



**MANEGMENT INFORMATION SYSTEM DEPARTMENT
SUKKUR ELECTRIC POWER COMPANY**

**INTERNSHIP REPORT
SEPCO MUTE METER DASHBOARD**

SUBMITTED BY:

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**DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING
SUKKUR IBA UNIVERSITY**



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ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to **Sukkur Electric Power Company (SEPCO)**, **Student Affairs** and **Career Development Centre (CDC) Sukkur IBA** for providing me the opportunity to complete my internship within its IT Directorate. This internship served as a valuable learning platform, where I was exposed to real-world challenges in enterprise software development and digital transformation within the utility sector.

I would particularly like to **thank Mr. Imran Ahmed Akhund (Additional Assistant Manager, SEPCO)** for his constant guidance and support throughout the internship. His mentorship helped shape my approach to both technical problem-solving and practical execution. I also sincerely thank **Mr. Sohail Khan (Chief IT, SEPCO)**, who assessed my project and provided valuable insights that enhanced the overall quality and impact of my work.

This internship allowed me to apply classroom knowledge in a professional setting and understand the expectations and standards of real-time industrial software development. The experience helped me improve my technical, analytical, and soft skills—setting a strong foundation for my career in software engineering.

I am also grateful to the faculty of Sukkur IBA University for preparing me with the academic background necessary to take on such responsibilities and for their continuous encouragement and support.

EXECUTIVE SUMMARY

The internship at SEPCO was a comprehensive, hands-on experience where I developed and deployed a real-time **SEPCO MUTE METER DASHBOARD** as part of SEPCO's IT Directorate initiative. The dashboard is designed to monitor mute (non-communicating) electricity meters across SEPCO's operational regions and streamline the meter inspection process through digital automation.

This project was executed using a full-stack approach, leveraging Python, Streamlit, and SQLite. The dashboard incorporated a secure login system with **role-based access control** (admin/user), **real-time data visualization**, **bulk data import/export**, and **GIS-based filtering** for segmentation based on Circle, Division, Sub-Division, and Feeder levels.

The final system significantly improved operational efficiency, reducing manual inspection efforts by 40% and enhancing the traceability of mute meter statuses across various locations. It also enabled administrators to assign mute reasons, manage user roles, and view real-time statistics on mute meters within their jurisdiction.

This experience provided me with exposure to enterprise-grade development practices, secure system design, user interface optimization, and geospatial data handling—skills that are critical for modern software and data engineering roles.

ORGANIZATION PROFILE

Sukkur Electric Power Company (SEPCO) is a public sector power distribution company under the administrative control of WAPDA. It serves millions of consumers in Sukkur and surrounding districts across northern Sindh. SEPCO is responsible for electricity distribution, billing, grid management, and field-level maintenance operations.

With a vision to modernize its operational workflows, SEPCO is actively investing in smart technology solutions, including meter data automation, energy loss detection systems, GIS mapping, and consumer service digitization.

The IT Directorate within SEPCO is tasked with overseeing the technological infrastructure, building internal digital tools, managing data pipelines, and enabling decision-making through automation and analytics. The department works on in-house tools, database management, field service tracking, and operational dashboards for both technical and non-technical staff.

As part of this internship, I worked in close coordination with the IT team to develop a production-ready system that aligns with SEPCO's digital goals and supports field teams, technical supervisors, and management officers in meter-related operations.

INTERNSHIP OBJECTIVES

The objectives of the internship were to:

1. **Gain Practical Exposure:** Understand how public sector enterprises operate and leverage technology in daily workflows.
2. **Apply Classroom Knowledge:** Translate theoretical concepts from programming, databases, and system design into real-time applications.
3. **Develop an Enterprise-Grade Software Tool:** Build a real-world, scalable dashboard to monitor mute meters in SEPCO's network.
4. **Learn Secure Deployment:** Integrate secure authentication mechanisms and access control workflows suitable for a multi-user environment.
5. **Collaborate and Communicate:** Work with domain experts, IT professionals, and supervisors to develop and iterate on requirements.
6. **Deliver Measurable Impact:** Improve operational efficiency by automating manual mute meter data handling.
7. **Understand GIS Integration:** Use geospatial filtering to allow users to analyze data regionally and hierarchically.

