**Project Title** : **eVote-Online Voting Application**

**Project Description :**

## **Case Study Overview**

The eVote project aims to develop an online voting application to streamline and modernize the voting process for various scenarios, such as organizational elections, surveys, or public polls. The motivation behind eVote is to leverage digital technology to improve accessibility, transparency, and security in voting procedures.

**Key Challenges**

1. **Security and Data Protection:**
   * Ensuring the security of user data, including implementing robust authentication mechanisms and encryption protocols to protect sensitive information.
2. **Scalability and Performance:**
   * Designing the application to handle a large number of concurrent users during peak voting periods without compromising performance.
   * Ensuring the scalability of the database and infrastructure to accommodate increasing data volume and user interactions.
3. **User Experience (UX) and Accessibility:**
   * Creating an intuitive and accessible user interface that caters to users with varying levels of technical proficiency.
   * Optimizing the voting process to be straightforward, transparent, and engaging to encourage participation.
4. **Real-time Updates and Result Visualization:**
   * Implementing real-time data processing to provide live updates of voting results without delays or inconsistencies.
   * Designing effective result visualization methods to present voting outcomes in a clear and understandable format for users.
5. **Compliance and Legal Considerations:**
   * Adhering to regulatory requirements and legal frameworks related to elections, data privacy, and security.
   * Implementing measures to ensure auditability and accountability, including logging user actions and maintaining data integrity.

**Learning Objectives**

1. **Understanding Authentication and Security:**
   * Learn to implement secure user authentication using JWT (JSON Web Tokens) for login and access control.
2. **Frontend Development for User Interface (UI):**
   * Gain proficiency in frontend technologies (e.g., ReactJS, Javascript,CSS) for designing a responsive and intuitive user interface.
   * Learn to create interactive elements such as forms, buttons, and result displays to enhance user experience.
3. **Backend Development and Data Management:**
   * Develop skills in backend programming (e.g., Node.js, express) to handle user requests, process data, and manage the application's logic.
   * Implement database interactions (NoSQL database like MongoDB)for storing user profiles, poll data, and voting results securely.
4. **Real-time Data Updates and Visualization:**
   * Explore techniques for real-time data updates and result visualization to provide users with live feedback during the voting process.
5. **User Experience (UX) Design Principles:**
   * Apply UX design principles to create a user-friendly and accessible voting platform.
   * Gain insights into usability testing and iterative design processes to optimize user interactions and interface elements.
6. **Project Management and Collaboration:**
   * Acquire project management skills by planning, organizing, and tracking development tasks and milestones.
   * Collaborate effectively with team members (if applicable) to coordinate efforts and ensure timely delivery of project goals.

## **Data Dictionary**

A simplified explanation of key data columns:

* AdharCardNumber
  + Description: Unique identifier for each user.
  + Data Type: Number(12)
  + Example: “12121212121212”
* Name
  + Description: The display name chosen by the user in the chat application.
  + Data Type: String
  + Example: "john\_doe"
* Email
  + Description: The user's email address used for authentication and communication.
  + Data Type: String
  + Example: "john@example.com"
* Password
  + Description: User's hashed password for authentication.
  + Data Type: String
  + Example: "$2a$10$abc123"
* Moblie Number
  + Description: Mobile Number of the user.
  + Data Type: Number
  + Example: 9090909090
* Address
  + Description: Address of the user.
  + Data Type: String
  + Example: Mathura UP 90909
* Role of User
  + Description: Define the role of the user either it is admin or a voter
  + Data Type: String
  + Example: “Admin"
* IsVoted
  + Description: Tell either user voted already or not.
  + Data Type: Boolean
  + Example: “false"
* CandidateName
  + Description: Name ot the candidate
  + Data Type: String
  + Example: “Yogi Adityanath"
* Party
  + Description: Party for which candidate is belong to
  + Data Type: String
  + Example: “BJP"
* Vote
  + Description: Array of voter id’s which Is given to the candidate
  + Data Type: ObjectID
  + Example: “"
* Vote Count
  + Description: Record the counting of the vote for a particular candidate
  + Data Type: Number
  + Example: “20"