INTRODUCTION

- Electricity Billing System is a web-based application for Online Electricity Bill Generate and payment of bills for the Meghalaya residence.
- This project aims at serving the department of electricity by computerizing the billing system.
- This project also aims at serving the users to pay their electricity bill online.
- It focuses on the calculation of units consumed during the specified time and the money tobe charged by the electricity offices.
- This computerized system will make the overall billing system easy, accessible , comfortable and effective for consumers as well as for the department of electricity.

OBJECTIVES

- The main objective of the project is to generate a bill and pay the bill as per as the data.
- It also focuses on to store the billing information and recorded them online.
- The user can pay their bill by creating their own individual account.
- It focuses on the information of consuming unit of energy of current month and the previous month.
- It will make the overall billing system easy, accessible, comfortable and effective for consumers.
- In this computerized system, the electricity bill can be generated by calculating the units consumed by the customer.
- To generate a proper invoice.

TOOLS AND TECHNOLOGY

FRONT END:

- HTML 5
- CSS
- Bootstrap 4.6
- JavaScript

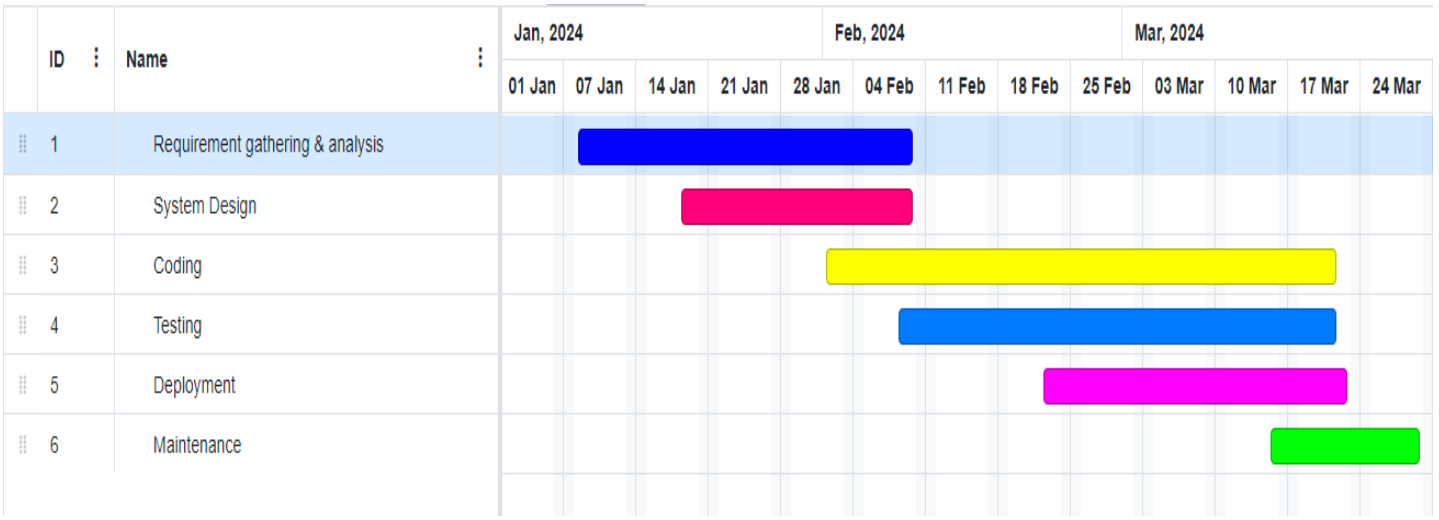
API:

- Fetch API

BACK END:

- PHP
- OTP(PHP Mailer)

