**WEB DEVELOPMENT PROJECT**

**ELECTRICITY BILLING SYSTEM**

**GROUP MEMBERS: -**

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**Abstract:-**

**The Electricity Management System is a comprehensive web application designed to simplify the management of electricity usage and bill payments. The system employs HTML, CSS, and JavaScript for the front-end interface, while a backend server (using technologies such as Node.js, Django, or Flask) is responsible for handling validations, calculations, and secure data management.**

**The application starts with a login/signup system. Users can log in with existing credentials or create an account, with authentication and validation handled on the backend. Upon successful login, users are directed to a dashboard where they input electricity usage data, including units consumed and payment details.**

**The system calculates the total bill on the backend, applying a fine of ₹100 if the payment is overdue. Users can proceed to payment by entering a UPI ID, which is validated on the backend using regular expressions. If the UPI ID is invalid, the system prompts the user to re-enter until a valid UPI ID is provided. Once the payment is successfully processed, the final bill and payment status are displayed.**

**This system ensures robust functionality by:**

* **Validating user credentials and UPI IDs on the backend.**
* **Performing secure data storage and retrieval.**
* **Implementing dynamic bill calculations based on electricity usage and due dates.**

**The Electricity Management System is a scalable solution, suitable for small-scale electricity management needs, with potential for future enhancements such as real-time data synchronization, multi-user support, and advanced analytics. By offloading critical processes to the backend, it ensures security, reliability, and efficiency in managing electricity bills and payments.**