"Online Electricity Billing System"

A Project Report Submitted to

Rajiv Gandhi Proudyogiki Vishwavidyalaya

Towards Partial Fulfillment for the Award of

Bachelor of Engineering in *Computer Science & Engineering*

Submitted by:
Aadesh Garg 0827CS201001

Guided By:
Prof. Priyanka Jangde

Department of Computer Science and Enginerring

Acropolis Institute of Technology & Research, Indore

July-Dec 2022

EXAMINER APPROVAL

The Project entitled *"online electricity system"* submitted by **Aadesh Garg (0827CS201001)** has been examined and is hereby approved towards partial fulfillment for the award of Bachelor of Engineering degree in Computer Science & Engineering discipline, for which it has been submitted. It understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein, but approve the project only for the purpose for which it has been submitted.

(Internal Examiner) **(External Examiner)**

Date: **Date:**

GUIDE RECOMMENDATION

This is to certify that the work embodied in this project entitled **. "***Online Electricity Billing System"* submitted by (**Aadesh Garg 0827CS201001)** is a satisfactory account of the bonafide work done under the supervision of **Prof. Priyanka Jangde and Prof. Narendra Pal Singh** are recommended towards partial fulfillment for the award of the Bachelor of Engineering
(Computer Science & Engineering) degree by Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal.

(Project Guide) **(Project Coordinator)**

STUDENTS UNDERTAKING

This is to certify that project entitled **"*Online Electricity Billing System*."** This developed by us under the supervision of Prof. Priyanka Jangde and Prof. Narendra Pal Singh Rathore. The whole responsibility of work done in this project is ours. The sole intension of this work is only for practical learning and research.

I further declare that to the best of our knowledge, this report does not contain any part of any work which has been submitted for the award of any degree .

Aadesh Garg 0827CS201001

ACKNOWLEDGEMENT

I thank the almighty Lord for giving me the strength and courage to sail out through the tough and reach on shore safely.

There are number of people without whom this projects work would not have been feasible. Their high academic standards and personal integrity provided me with continuous guidance and support.

I owe a debt of sincere gratitude, deep sense of reverence and respect to our guide and mentors **Prof. Priyanka Jangde and Prof. Narendra Pal Singh Rathore**, Associate Professor, AITR, for their motivation, sagacious guidance, constant encouragement, vigilant supervision and valuable critical appreciation throughout this project work, which helped us to successfully complete the project on time.

I express profound gratitude and heartfelt thanks to **Dr Kamal Kumar Sethi**, HOD CSE, AITR Indore for his support, suggestion and inspiration for carrying out this project. I am very much thankful to other faculty and staff members of CSE Dept, AITR Indore for providing me all support, help and advice during the project. We would be failing in our duty if do not acknowledge the support and guidance received from **Dr S C Sharma**, Director, AITR, Indore whenever needed. We take opportunity to convey my regards to the management of Acropolis Institute, Indore for extending academic and administrative support and providing me all necessary facilities for project to achieve our objectives.

I am grateful to **our parent** and **family members** who have always loved and supported us unconditionally. To all of them, we want to say, “Thank you”, for being the best family that one could ever have and without whom none of this would have been possible.

Aadesh Garg 0827CS201001

Executive Summary

"Online Electricity Billing System"

This project is submitted to Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal(MP), India for partial fulfillment of Bachelor of Engineering in Computer Science & Engineering branch under the sagacious guidance and vigilant supervision of ***Prof. Priyanka Jangde and Prof. Narendra Pal Singh Rathore***.

This project is based on web app which will use thechonologies of web for the fulfilment of requirements the purpose of project is to serve the all the information regarding electricity and to fill the gap and barrier between consumer and provider this website will work as junction between consumer and provider. I used html css and javascript for front end and I used php and my sql for storing data and database.

TABLE OF CONTENT

CHAPTER -1 INTODUCTION

In the era of technology and internet we are more comfortable with digital system's and this comes with lots of advantages in order of digitalization there are still a very big government and private sector's which are not completely utilising web technologies and electricity department is one of them which is still practicing manual over digital medium So in order to overcome this we need a portal for all the electricity related works.

This type of automated systems are necessary for all the big electricity distributing companies all over the country to give and get maximum benefits to the customers and the employees respectively and its found that there are lots of error and mishandling manual system so automated system is must for all the services provided by electricity board.

This portal will provide a detailed information about bill and Units consumed by consumers and will give reminder about all the missing payments and upcoming information.

