Logo

Description automatically generated

IT3030

Programming Applications and Frameworks

Electro Grid Online Platform

**Database Design Document**

Created by: Y3.S1.WD.DS.05.02 Group 150

**Brief Introduction**

Electro Grid online platform is an highly scalable integrated system which provides a number of important functions that were not previously possible. Through this platform users are able to monitor the power consumption of the users, generate the monthly bills and automatically send to the users, and accept the online payments from the users. Basic design includes the details of the employees and customers of ElectroGrid company that mainly deals with the distribution of power.

**Requirement Analysis**

Staff members of ElectroGrid company can log in to the system by using their staff ID and password. Staff member can register the users to the system by adding name, email, phone number, NIC, address, tariff type (domestic, industrial) and connection type (15A,30A). When staff user registered a customer to the system, system automatically assigns a unique electricity account number for each user.

Anyone can login to the system by providing the NIC number. After successfully login to the system, they can view their profile including all the electricity accounts. After clicking on relevant electricity account they can view the electricity account details including account number, name, address, tariff type (domestic, industrial) , connection type (15A,30A)

At the end of each month a staff user enters the current meter reading of each user to the system and calculate total power consumption of that month. Finally, staff user generates an e-electricity bill and send it to the customer through an automated email. Not only that customer can also view monthly electricity bill with the details such as reading date, month, name, address, consumption units, Total charge, previous balance and net amount at any time through the online platform as well.

Customer has the facility to pay monthly electricity bill through the system. Payment can be made online by inserting the card type, card number, expiry date and CVC. An authorized staff user who is associated with online payment service can view data related to customers’ online payment and also update the balance related to the monthly electricity bill and delete the relevant records if required.

Also, customer can make complaints by filling up a form with the Account No, email, contact number, Complaint type, description, and also they can attach attachments if they want. Once the customer submits the form, customer can check the progress of their complaint and also customer can view all previous complaints. On the other hand, staff user can retrieve the complaints submitted by a customer and respond to them accordingly.

Assumptions

1. The employee and customer has separate logins to interact with the system.
2. User can have many electricity accounts and they are able to access all their accounts by providing their NIC number.

**ER Diagram of the system**

Diagram, schematic

Description automatically generated