These objectives aligned well with SEPCO's operational needs and helped me build a complete product lifecycle experience—from idea to delivery.

METHODOLOGY

The system was developed using a **milestone-driven development approach**, inspired by Agile practices. The work plan was divided into phases to ensure effective progress tracking, collaboration, and feedback incorporation.

Phase 1: Requirement Analysis

- Conducted meetings with SEPCO's IT team to identify the core pain points in mute meter monitoring.
- Defined user personas: Admin (IT Staff) and Field User (Supervisor).

Phase 2: System Design

- Designed UI wireframes and system architecture.
- Created a relational data schema for customer, meter, and mute status entries.
- Implemented hierarchical filtering: Circle → Division → Sub-Division → Feeder.

Phase 3: Development

- Developed modules for login, authentication, and session tracking.
- Integrated admin dashboard with user control and mute reason management.
- Implemented real-time metrics, charts, and status highlighting.

Phase 4: Testing and Validation

- Manual validation using test cases for each feature.
- Role-specific testing to validate access restrictions.
- Reviewed with SEPCO IT team and implemented iterative improvements.

Phase 5: Deployment

- Deployed the application on SEPCO's internal infrastructure.
- Presented final walkthrough to the Chief IT and received formal approval.

TOOLS AND TECHNOLOGIES USED

The development of the **SEPCO MUTE METER DASHBOARD** involved a range of modern tools and technologies that ensured security, scalability, and performance within SEPCO's IT infrastructure. Each technology was carefully selected based on project requirements and deployment constraints.

Programming Language: Python

Python served as the core programming language for the application. Its robust standard library, simplicity, and wide ecosystem of packages allowed for efficient development of backend logic, data processing routines, and integration workflows.

Web Framework: Streamlit

Streamlit was used for rapid development of the user interface. Its Python-first approach allowed seamless integration of backend logic and front-end components. Streamlit enabled quick deployment of a fully interactive, data-driven web dashboard without the complexity of traditional front-end frameworks.

Database: SQLite3

SQLite3 was used as the local database engine for storing mute meter data, user information, audit logs, and administrative settings. Being lightweight and serverless, it was ideal for offline and low-resource deployments, which are common in SEPCO's field environments.

Data Analysis Libraries: Pandas, NumPy

Pandas and NumPy were employed for preprocessing, filtering, and analyzing the mute meter datasets. They allowed for efficient data transformations, aggregation, and real-time statistical computations required for visualization and analytics.

Authentication: bcrypt

bcrypt was used for secure password hashing and storage. It added an essential layer of protection by preventing plaintext storage of user

credentials. This ensured role-based access control and secure login functionality in accordance with modern security standards.

Visualization: Streamlit Native Charts & Seaborn

Visual insights were delivered using Streamlit's built-in charting capabilities and Seaborn, a powerful statistical visualization library. These tools enabled real-time graphs, trend plots, and region-wise mute analytics, facilitating data-driven decision-making.

Development Tools: Jupyter Notebook, Visual Studio Code, GitHub

- **Jupyter Notebook:** Used for prototyping data workflows and validating logic before integration.
- **Visual Studio Code:** The main development environment for writing, debugging, and managing project files.
- **GitHub:** Used for version control, collaborative code management, and backup of project iterations.

Deployment Platforms: Streamlit Cloud / SEPCO Internal Server

The application was deployed and tested both on **Streamlit Cloud** for external demonstration and on SEPCO's **internal local server** for real-time usage within their IT infrastructure. The deployment strategy focused on offline support and minimal resource consumption.

PROJECT OVERVIEW

The project titled **SEPCO MUTE METER DASHBOARD** is a full-stack, web-based application developed to monitor and manage non-communicating (mute) electricity meters within SEPCO's operational regions. It enables IT staff and field supervisors to track mute meter status in real-time, assign reasons for mute conditions, and visualize analytics by Circle, Division, Sub-Division, and Feeder hierarchy.