1.1 Overview

The main motto of the project is to make user experience more smooth and to reduce manual working for the employees so in order to make this possible first I will gather information if this kind of system already exist or any other domain with similar kind of portal and services.

After gathering and uploading all the user requirement's which can be done through a automated system (web application) like paying bill , complaints , suggetions and inquiries . This will overcome the drawback's like standing in queue and getting information's .

1.2 Background and motivation

As we all have once faced the problem at electricity officie weather it is related to bill transfer , address change or Name correction this is very hectic and not so familiar to do manually and Eshtablish coordination with the employees its seen lots of time that there is error in unit counting so after knowing and facing some of the problems I got and idea to create a online web portal for electricity billing system.

1.3 Problem statement and objective

From the decades the electricity boards are using manual system with lots of loops and errors but from increasing number of active internet users and increasing online payment

Objectives are as follow:-

- To provide feature of online payment .
- User can know the units consumed in months.
- Total amount of bill.
- Query and Complaints.

1.4 scope of project

This project comes with big scopes including one portal for nation and portal for state and District we can make this project very large scale under the super vision of government and high authorities by collecting data on large scale and merging all the existing systems

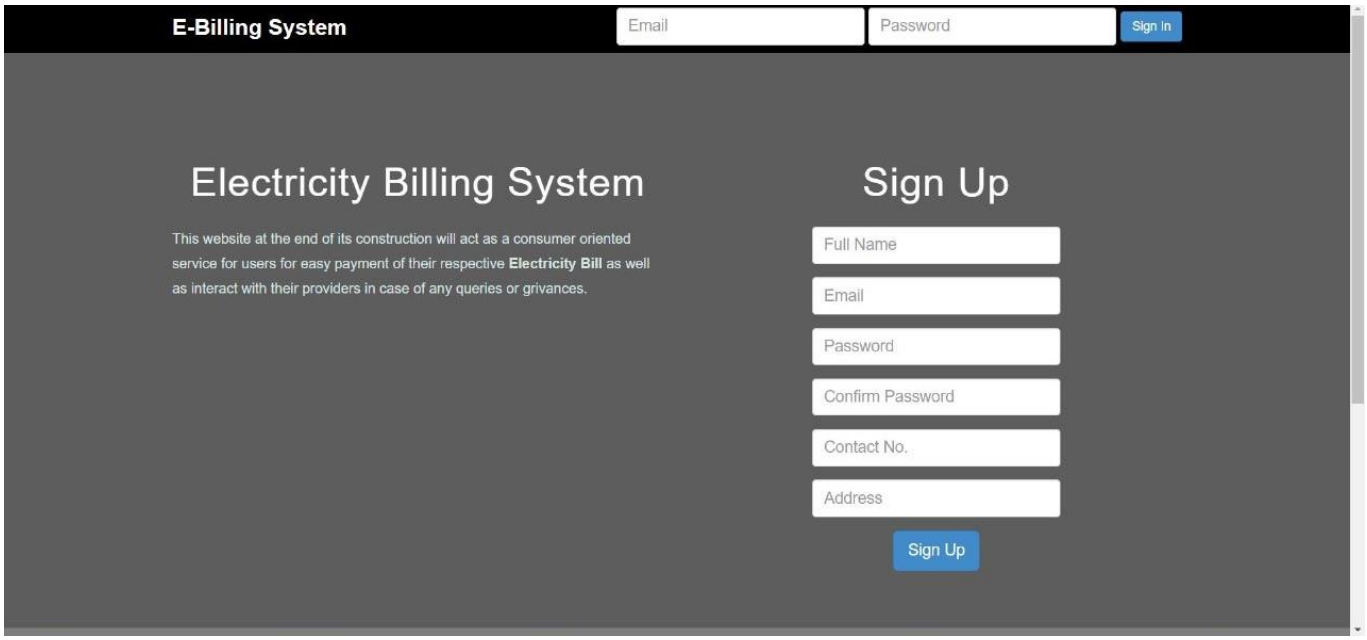


FIGURE: Frontend Coustomer page 1.1

1.5 Team organization

Aadesh Garg :- Developer, researcher and paper work.

1.6 Report Structure

The project ***Online Electricity Billing System*** is primarily concerned with the Billing and complaint and whole project report is categorized into five chapters.

Chapter 1: Introduction- introduces the background of the problem followed by rationale for the project undertaken. The chapter describes the objectives, scope and applications of the project. Further, the chapter gives the details of team members and their contribution in development of project which is then subsequently ended with report outline.

