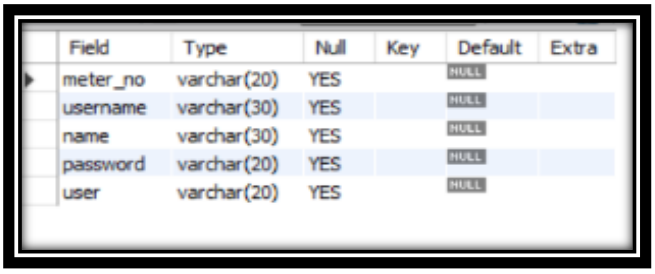
The tables present are login, customer, tax, bill, meter_info.

- ✓ The login is used to store the details of login's admin and customer with meter_no.
- ✓ The customer is used to store details of customer.
- ✓ The tax is used to store tax values.
- ✓ The rent is used to store rent values.
- ✓ The bill is used to store details of bill of meter.
- ✓ The meter_info is used to store information of meter placed.



Tables_in_ebs
bill
customer
login
meter_info
tax

Fig1.1 List of tables in database



Field	Type	Null	Key	Default	Extra
meter_no	varchar(20)	YES		NULL	
username	varchar(30)	YES		NULL	
name	varchar(30)	YES		NULL	
password	varchar(20)	YES		NULL	
user	varchar(20)	YES		NULL	

Fig 1.2 Login table

Field	Type	Null	Key	Default	Extra
name	varchar(20)	YES		NULL	
meter_no	varchar(20)	YES		NULL	
address	varchar(50)	YES		NULL	
city	varchar(30)	YES		NULL	
state	varchar(30)	YES		NULL	
email	varchar(40)	YES		NULL	
phone	varchar(20)	YES		NULL	

Fig 1.3 Customer table

Field	Type	Null	Key	Default	Extra
cost_per_unit	varchar(20)	YES		NULL	
meter_rent	varchar(20)	YES		NULL	
service_charge	varchar(20)	YES		NULL	
service_tax	varchar(20)	YES		NULL	
swacch_bharat_cess	varchar(20)	YES		NULL	
fixed_tax	varchar(20)	YES		NULL	

Fig 1.4 Tax table

Field	Type	Null	Key	Default	Extra
meter_no	varchar(20)	YES		NULL	
month	varchar(30)	YES		NULL	
units	varchar(20)	YES		NULL	
totalbill	varchar(20)	YES		NULL	
status	varchar(20)	YES		NULL	

Fig 1.5 Bill table

Field	Type	Null	Key	Default	Extra
meter_no	varchar(20)	YES		NULL	
meter_location	varchar(20)	YES		NULL	
meter_type	varchar(20)	YES		NULL	
phase_code	varchar(20)	YES		NULL	
bill_type	varchar(20)	YES		NULL	
days	varchar(20)	YES		NULL	

Fig 1.6 Meter_info table

The Following are the snapshots of the GUI of the project:

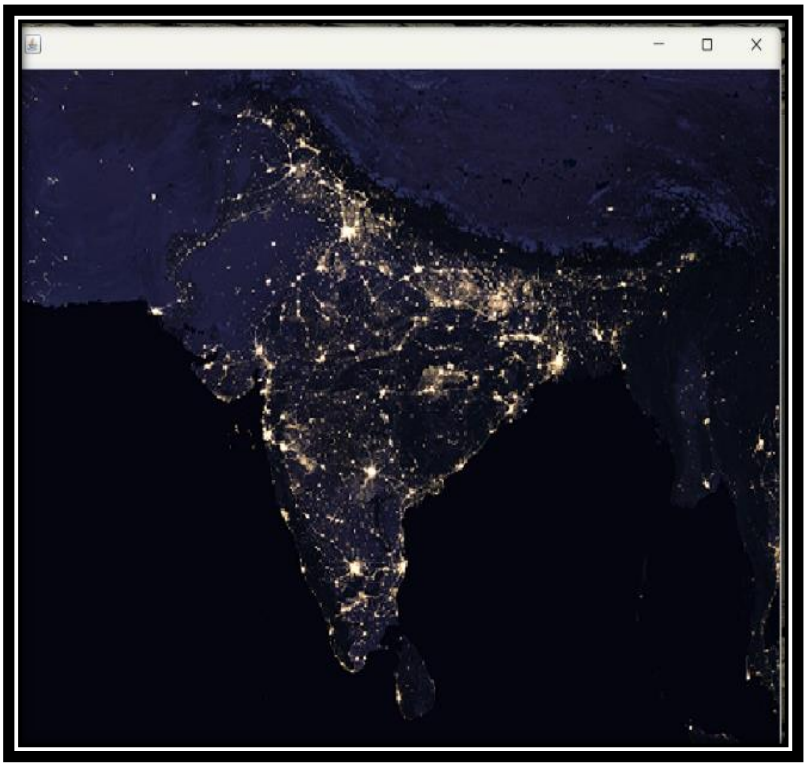


Fig 2.1 Splash.java

This is the graphic view and splash frame of our project it holds for 7 seconds and fades away