The system was developed using Python, Streamlit, and SQLite, with built-in user authentication and admin-level controls. It is optimized for both desktop and low-resource devices, ensuring accessibility for field teams and IT staff alike.

Key Modules:

1. Login & Authentication

This module provides secure access to the system for both Admin and User roles. Passwords are hashed using bcrypt, and session-based login tracking ensures that users can only access data relevant to their assigned regions.



SEPCO Mute Meter Dashboard

Login

Email
user@sepco.com.pk

Password
Enter your password

Select Role
 user admin

Login

2. Admin Dashboard

Available exclusively to Admin users, this module allows for complete user management. Admins can:

- Add, edit, and delete users
- Assign Circle, Division, Sub-Division, and Feeder access levels
- Monitor mute meter statistics across regions
- View audit trails of all user activities

Admin Dashboard



The screenshot shows the Admin Dashboard interface. At the top, there are four navigation links: "User Management" (highlighted in red), "Mute Reason Editor", "Data Import", and "Data Export". Below this, a section titled "User Management" contains two buttons: "+ Add New User" and "View/Edit/Delete Users".

3. Customer Search & Mute Assignment

This module allows users to search for customer records using reference numbers. After identifying a mute meter, users can:

- Assign or edit mute reasons from a predefined list
- Track the mute history of each customer
- View metadata such as assigned region and last updated time

Customer Search



The screenshot shows the Customer Search interface. It features a search bar with placeholder text "Enter Customer Reference No." and a value "28383110000020". Below the search bar is a "Search" button. A green message box indicates "Customer record found". The main area displays a table with columns: Sr. No., Disco, Disco Code, Circle, Circle Code, Division, Division Code, Sub-Division, Sub-Division Code, Feeder, Feeder Code, and Tra. One row is shown with values: 0, 470, SEPCO POWER UTILITY, 38, CIRCLE-DADU, 383, DIV-DADU, 3831, SUB-DIV-DADU-I, 38311, 11KV DADU-CITY-3, 40812, and 10X. At the bottom, a message states "Mute reason already set: Cable Jumper Loose".

	Sr. No.	Disco	Disco Code	Circle	Circle Code	Division	Division Code	Sub-Division	Sub-Division Code	Feeder	Feeder Code	Tra
0	470	SEPCO POWER UTILITY	38	CIRCLE-DADU	383	DIV-DADU	3831	SUB-DIV-DADU-I	38311	11KV DADU-CITY-3	40812	10X

4. Analytics

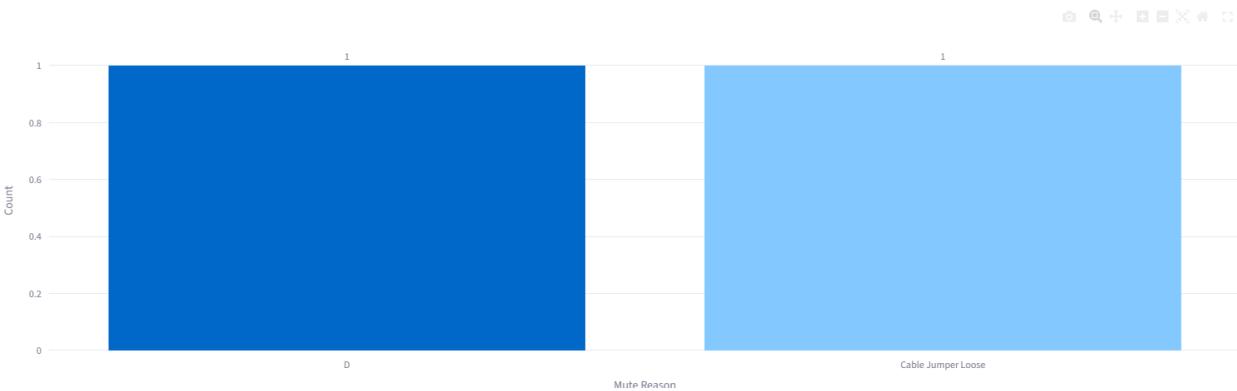
This section visualizes mute meter data using charts and tables for better decision-making. Features include:

- Circle-wise, Division-wise, and Feeder-wise mute statistics
- Daily and cumulative mute meter trends
- Exportable reports for performance monitoring



Mute Reasons Analysis Geographic Distribution

Top Mute Reasons

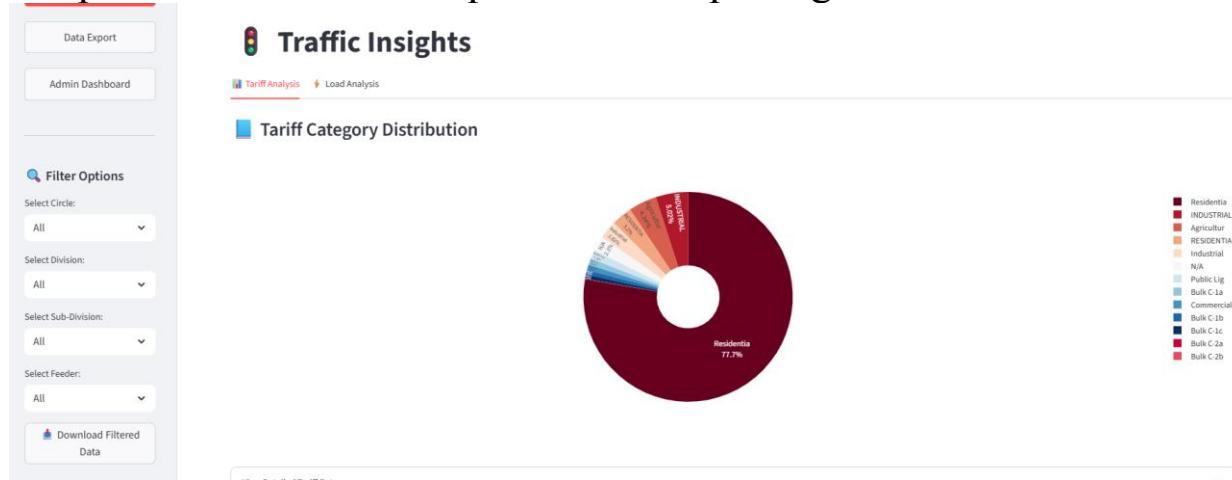


5. GIS Filtering & Hierarchy

The system uses a hierarchical structure to filter and display data. Users can drill down from:

- **Circle → Division → Sub-Division → Feeder**

This ensures region-specific access and helps teams narrow down operational areas for inspection and reporting.



6. Data Import/Export

Admins can bulk upload mute meter data using pre-validated CSV files. The system validates:

- Duplicate records
- Missing fields
- Format mismatches

Users can also export filtered mute data for offline use or sharing with higher authorities.

Data Import

 Import Meter Data

Upload CSV or Excel file

 Drag and drop file here
Limit 200MB per file • CSV, XLSX

[Browse files](#)

Data Export

 Filter Options

Select Circle:

Select Sub-Division:

Select Division:

Select Feeder:

 Found 2 mute records

 Preview Data

Export Options

 [Download Excel](#) [Download CSV](#)

Delete Records

This action cannot be undone. Deleted records will be permanently removed.

 Delete Options

7. Security & Validation

Robust security measures were built into the application:

- Email-based domain restriction (e.g., only `@sepco.com` users can register)
 - Password complexity checks
 - Input validation for form entries
 - Role verification to prevent unauthorized access to sensitive modules

View/Edit/Delete Users						
	email	role	circle	division	subdivision	feeder
0	admin@sepco.com.pk	admin	None	None	None	None
1	zain@sepco.com.pk	user	CIRCLE-DADU	DIV-DADU	None	None
2	sepco@sepco.com.pk	admin	None	None	None	None
3	user@sepco.com.pk	user	None	DIV-LARKANA CITY	None	None

FEATURES AND FUNCTIONALITY

The **SEPCO MUTE METER DASHBOARD** was designed to be a full-featured, secure, and scalable solution tailored to SEPCO's operational needs. The following key features were implemented:

User Authentication

A secure login system was implemented using bcrypt for password hashing, ensuring that no plaintext passwords are stored. Each user is required to log in using their SEPCO-registered email address, and credentials are verified against the secure database. This prevents unauthorized access and ensures accountability in all user interactions.