Chapter 2: Review of Literature- explores the work done in the area of Project undertaken and discusses the limitations of existing system and highlights the issues and challenges of project area. The chapter finally ends up with the requirement identification for present project work based on findings drawn from reviewed literature and end user interactions.

Chapter 3: Proposed System - starts with the project proposal based on requirement identified, followed by benefits of the project. The chapter also illustrate software engineering paradigm used along with different design representation. The chapter also includes block diagram and details of major modules of the project. Chapter also gives insights of different type of feasibility study carried out for the project undertaken. Later it gives details of the different deployment requirements for the developed project.

Chapter 4: Implementation - includes the details of different Technology/Techniques/ Tools/ Programming Languages used in developing the Project. The chapter also includes the different user interface designed in project along with their functionality. Further it discuss the experiment results along withtesting of the project. The chapter ends with evaluation of project on different parameters like accuracy and efficiency.

Chapter 5: Conclusion - Concludes with objective wise analysis of results and limitation of present work which is then followed by suggestions and recommendations for further improvement.

Chapter 2 .Review of Literature

Currently most of the electricity providers are using manual method to do the work which is increasing human effort for the same work can be done through less or no effort there are lots of electricity board which are using online systems for their work but the are providing very few features online as compare they can provide lots of things to user and this will also help the employees by reducing manual work .

2.1 Current System

- Manual work with the pen and paper.
- in exesting system few of the electricity board using automated system but there are not lots of features available which could be there in web portal of electricity board.
- User had to goto office for all the correction and changes.
- User had to goto for verification .
-

2.2 Limitations of current system

The limitations are as follows:

- Time boundation of working hour of employees
- User need to visit for all the works.
- Errors in calculation and counting mathematical figures.

2.3 Requirement identification and Analysis for project

Identification requirement and gathering information prior helpls a lot in future mess up with lack of information , figures and data so it is must to do prior research and identification and need of the proposed solution.

- After analysing a problem I came to a result that there are loops and lack of proper arrangement in existing system which is manual.

- There are few automated medium but are not well built and fully functional.
- This report provides brief idea on the proposed solution for the problem statement.
- In this project we have shown a features and functionalities of the project like its dynamic and user friendly nature easy to and many others .

2.3.1 Conclusion

This part shows all the research and survey done on topic to overcome he drawbacks and the way we overcome the drawback to the existing system we also discussed traditional method and all the scenario faced by users .

Chapter 3 : Proposed System

3.1 The proposal

The proposal is to give optimised and well built web app for all the work related to electricity in single platform.

This system will also help in payment ‘ queries and informations.

3.2 Benefits of the proposed system

The proposed system has overcome a lot of drawbacks few of them are as follows.

- Reduce human effort :- It can reduce efforts of user and employee both as there is no need to employees to interact with user for many problems which can be handled through web portal
- Reduce time :- It saves time of both user and employee our system reduce the time to user to travel to office and wait in queue which user can manage from home