Fig 2.2 Login Page

Here Customer and Admin can login to their respective accounts. The dropdown menu allows to choose whether to login as an admin or as a customer

Fig 2.3 Admin's Home Page

Admin lands on this page after successful login.

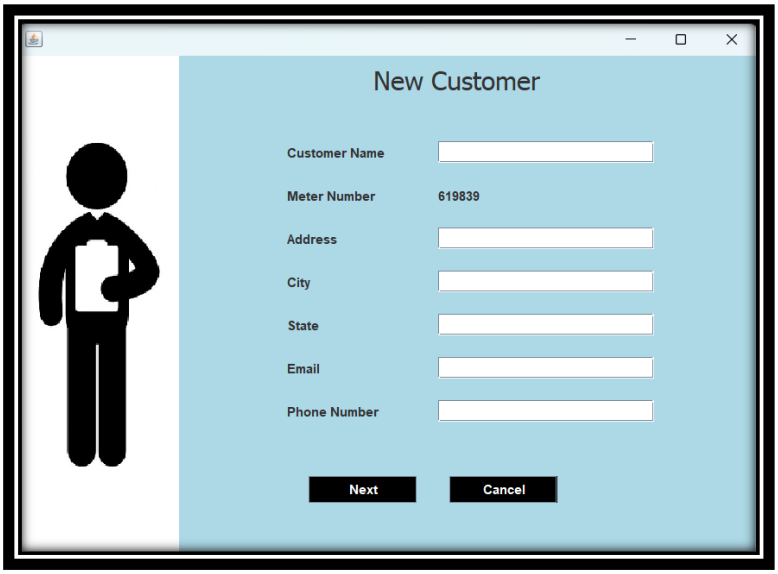


Fig 2.4 New Customer Page

Here admin registers new users. Admin enters Customer's Name, Address, City, State, Email and Phone Number

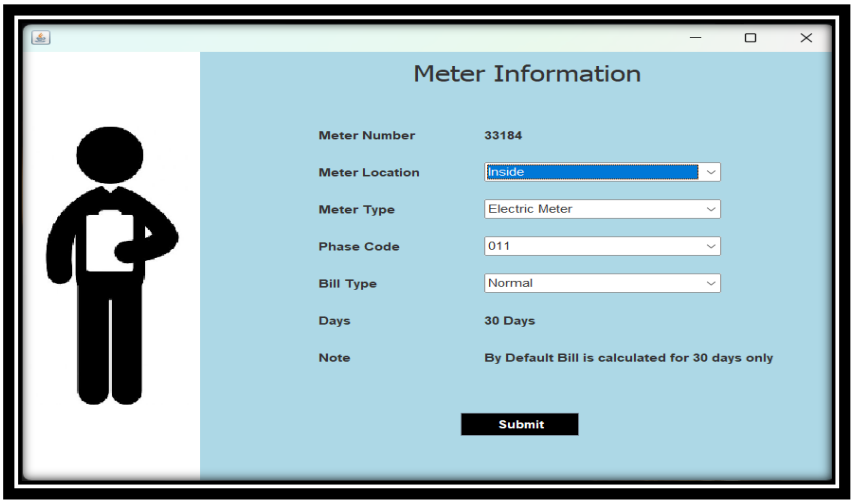


Fig 2.5 Meter Info Screen

Here Admin selects the location and type of meter installed at the customers end. Admin also selects the phase code and Bill type i.e. Residential or Commercial/ Industrial.

Fig 2.6 Add New Admin Screen

Here existing admins can add new admins to access the stored data.
New admins have to enter username, name, password.
Admin can be added only by existing admins via Admin module only.