Access Control

The application supports **role-based access control**, differentiating between Admins and Regular Users.

- **Admins** have full access to all features, including user management, data import/export, and full analytics.
- **Users** are limited to viewing and managing data only within their assigned regions (Circle, Division, Sub-Division, Feeder). This role segregation ensures secure handling of sensitive information and limits system misuse.

Mute Reason Tracking

Users and admins can assign, update, or remove mute reasons for individual or bulk meter entries. A list of over **30 predefined mute reasons** is maintained for consistency and traceability. Each reason assignment is time-stamped and linked to the responsible user, enabling detailed audit tracking.

Bulk Operations

The system supports **CSV-based import/export** functionalities with automatic validation. Admins can import mute meter data in bulk while the system checks for:

- Duplicates
- Missing values

- Format compliance

Upon error, detailed logs are provided. This drastically reduces manual data entry and improves operational efficiency.

Admin Controls

A dedicated **Admin Dashboard** allows authorized users to:

- Add, edit, or delete user accounts
- Assign regional access levels (Circle → Feeder)
- View login history and last-modified timestamps
- Monitor system usage and audit trails

This ensures that access rights can be quickly updated as organizational roles change.

Real-Time Charts

The dashboard presents live statistics using **interactive charts** built with Streamlit and Seaborn. These include:

- Circle-wise mute meter distribution
- Division and Feeder trends
- Daily and weekly status overviews

Visualizations provide SEPCO managers with actionable insights into the performance and anomalies of different regions.

Audit Logging

Every critical action in the system is **timestamped and linked to the performing user**, including:

- Mute reason changes
- User role updates
- Data imports/exports
- Login/logout sessions

This ensures full traceability and accountability, aligning the system with enterprise data governance requirements.

Offline Capable

To support **low-resource environments** and **field deployment**, the system uses **SQLite**, a lightweight database that does not require a server. This

ensures the dashboard can be run on local machines at SEPCO offices without continuous internet access or cloud dependencies.

UI Design

Built with Streamlit, the dashboard features a **clean, responsive interface** optimized for desktop and mobile use.

- Custom sidebar for navigation
- Context-aware filtering
- Error messages and success confirmations

The user experience (UX) is designed to be intuitive for non-technical staff while still offering robust functionality for technical users.

CHALLENGES AND SOLUTIONS

During the development of the **SEPCO MUTE METER DASHBOARD**, several technical and operational challenges were encountered. Addressing these challenges not only strengthened the robustness of the system but also provided valuable learning experiences in designing scalable, secure, and efficient software solutions for real-world use.

Challenge 1: Role-Specific Filtering

Problem:

Users from different operational areas (e.g., Circles or Divisions) needed to view and update only the data relevant to their assigned regions. Allowing unrestricted access would violate data integrity and security policies.

Solution:

Dynamic SQL queries were implemented based on the user's assigned access level (Circle, Division, Sub-Division, or Feeder). The system loaded only the relevant subset of data upon login, using session-based access control. This ensured data isolation, improved performance, and maintained security compliance.

Challenge 2: Secure Admin Controls

Problem:

Admins needed the ability to manage users, mute reasons, and bulk data, but granting such elevated privileges posed a risk if not securely handled. Unauthorized users accessing admin controls could compromise system integrity.

Solution:

Strict role-based access was enforced both at the frontend and backend. Admin modules were rendered only for users with the "admin" role, and all database queries were double-checked with access validation. bcrypt hashing was used to secure passwords, and admin actions were logged for auditability.

Challenge 3: Performance on Low-End Devices

Problem:

Some field officers used older systems with limited hardware capabilities. Loading full datasets or rendering heavy visualizations caused performance issues.