3.3 Block diagram

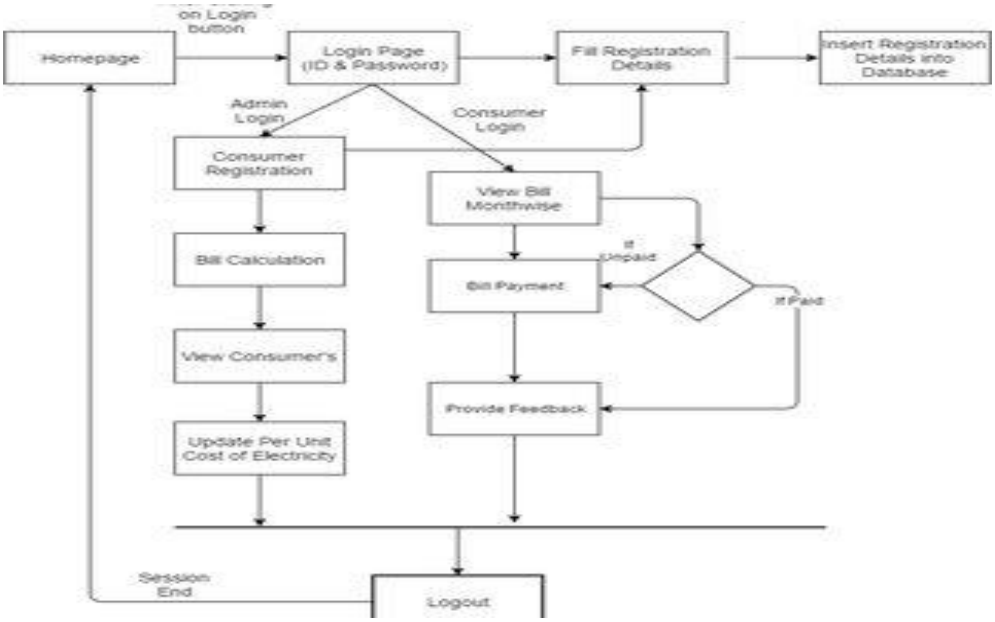


FIGURE: 1 Block Diagram

3.4 Feasibility Study

A feasibility study is an analysis of how successfully a system can be implemented, accounting for factors that affect it such as economic, technical and operational factors to determine its potential positive and negative outcomes before investing a considerable amount of time and money into it

3.4.1Technical

to create any web portal it is necessary to choose the appropriate technologies which will help to make the website responsive and dynamic choosing right database will save lots of time to store the information so here we chose the most appropriate and trending technologies which are as follows:-

1.HTML

2.CSS

3.JS

4.PHP

5.MYSqL

3.4.2 Economical

This project do not require lot of economical support as its maintainance is very low and it only need a domain to work perfectly.