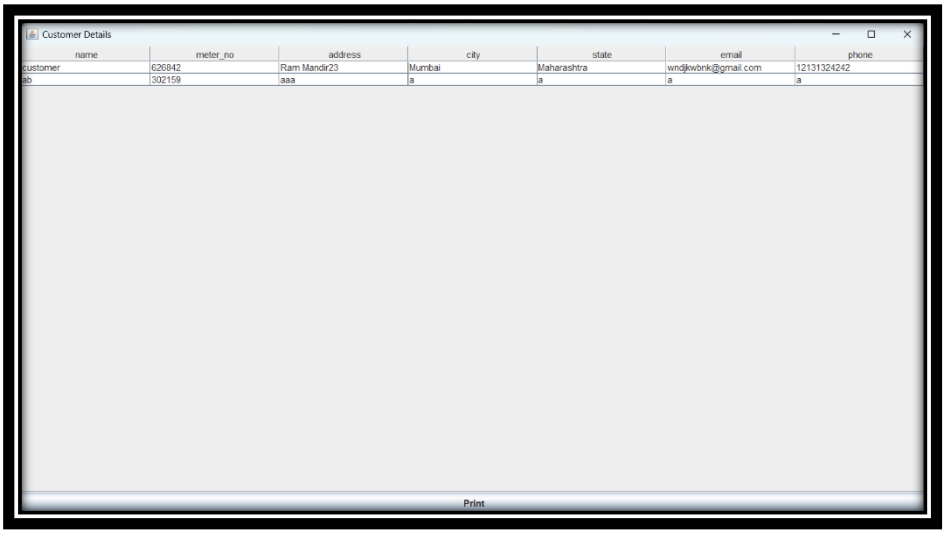


Fig 2.7 Customer Details Screen

Here Admins can see the details of all registered customers. Admin can print these details in pdf format if the wish.

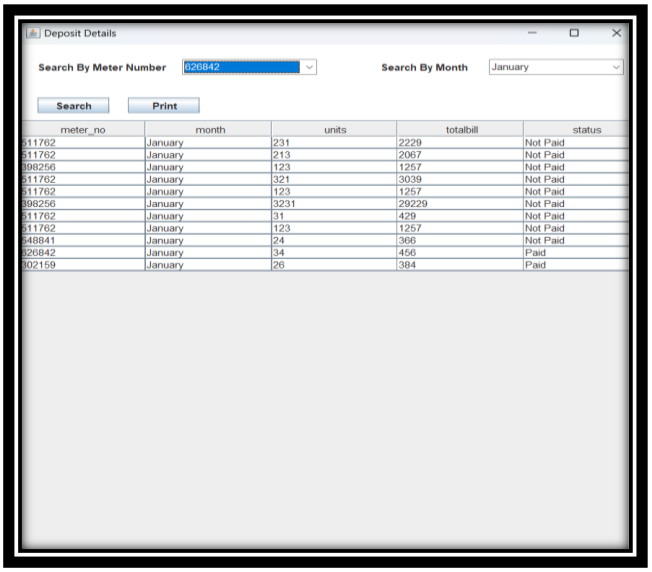


Fig 2.8 Deposit Details Screen

Here Admin can check the status whether customers have paid their bills or not.

His list can be sorted according to individual user's meter number or according to month.

Admin can print these details in pdf format if the wish.

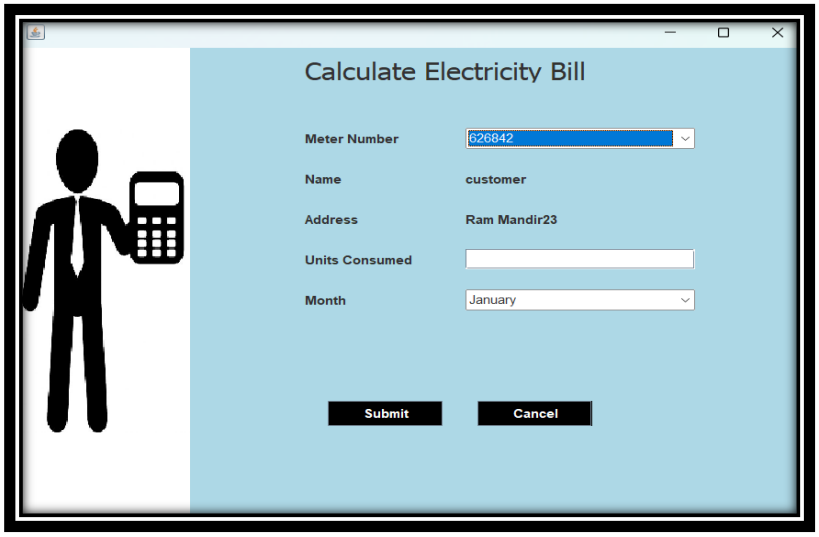


Fig 2.9 Calculate Bill Screen

Here admin calculate the bill of users by selecting appropriate meter number, units consumed and month.