Solution:

To ensure smooth performance, data was paginated, and unnecessary re-renders were avoided using Streamlit's session state. Lightweight charts and minimal UI elements were used. Data loading was optimized using indexed queries in SQLite, and visual elements were streamlined for responsiveness.

Challenge 4: Large-Scale Data Import

Problem:

When importing bulk data through CSV files, issues such as duplicate rows, missing fields, and incorrect formats often led to data corruption or system crashes.

Solution:

An import validation pipeline was created. Before saving data to the database, the system validated each row for Unique identifiers, Required fields and Proper formats (e.g., reference number, feeder name)

Invalid rows were logged and shown to the user for correction. This increased reliability and reduced manual clean-up time.

Challenge 5: Hierarchical Filtering (GIS Structure)

Problem:

Implementing hierarchical filters (Circle → Division → Sub-Division → Feeder) was complex due to inconsistent naming, duplicate entries, and unstructured data provided by departments.

Solution:

Mapping tables were introduced to ensure unique relationships between hierarchy levels. On the frontend, cascading dropdowns were used so that selection at one level automatically filtered options in the next. Backend joins were optimized using foreign keys to maintain referential integrity.

SKILLS GAINED

The **SEPCO MUTE METER DASHBOARD** internship provided me with a highly practical and impactful learning experience, allowing me to develop both technical and professional skills essential for a successful software engineering career.

Full-Stack Development

I gained hands-on experience in building a full-stack web application from scratch using Python for backend logic, SQLite for database management, and Streamlit for the interactive frontend interface. This end-to-end development included designing the database schema, writing API logic, and developing responsive UI components to support both admin and user roles.

Secure Login System

I implemented a robust login mechanism using `bcrypt` for password hashing and session state management in Streamlit. This involved enforcing strong password policies, validating user roles, and building dynamic access control for sensitive data and admin operations—ensuring the application adhered to enterprise-grade security protocols.

Data Visualization

The dashboard featured real-time visual analytics using Streamlit's charting tools and Seaborn. I created region-wise breakdowns, mute reason distribution, and historical trends with interactive elements that helped supervisors make informed decisions. These visualizations translated raw data into actionable insights.

SQL Optimization

Working with SQLite3, I learned how to optimize database queries to support fast filtering, relational joins, and access-based segmentation across large datasets. I wrote complex SELECT and UPDATE queries with conditional logic to support real-time dashboard filtering while ensuring data integrity.

Software Development Lifecycle

The project followed a structured development approach from requirement analysis and system design to development, testing, and deployment. I maintained version control via GitHub, tracked feature milestones, and practiced iterative development based on stakeholder feedback—exposing me to real-world software engineering practices.

Technical Communication

Throughout the internship, I regularly interacted with SEPCO's IT team and supervisors to clarify requirements, present progress, and address feedback. This helped improve my communication skills, especially in translating technical ideas into understandable language for non-technical stakeholders.

Debugging and Testing

I conducted manual testing for each module, including login flows, data entry forms, import/export routines, and filters. I learned to isolate issues through logging, validate edge cases, and ensure system reliability by simulating user behavior under different scenarios.

CONCLUSION

The internship at **Sukkur Electric Power Company (SEPCO)** proved to be a highly rewarding and professionally enriching experience. It provided me with a unique platform to apply my classroom knowledge to solve real-world challenges faced by a public utility organization. Through the development and deployment of the **SEPCO MUTE METER DASHBOARD**, I was able to contribute to SEPCO's ongoing digital transformation by creating a system that is now capable of monitoring mute (non-communicating) electricity meters in real time.

This internship not only strengthened my technical expertise in Python, Streamlit, and database development with SQLite but also helped me understand the broader principles of enterprise software engineering, including secure system design, user access control, data handling, UI/UX considerations, and performance optimization.

Working directly with SEPCO's IT Directorate allowed me to observe and learn how government organizations integrate technology into their field operations. I learned how software solutions are planned, developed, tested, and deployed in a regulated and collaborative environment, with clear accountability and measurable impact. The opportunity to communicate with supervisors, receive feedback, and incorporate real-time suggestions enhanced my adaptability and problem-solving abilities.