WORK BREAKDOWN STRUCTURE



DATA FLOW DIAGRAM

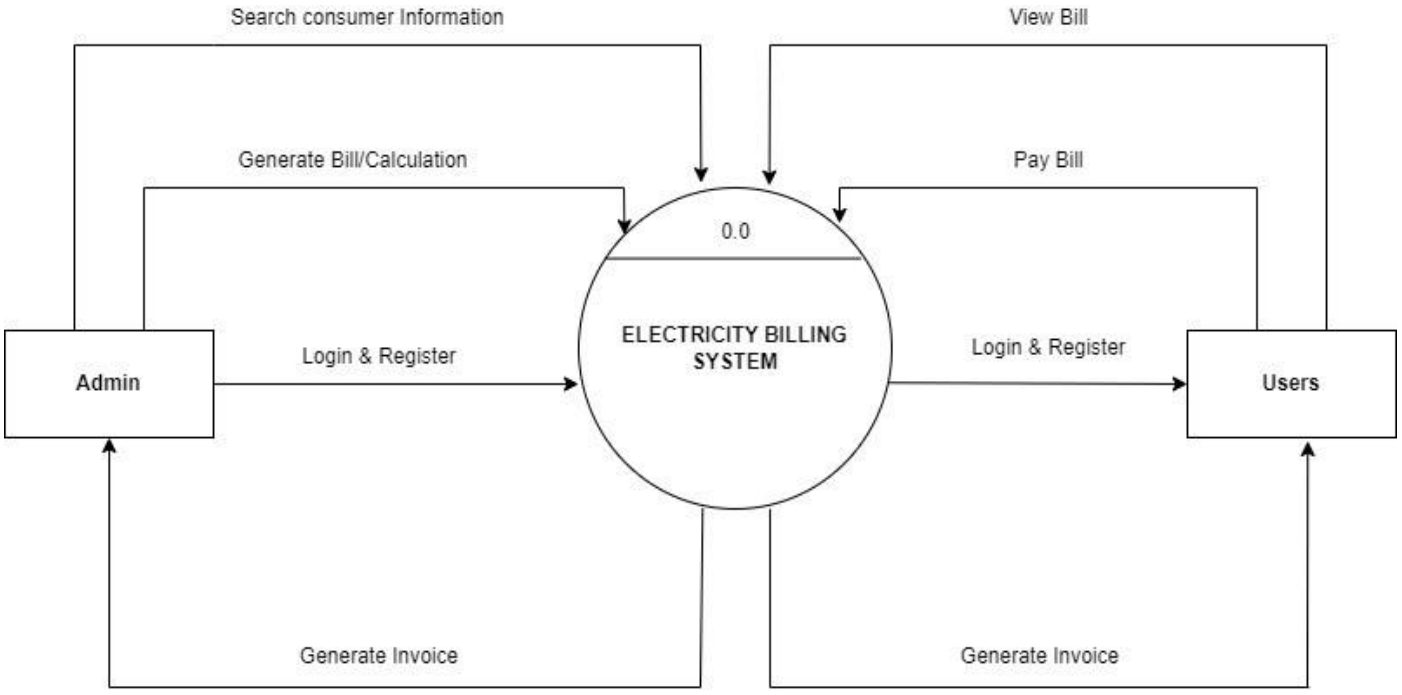


Fig:- Context Diagram

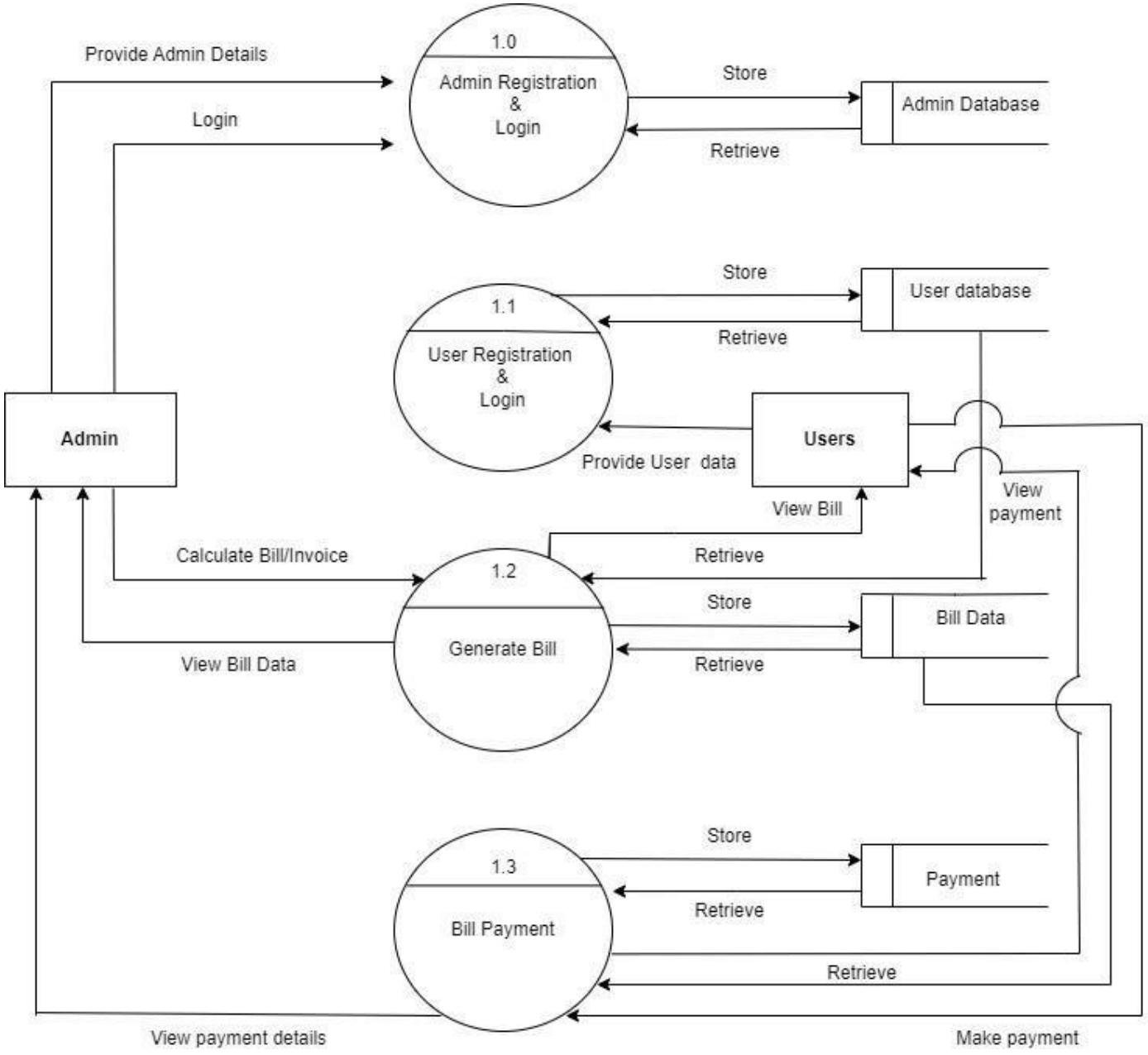


Fig: 1st level DFD

ER-DIAGRAM

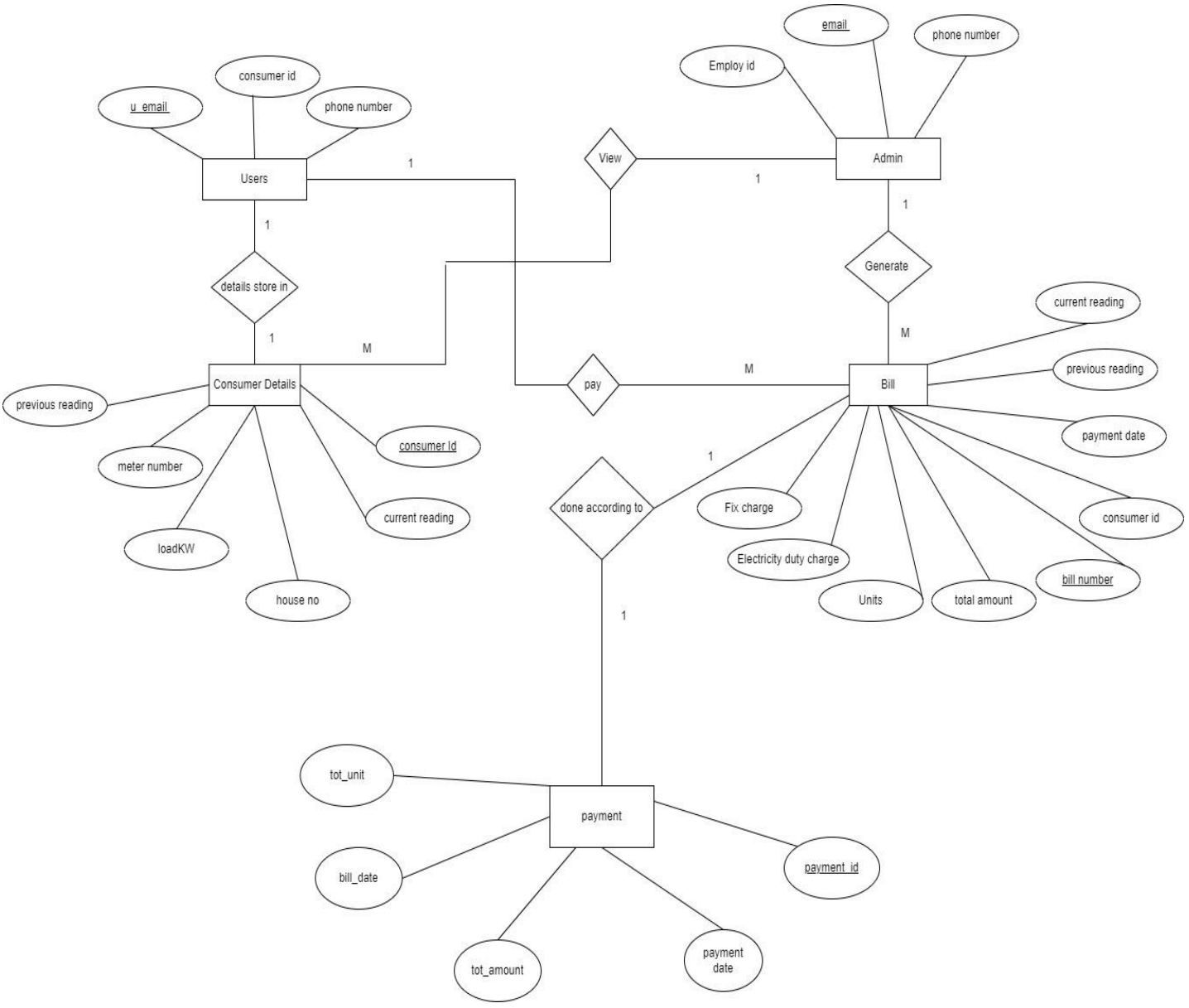


Fig:- ER-Diagram for Electricity Billing System

DATA DICTIONARY

Field name	Source Type	Description	Constraint
address	Info	Address info of client	Not null
amount	Payment	Total amount of the bill	Not null
bill_no	Bill	Bill number of customer/client	Primary key
bill_no	Payment	Bill number of customer/client	Not null
bill_date	Payment	Bill date in payment	Not null
created_at	Admin	Record of date and time	Not null
consumer_id	Users	Unique identification number	Foreign key
consumer_id	Payment	Unique identification number	Primary key
created_at	Users	Digital record of date and time	Not null
consumer id	Info	Unique identification number	Primary key
category	Info	Category info of each client	Not null
consumer_id	Bill	Category bills of customers	Not null
current_reading	Bill	Current reading of bills	Not null
date	Bill	Date of billing	Not null
employ_id	Admin	Id information of the admin	Not null
e_email	Admin	Email id of each admin	Candidate
u_email	Users	Email id of each users	Candidate
electricity_duty_charge	Bill	EDC of each users	Not null
energy_charge	Bill	Energy charge of each users	Not null
fixed_charge	Bill	Fixed charge of the bill data of individual users	Not null
house no	Info	House number of clients	Not null
id	Admin	Unique id value for every input	Primary key