Fig 2.10 Customer Sign Up Page

After creation of customer , the customer can sign up from this page.

Fig 2.11 Customer's Home Page

Customer lands on this page after successful login.

Fig 2.12 View Customer Info Screen

Here customer can see their entered information such as their name, meter number, address, city , state, email id and phone number.

Fig 2.13 Update Customer Info Screen

Here customer can update their entered information if any correction is needed such as their address, city, state, email id and phone number.

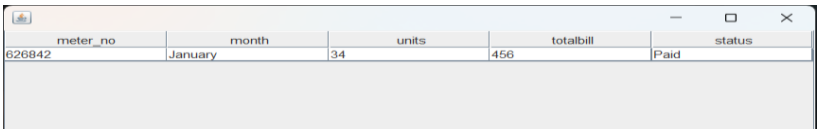


Fig 2.14 Bill Details Screen for Customers

Here every customer can check the status of their bills, whether they have paid the bills or not.

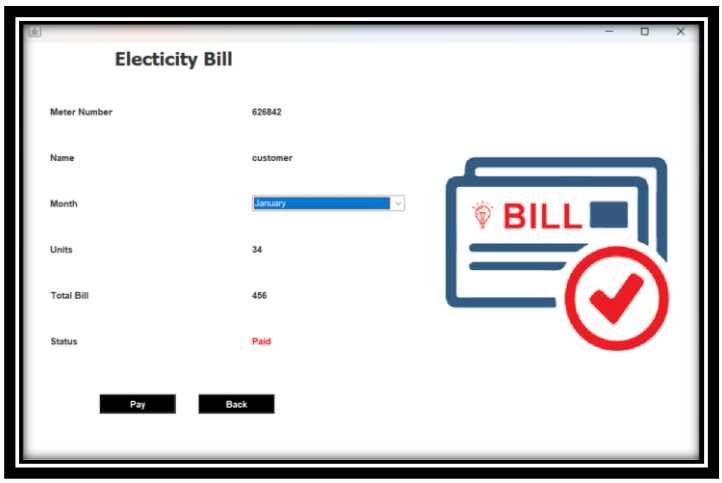


Fig 2.15 Pay Bill Screen

❖ Here customers pay their bills by selecting appropriate month.

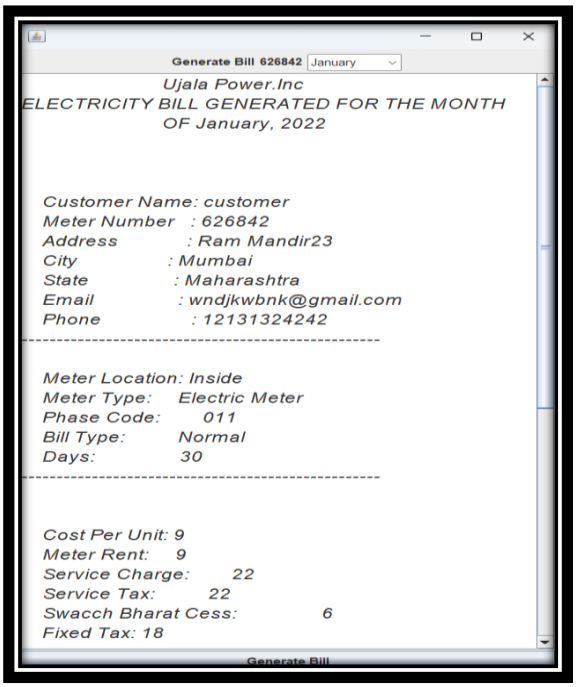


Fig 2.16 Generate/ Show Bill Screen

It generates the bill for the customer

Chapter 7:

Conclusion

We can reduce the manual efforts to collect the readings from the energy meter which is cost effective solution . Our project is humble venture to satisfy needs to manage their project work Several user friendly coding have also been adopted.After all the hard work is done for electricity bill management system is here.It is a software which helps the user to work with the billing cycles, paying bills, managing different Details under which are working etc.Also decreases the amount of time taken to write details and other modules.

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