Energy Billing System

Introduction

This documentation is for an Energy Billing System project. This system aims to efficiently manage energy billing processes by reading data from various sources like CSV files or meters with different ports such as TCP/IP, Modbus, Mbus, GPRS, GSM, and Internet of Things (IoT). It also integrates a payment gateway to track payment statuses and generate invoices in multiple formats.

Features:

1) *Data Sources:*

Supports reading data from CSV files.
Compatible with meters utilizing ports such as TCP/IP, Modbus, Mbus, GPRS, GSM, and IoT.

2) *Payment Gateway Integration:*

Tracks payment statuses (paid or not paid).
Integrates with different payment gateways for seamless transactions.

3) *Invoice Generation:*

Creates invoices in various formats to accommodate different requirements.
Allows customization of invoice templates.

4) *DateTime Management:*

Manages date and time information for billing and invoicing accurately.
Supports timezone configurations.

5) *User Panels:*

Provides different panels for administrators, customers, and support staff.
Admin panel for system configuration and management.
[According to clients requirement, we can add customer and staff panel]

System Architecture:

The system comprises three main components:

1) <u>Metering Devices:</u>

These devices are equipped with IoT capabilities for seamless data transmission.

2) <u>Centralized Server:</u>

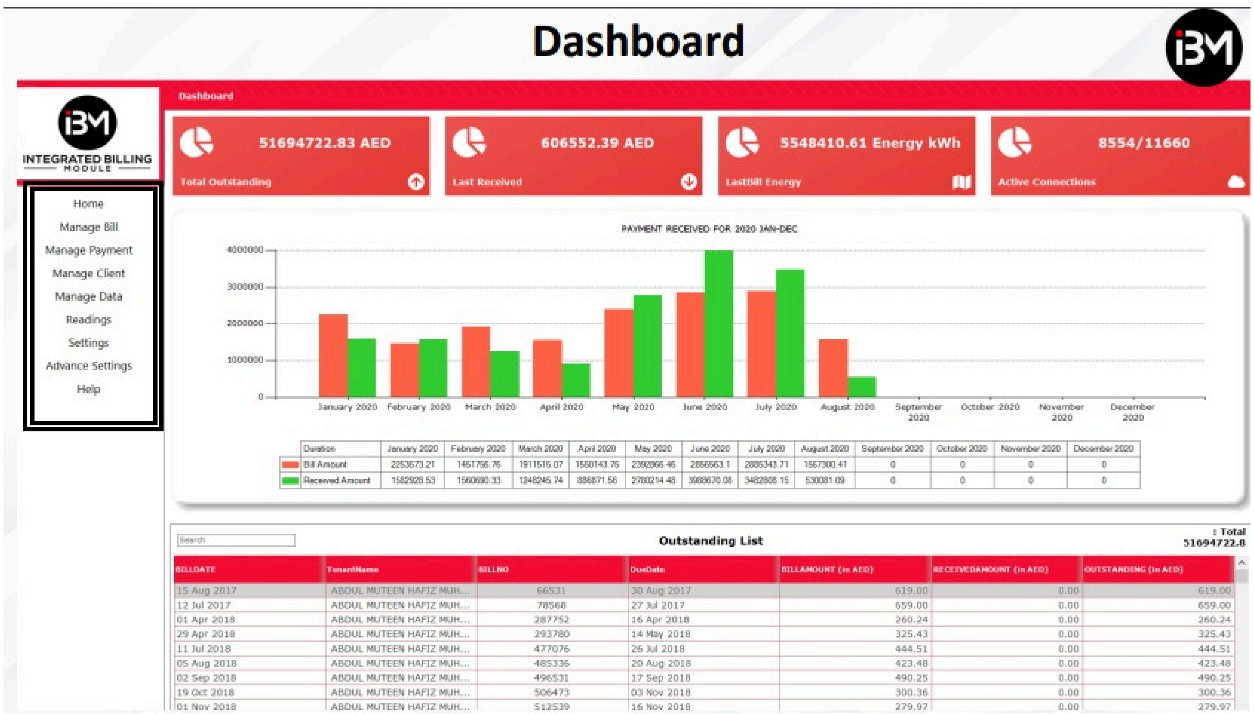
A central server manages and stores all the data collected from the metering devices.

3) <u>User Interface:</u>

A user-friendly interface allows consumers to access their energy consumption data and billing information.

Conclusion

Our Energy Billing System streamlines energy billing processes by efficiently managing data from various sources, processing payments securely, and generating invoices in flexible formats. With intuitive user interfaces and robust backend modules, the system ensures smooth operations for administrators, if needed, customers and support staff panels.



Billing System Interface Overview:

Dashboard: This is like the main screen of the billing system. It shows a summary of everything important, like how much money is still owed, recent activity, and other key numbers.

Manage Bill: This lets you look at and control individual bills. You can see details like when the bill was for, how much it is, and whether it's been paid or not.

Manage Payment: Here, you can see and control payments. You can check the history of payments, how they were made, and when they're scheduled.

Manage Client: This is where you can see and handle client information. You can find their contact info, see if their account is active or not, and look at their billing history.

Manage Data Readings: This lets you see and control the data readings. You can check how much energy was used over different times and for different services.

Settings: This is where you can change how the billing system works to fit your needs. You can adjust things like how you want to see your bills, set up security measures, and more.

Advanced Settings: This is where you can find even more detailed settings for the billing system. You can change things that are a bit more complicated and specific.

Help: If you need any assistance or support, you can find it here. You can get access to guides, tutorials, and contact information for technical support.

Search: If you're looking for something specific, you can use this to find it. You can search for bills, clients, or data readings.

Total Outstanding: This shows you how much money is still owed by all clients. It includes any bills that haven't been paid yet or any extra charges.

BILL DATE: This is just the date when the bill was made.

BILL AMOUNT: This is how much money is owed for that billing period.

RECEIVED AMOUNT: This shows how much of the bill has already been paid.

OUTSTANDING: This tells you how much money is still owed after any payments have been made.

TENANT NAME: This is the name of the client or account linked to the bill.

BILL NO: This is a unique number given to each bill.

DUE DATE: This is the date by which the bill needs to be paid.

ENERGY kWh: This is the amount of energy used during the billing period, measured in kilowatt-hours.

PREPAID: This tells you if the account is set up for prepaid or postpaid billing.

ACTIVE CONNECTIONS: This shows how many active connections are linked to the account.

RECEIVED AMOUNT (in Local Currency): This indicates the amount of money received from the client, listed in the local currency.

OUTSTANDING (Local Currency): This displays the remaining amount due, also listed in the local currency.

TIME AND DATE: This just shows you the current time and date.

LOGOUT and LOGIN