id	Users	Unique id value for every input	Primary key
loadKW	Info	Distribute KW or AmpS to each client	Not null
mobile_number	Admin	Unique phone no of clients	Not null
mobile number	Users	Unique phone no of clients	Not null
meter no	Info	Meter number details	Not null
name	Admin	Name of each admin	Not null
name	Users	Name of each client	Not null
otp	Bill	otp for the payment	Not null
password	Admin	Login password for admin	Not null
password	Users	Login password for users	Not null
prev_reading	Bill	Previous reading of bills	Not null
payment_date	Payment	Payment date of bills	Not null
status	Admin	Status of the admin	Not null
status	Users	Status of the users	Not null
status	Bill	Status of the bill	Not null
total_bill	Bill	Total bill	Not null
uuid	Admin	Identify information of the admin	Not null
uuid	Users	Identify information of the customers	Not null
units	Info	Unit details of each customer	Not null
units	Bill	Unit bill details of each customer	Not null
units	Payment	Units in payment of customer	Not null

TABLE STRUCTURE

Admin

field_name	data_type	size	constraints
employ_id	int	20	Not Null
id	int	10	primary
mobile_number	varchar	50	Not null
password	varchar	50	Not null
created_at	timestamp		Not null
status	int	5	Not null
uuid	varchar	10	Not null
email	varchar	50	candidate
name	varchar	50	Not null

Users

field_name	data_type	size	constraints
consumer_id	varchar	20	Not null
id	int	10	primary
mobile_number	varchar	50	Not null
password	varchar	50	Not null
