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Course: CSE311L - Database System Lab

Section: 5

Semester: Summer 2024

Names and IDs:

1. Name: Salma Hossain ID: 2222943042

2. Name: Afia Tabassum ID:2221891042

3. Name: Md. Mubassir Ibn Zaman ID:2222761642

Course Faculty: Md. Ishan Arefin Hossain

Lab Instructor: Shuvodip Biswas

Submission Date:16.09.2024

**Introduction:**

Bangladesh is a densely populated country where electricity consumption is increasing rapidly. Managing electricity bills efficiently is crucial for both consumers and electricity providers. Currently, there are some existing systems for bill payments, but none focus on providing comprehensive information about electricity consumption patterns, real-time billing data, and notifications for payments or overdue bills. This proposed web application will enable users to monitor their electricity usage, access billing information, and receive notifications regarding payment deadlines. It will also allow electricity providers to track consumer usage and issue bills efficiently.

**Objective:**

- To allow users to view and pay electricity bills online. [optional]

-Providing access to Electric meters to keep track of consumption in real time .

- Notifications for upcoming payments or overdue bills.

- Electricity providers will be notified about unpaid bills and usage data.

- Survey reports on user electricity consumption and feedback.

**Target Customers:**

People can use the system to check their electricity usage, pay bills, and receive notifications. They can also see past usage data on their electricity consumption.

**Value Proposition:**

This web application will reduce the hassle of physically going to electricity billing offices or standing in long queues. Consumers can easily view and pay their bills from home. It will help users avoid late fees by sending timely notifications about payment deadlines. Electricity providers will benefit from an efficient system that tracks consumer payments, reducing paperwork and ensuring timely revenue collection.

**Web Application Features and Description:**

The system will open with a general view where anyone can access the platform to learn about the services and features. Users must create an account to access personalized services, including:

- Track monthly electricity bills.

- Pay bills online securely.

- Receive notifications for upcoming bills or late payments.

- Access history of past payments and usage.

**Tools and Resources:**

● HTML, CSS: For frontend design.   
● JavaScript: For adding dynamic behavior and interactivity.   
● MySQL: Database for managing user data, bills, and payments.   
● PHP: Backend processing for billing logic and data management.   
● Web Server: Hosting the application.

**Challenges:**

One of the major challenges will be managing the large amount of data, including real-time electricity usage and billing information. Ensuring data integrity and security, especially for online payments, will be crucial. Verifying customer details with reliable sources (such as National ID systems) will also be a challenge. In vulnerable areas, electricity is often stolen to power auto rickshaw stands and CNG stations will pose serious challenges to the legitimate billing of a registered user. In addition, developing a user-friendly interface that is simple enough for all types of consumers to use is important to ensure widespread adoption.