3.5. Data Flow Diagrams

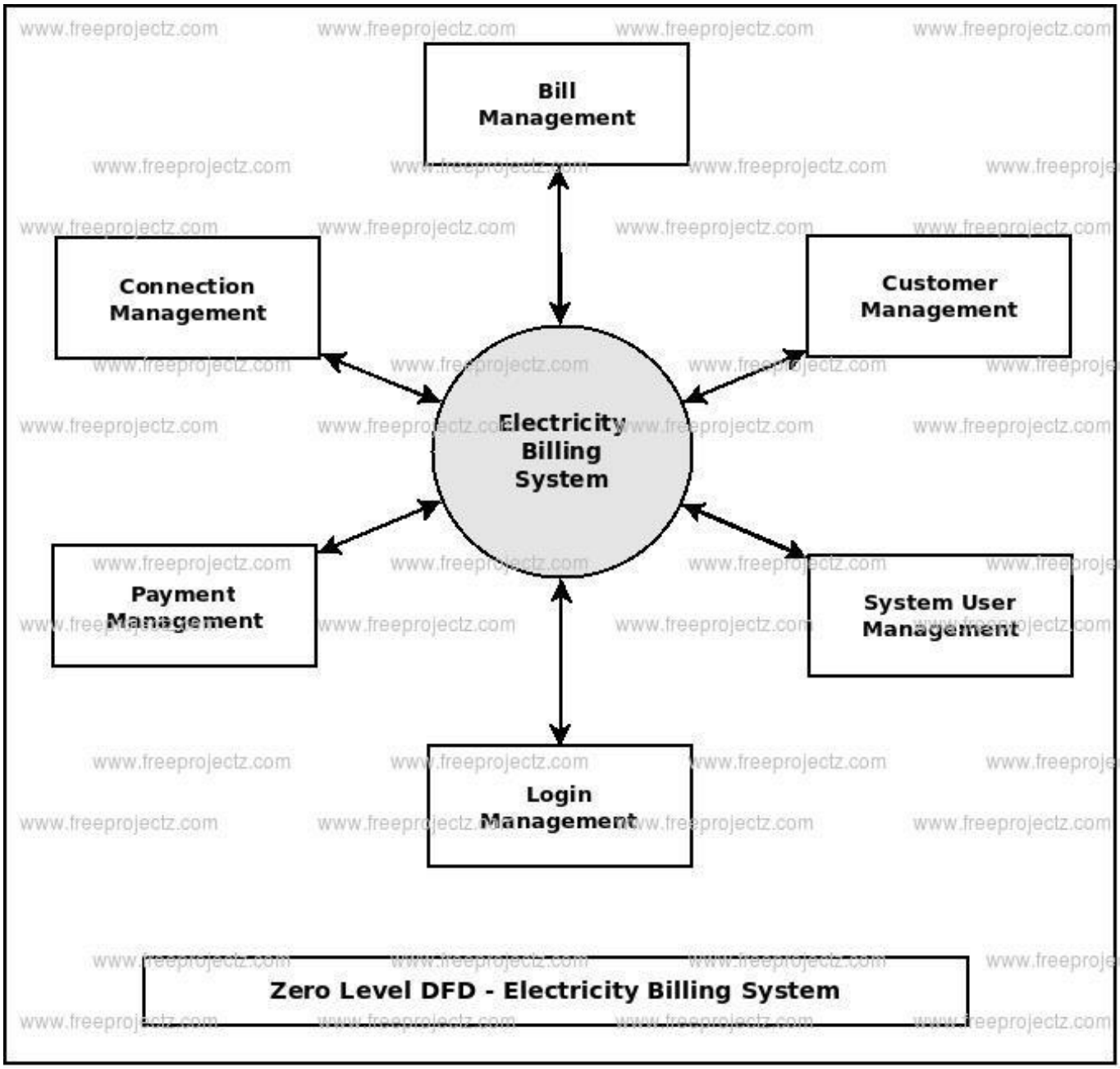


FIGURE: 1 Dfd level 0

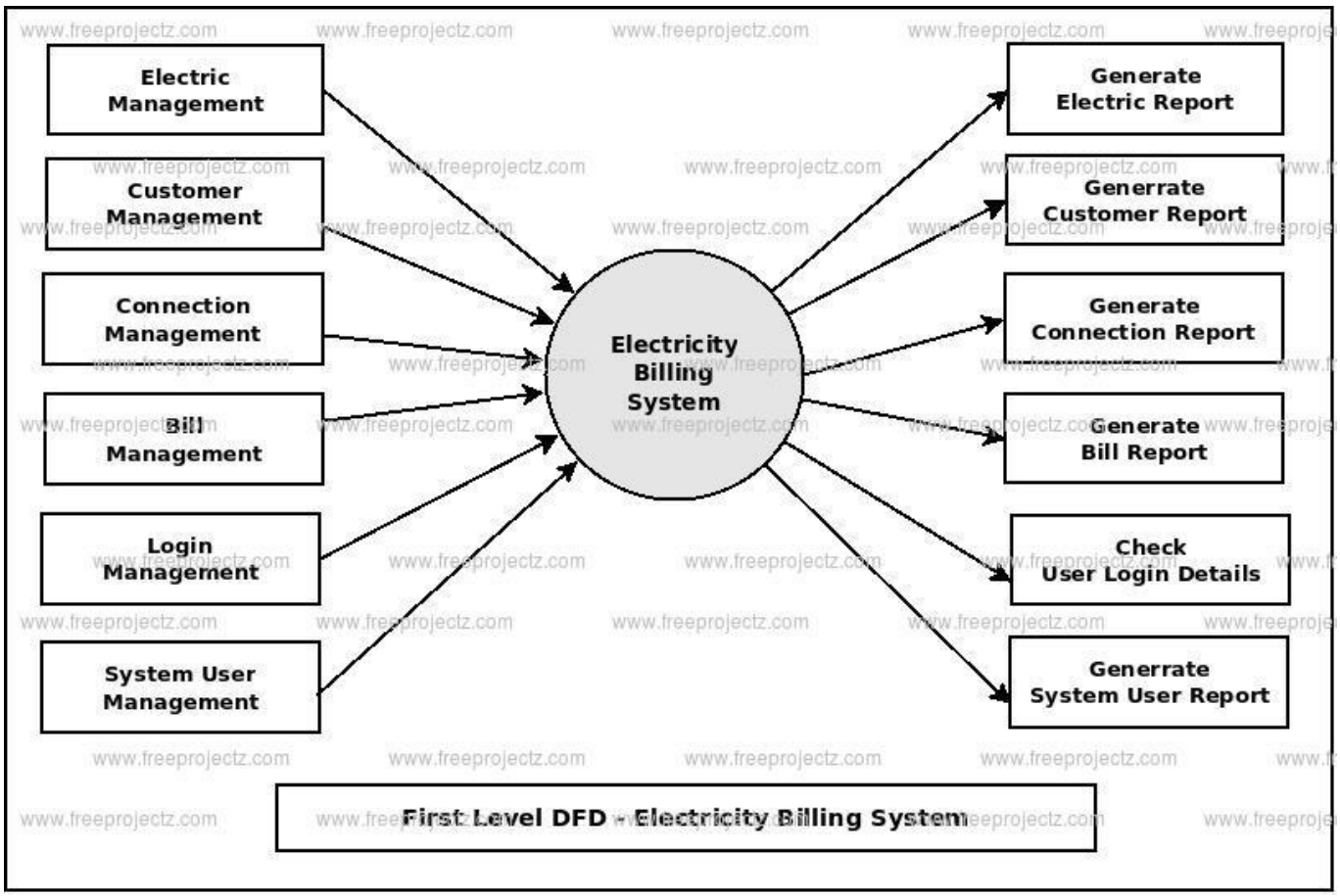


FIGURE: 2 Dfd level 0

3.5.1 Database structure

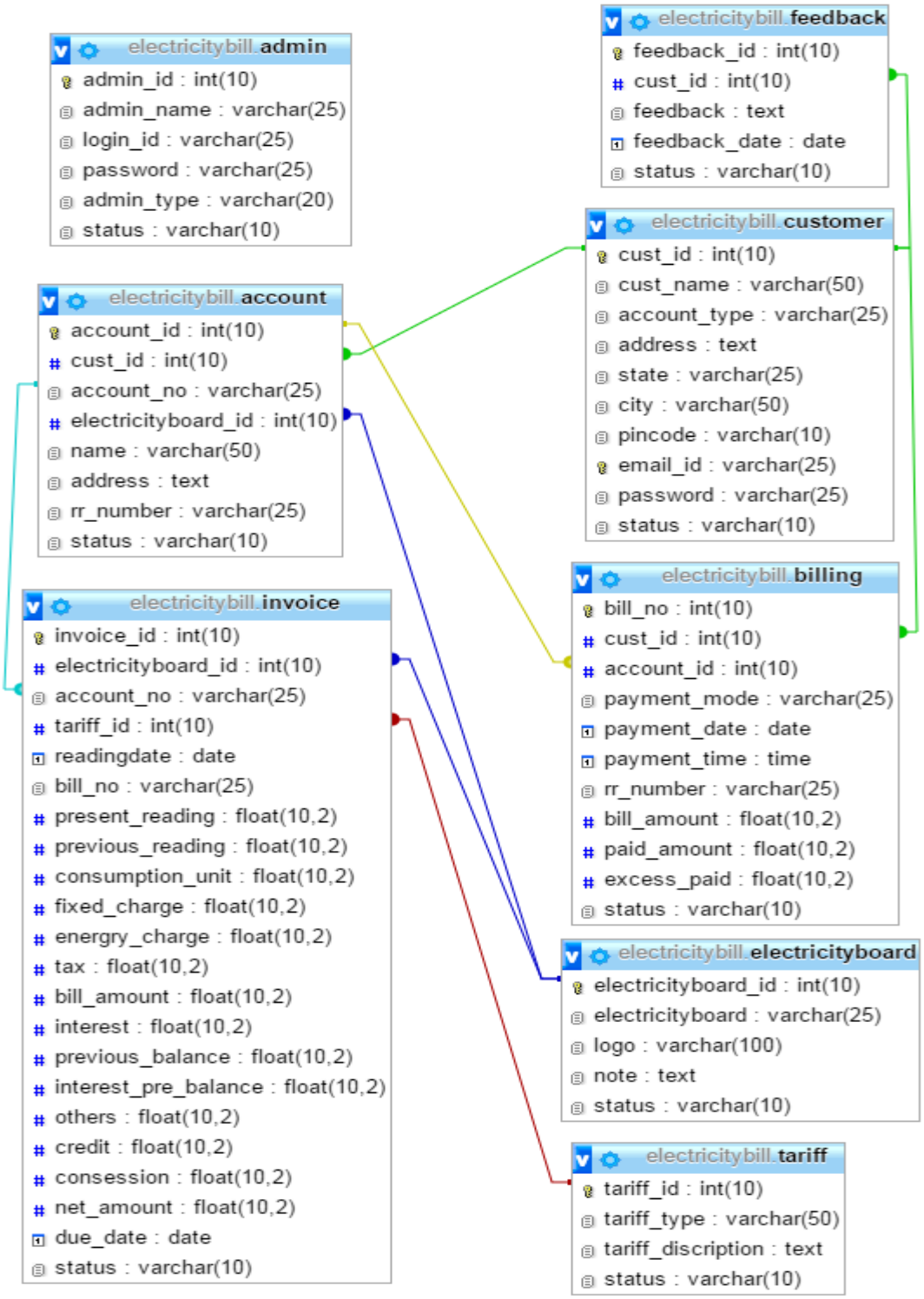


Table Database structure

3.6 Deployment Requirements

There are various requirements (hardware, software and services) to successfully deploy the system. These are mentioned below :

3.6.1 Hardware

- 32-bit, x86 Processing system
- Windows 7 or later operating system
- High processing computer system without GPU or with GPU(high performance)