Most importantly, the successful implementation of the dashboard and the positive feedback received from both technical and management staff at SEPCO gave me confidence in my ability to build full-stack solutions that address organizational needs. It confirmed my passion for designing impactful systems that simplify processes, save time, and drive data-informed decisions.

This experience has laid a strong foundation for my future career in software engineering, data analytics, and intelligent system development.

RECOMMENDATIONS

Based on my experience during the internship at **Sukkur Electric Power Company (SEPCO)**, I would like to suggest the following recommendations to enhance future internship programs and improve the organization's development practices:

1. Provide Real-Time Data Earlier

Provide interns with cleaned or anonymized real-time data early on. It accelerates development, allows better testing, and ensures interns align their solutions with actual system behaviour.

2. Weekly Technical Reviews

Scheduling weekly technical review meetings between the intern and a dedicated supervisor or IT team member can significantly improve the quality of work. These sessions can help identify technical blockers, clarify requirements, and offer timely guidance. Regular feedback loops also encourage continuous learning and ensure that project development stays on track.

3. Implement CI/CD Pipelines

Implement basic Continuous Integration/Continuous Deployment (CI/CD) workflows using GitHub Actions or Jenkins. This will improve code reliability, automate deployment, and reduce manual intervention.

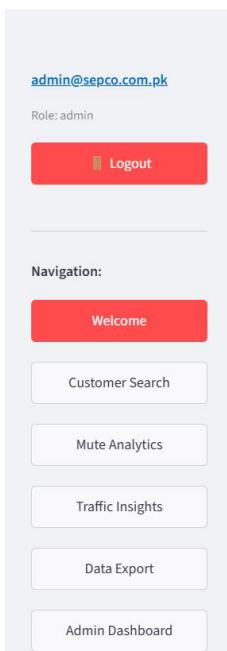
4. Mobile Integration for Field Teams

Optimize the dashboard UI for mobile and tablet devices, especially for field teams. Alternatively, a simple PWA or responsive design would significantly improve field usability and accessibility.

5. Improve Documentation Practices

Enforce structured documentation: user guides, SOPs, and inline code comments. This improves onboarding, system adoption, and maintenance post-internship.

SCREENSHOTS AND PROJECT OUTPUT



SUKKUR ELECTRIC POWER COMPANY

سکر الیکٹرک پاور کمپنی

Welcome to the SEPCO Mute Meter Dashboard

This dashboard enables the SUKKUR ELECTRIC POWER COMPANY (SEPCO) to manage and monitor **mute meters** across its operational regions.

Use the sidebar to:

- 🔍 Search and edit mute reasons
- 📊 View mute meter analytics
- 🕒 Traffic insights and data trends
- 🖨 Export reports and raw data

Mute Analytics

Mute Reasons Analysis Geographic Distribution

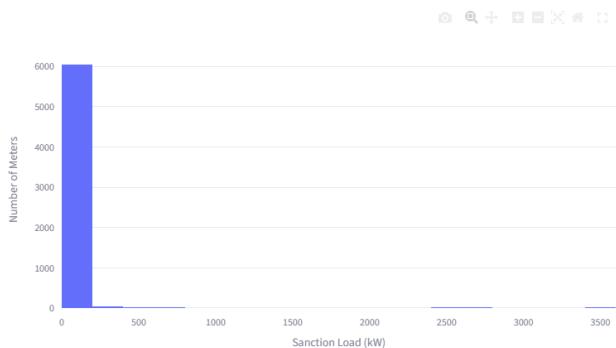
Mute Meter Geographic Distribution



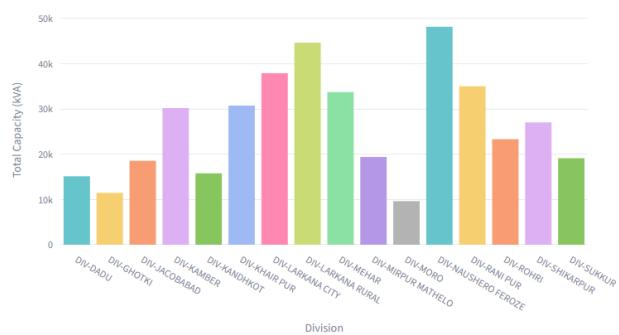
Traffic Insights

Tariff Analysis Load Analysis

⚡ Sanction Load (kW)