created_at	timestamp		Not null
status	int	5	Not null
uuid	varchar	10	Not null
email	varchar	50	candidate
name	varchar	50	Not null

Info

field_name	data_type	size	constraints
consumer_id	varchar	50	primary
category	varchar	50	Not null
address	text	100	Not null
house_no	int	10	Not null
meter_no	int	20	Not null
loadKW	varchar	10	Not null
units	int	20	Not null

Bill

field_name	data_type	size	constraints
bill_no	int	10	primary
consumer_id	varchar	20	Not null
prev_reading	int	20	Not null
current_reading	int	20	Not null
date	timestamp		Not null
units	int	20	Not null
fixed_charge	int	10	Not null
electricity_duty_charge	int	5	Not null
energy_charge	int	5	Not null
total_bill	int	50	Not null
otp	int	6	Not null
status	int	5	Not null

Payment

field_name	data_type	size	constraints
payment_id	int	10	primary
bill_no	int	10	Not null
consumer_id	varchar	20	Not null
amount	int	20	Not null
payment_date	timestamp		Not null
units	int	20	Not null
bill_date	timestamp		Not null

CONCLUSION

- This project is aimed at developing a system that will enable users of electricity to generate the electricity bills and to pay their individual electricity bills.
- It enhances the interaction between consumers and the Electricity Board.
- It resolves issues of human errors and satisfies the people by various services.
- Technology is utilized effectively .
- Electricity billing system helps the users to work with the billing cycles and generates the bill according to the units consumed by the consumers.