

Design and Implementation of Any Time Electricity Bill Payment (ATP) machine controller

By :

Satyam Kr Srivastava

Hitesh Rupani

Abstract:

Electricity consumers are often faced with the problem of inaccuracy and delay in monthly billing due to the drawback in reading pattern and human errors. Thus, it is essential to have an efficient system for such purposes via electronic platform with consideration to proximity. The proposed system automates the conventional process of paying electricity bill by visiting the Electricity Board which is tiresome and time consuming. It is also designed to automate the electricity bill calculation and payment for user convenience. The system is developed with Microsoft Visual Studio using Python as the base programming language which can be used to develop websites, web applications and web services. The administrator can view the user's account details and can add or update the customer's information of consuming units of energy of the current month in their account. The Admin has to feed the system with the 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. Users can then view their electricity bill and pay before the month end.

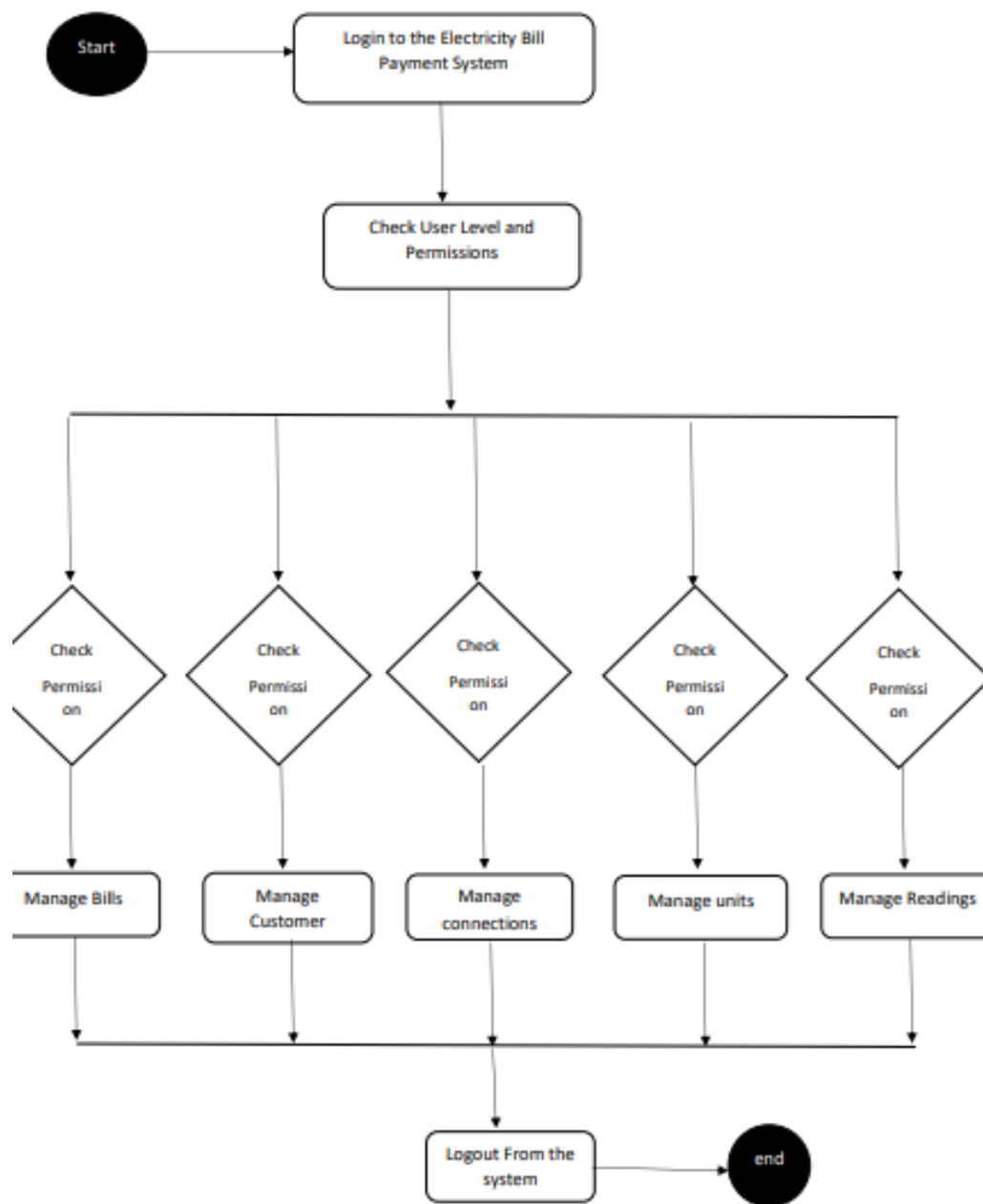
Introduction:

The Electricity Online Bill Payment web application is provided to all the users who want to pay their electricity bill. This web application can reduce the pressure of the user to stand in queues for bill payment and charges. This limitation has led to the development of a small model that enables the user to perform all the payment of bills and charges sitting at the comfort of his/her own desk. The importance of an Electricity Online Bill System cannot be over emphasized because its calculation reflects the exact power consumption for prospective consumers, and in monitoring the billing details of electricity consumers. It provides an environment to maintain the consumer details starting from receiving bill, making bill payments and so on. Consumers can lodge complaint and make their bill payments just by logging into the system.

Formal Model of Proposed System

The formal model of the proposed system is represented in flowchart diagrams. All these models will give the conceptual view of and provide the graphical analysis of the user's requirements. As a major modeling tool, entity relationship diagrams helps in the organizing of the functional elements of the system into entries and also define the relationships between the entities. This process will enable the analyst to understand the database structure so that data can be stored and retrieved in the most efficient manner. The flowchart shows the flow of data from external entities into the system. It also shows how data moves from one process to another as well as its logical storage.

Diagram For Electricity Bill Payment System



Conclusion

Usability testing was part of the post implementation review and performance evaluation for the Electricity Online Bill Payment System, in order to ensure that the intended users of the newly developed system can carry out the intended task effectively using real data so as to ascertain the acceptance of the system and operational efficiency. It caters for consumers' bills and also enables the administrator to generate monthly reports. It is possible for the administrator to know the consumers have made payment in respect of their bills for the current month, thereby improving the billing accuracy, reduce the consumption and workload on the Electricity Board employees or designated staff., increase the velocity of electricity distribution, connection, tariff scheduling and eliminates variation in bills based on market demand.