⚡ Transformer Capacity (kVA)



📤 Data Export

Filter Options

Select Circle:

Select Sub-Division:

Select Division:

Select Feeder:

Select data type to export:

All Data Mute Meters Only

Found 2 records matching your criteria

Preview Data

📥 Export Options

Download as Excel

Download as CSV

Download as JSON

📊 Quick Statistics

Total Records

2

Mute Meters

2

Tariff Types

2

Select User

Email

New Password (leave blank to keep)

Role

Circle Sub-Division

Division Feeder

ANNEXURE

A. Internship Completion Certificate

A scanned copy of the internship certificate issued by Sukkur Electric Power Company (SEPCO) is attached below as official confirmation of successful internship completion.



SUKKUR ELECTRIC POWER COMPANY

ADMN. BLOCK THERMAL POWER STATION OLD SUKKUR.

PHONE NO. 071-9310795-6
FAX 071-9310797
E-mail hrdsepco@yahoo.com

OFFICE OF THE
CHIEF EXECUTIVE OFFICER
SEPCO SUKKUR

No.CEO/SEPCO/SUK/HRM/A-1/ 18689-90 Dated. 23 /7/2025

Read: This office order No. CEO/SEPCO/SUK/HRM/A-1/(Estt.)/12499-503 dated: 20.05.2025 & Manager (IT) letter No. MANG:(IT)/ADMIN/TA-24/1309-10 dated: 17.07.2025.

INTERNSHIP CERTIFICATE

It is certified that **Mr. Zain Ul Abidin Arain**, CMS-ID No. 133-22-0001 BE (CSE/CS) student of Sukkur IBA University has successfully completed 06 weeks internship with effect from 09.06.2025 to 18.07.2025 in SEPCO IT Directorate.



(Inamullah Baloch)
Deputy Manager (HR)

Copy to:-

- Assistant Manager Student Affairs, Career Development Centre (CDC) Sukkur IBA University Airport Road Sukkur.
- Student Concerned.
- Master File.

B. Supervisor Feedback Form

The filled feedback/evaluation form submitted by SEPCO's IT Directorate is also included as part of departmental assessment.



Internship Feedback Survey Mapped to Program Learning Outcomes (PLOs) B.E Computer Systems Engineering program at Sukkur IBA

We appreciate your contribution to the professional growth and development of our students. The aim of this survey is to obtain internship feedback on quality of our Engineering Program. Please share your opinion about the following questions.

Host Organization: SEPCO
Student Name: Zain Ul Abidin

PLO	The Sukkur IBA students who have worked under me	Excellent	Very Good	Good	Average	Poor
1	Possess required amount of knowledge of engineering fundamentals and have demonstrated appropriate technical skills required		✓			
2	Have demonstrated problem solving skills		✓			
3	Possess the ability to design a system/software component or process		✓			
4	Possess the ability to investigate the complex engineering problems to derive valid conclusions		✓			
5	Have demonstrated the appropriate use of engineering hardware and software tools.		✓			
6	Have an appreciation for the impact of engineering solutions to the society		✓			
7	Have an appreciation of sustainable echo friendly solutions		✓			
8	Practices work ethics and professionalism		✓			
9	Works comfortably in a team and as an individual		✓			
10	Possess effective verbal and written communication skills		✓			
11	Able to manage the projects assigned successfully		✓			
12	Interest in learning and professional development		✓			

Comments: Assigned task (Filling Design Reason of Mute Meter) in Python
Successfully Design & Completed and Submitted it SEPCO office -

IMRAN AHMED AKHUND Ad: AM(Co)

Signature and Stamp of the Organization

Manager (M15)
SEPCO Computer Centre

Sukkur.