3.6.2 Sofotware

- My sql
- Hosting domain

Chapter4 Implementation

4.1 Technologies Used

Css

Html

4.1.1 Frontend

- HTML
- CSS
- JAVASCRIPT

4.1.2 Backend

- PhP
- My sql

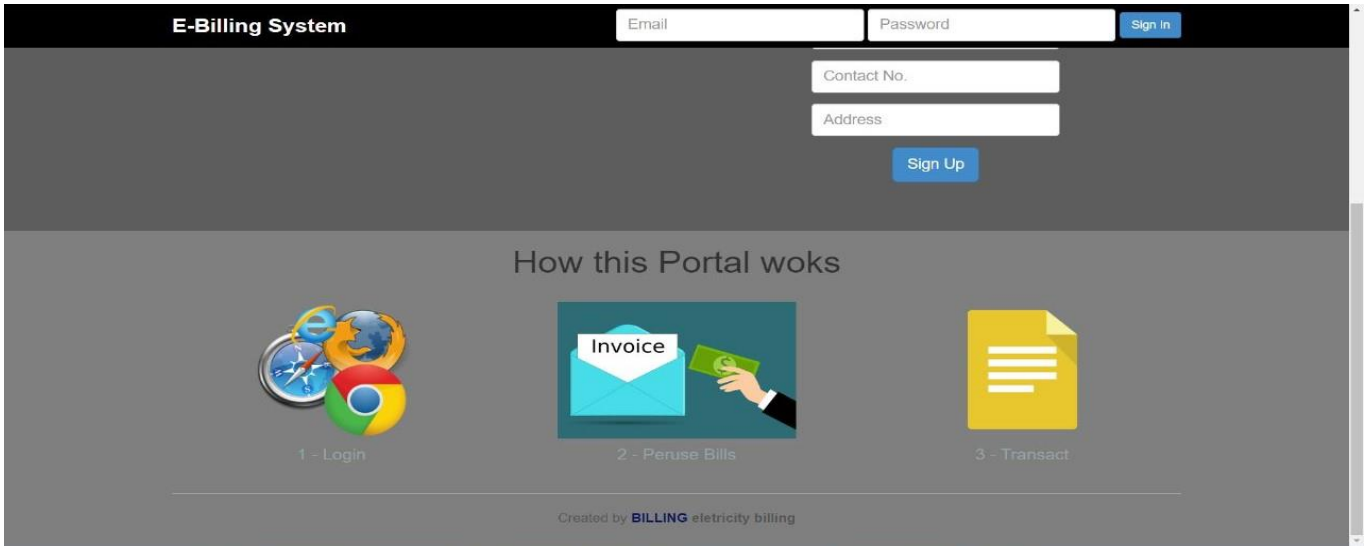


FIGURE:1.1 Billing page

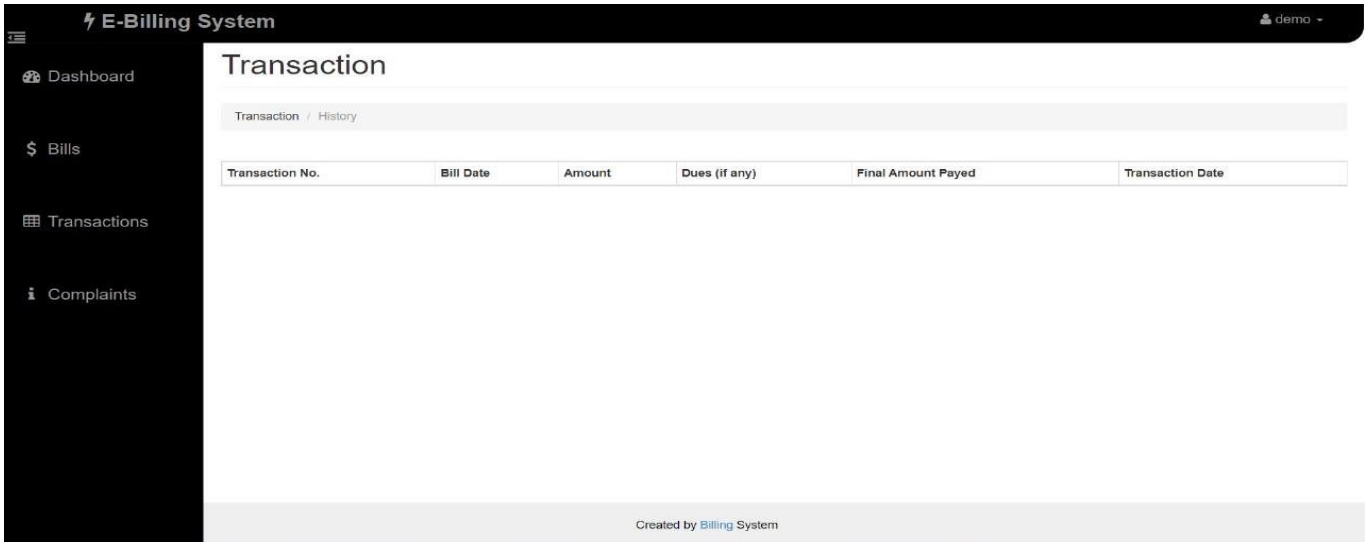
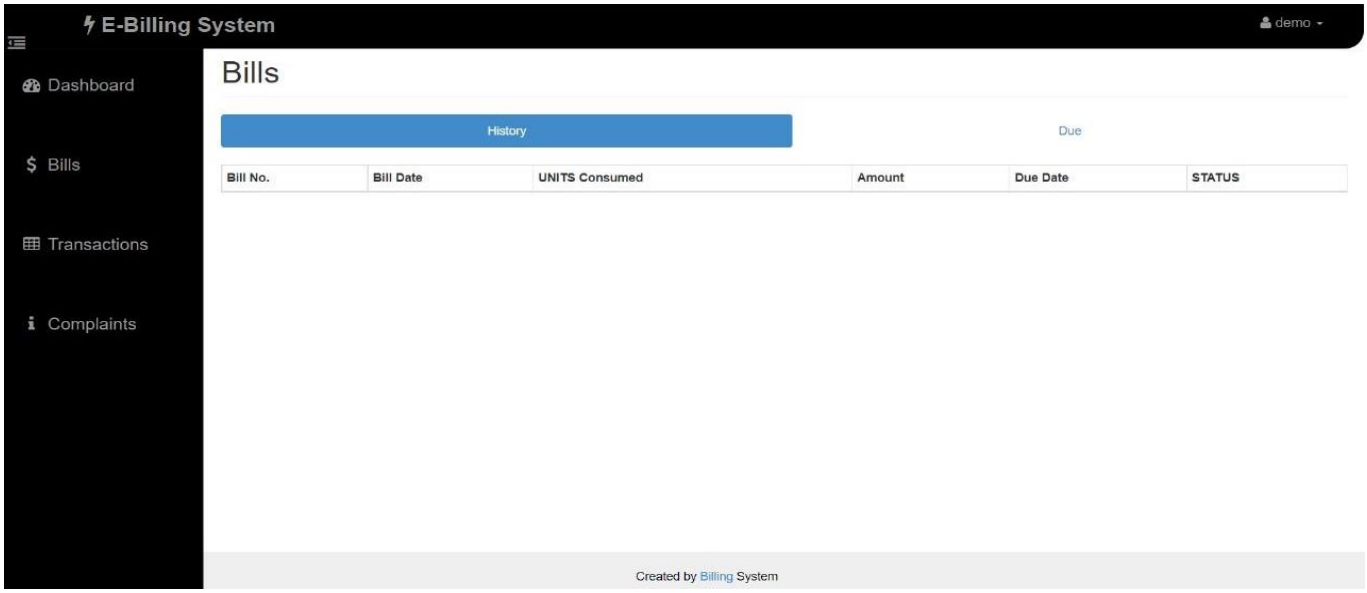


FIGURE:1.2 Transaction Page



FIRGUER:1.3 Billing Page

4.2 Testing

Testing is the process of evaluation of a system to detect differences between given input and expected output and also to assess the feature of the system. Testing assesses the quality of the product. It is a process that is done during the development process.

4.2.1Test Case and Analysis

TEST CASE: 1

Test case	TC01
summary	Given input stored or not
Registration	To register to user
Result	succesfull
Status	pass

Test case 2

Test case	TC02
summary	Given data stored or not
login	To login to user
Result	succesfull
Status	pass

Test case 3

Test case	TC03
Summary	Admin login or not
Admin login	Admin logged in or not
Result	succesfull
Status	pass

Chapter 5 : Conclusion

5.1 Limitations of the project

- Can cause problem at time of maintainance and server down
- If code gets curropt then it will be hard fix it

5.2 Suggestion and Recommendations for Future Work

- It can work on big level
- We can make system more automated using many other features.
- Continuously improvement in UI .