Energy PEC Enterprise Energy Management System Services

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Abstract. Energy PEC Enterprise provides enterprises with the function of energy visualization Kanban. Users can customize their energy-using devices by checking the box on the home page, and see the changes of energy consumption of the devices in real time, so as to achieve the overall energy-using macro data management of Zhen ding Technology.

Keywords: Visualization Kanban · Energy-using · Data management

1 Introduction

Demand management is mainly used for measurement management of transformer side demand, helping users to carry out basic capacity management and demand management charges. Users can choose whether to use demand charges or not based on the data, rather than the current basic capacity fee + actual consumption. The goal of this function module is to help users decide which charging method will reduce their actual electricity bill (Fig. 1).

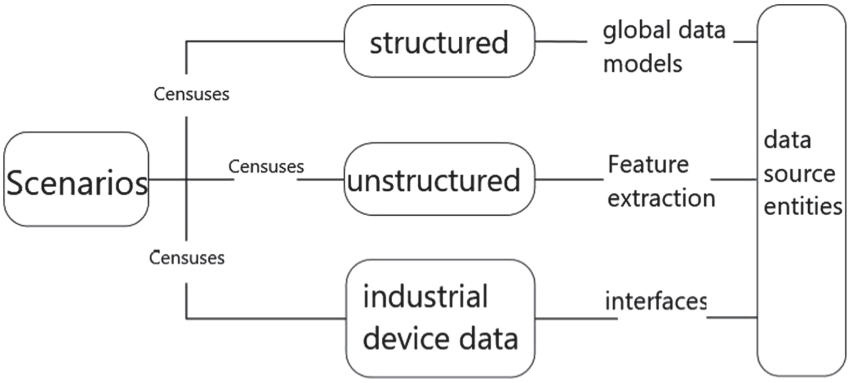

Fig. 1. Multi-source data aggregation

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https://doi.org/10.1007/978-3-030-66785-6_45

2 System Design

Users can use in statistical analysis module calendar map function, energy consumption equipment energy consumption situation in a single month daily calendar display, energy consumption view in the form of macro energy consumption situation of the whole month, click on the figure in a single calendar can view the details of the data to a day, and can progress the data contrast of different calendar day (Fig. 2).

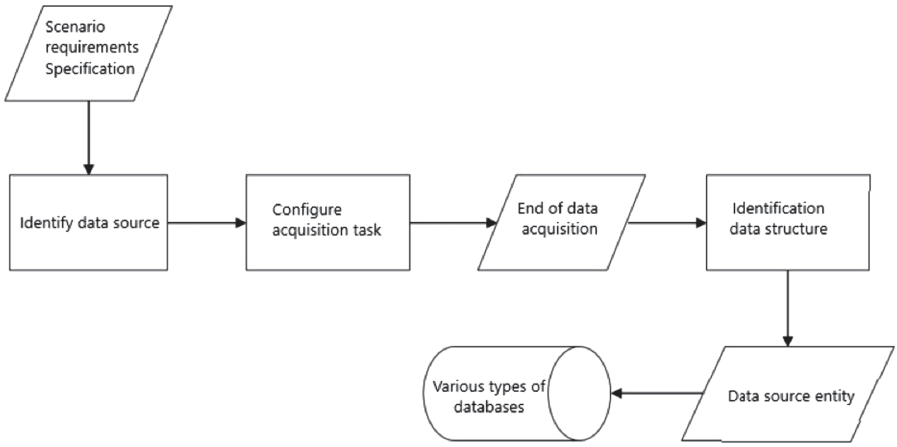

Fig. 2. Data flow chart

Users can directly view the historical energy consumption data of the equipment in the statistical analysis module, including the historical data of the equipment, such as electric energy, current, power, flow, pressure, temperature, etc., and can automatically calculate the maximum, minimum and average value of the data within a certain time range.

3 System Implementation

3.1 Historical Data Query Statistics

Users can directly view the historical energy consumption data of the equipment in the statistical analysis module, including the historical data of the equipment, such as electric energy, current, power, flow, pressure, temperature, etc., and can automatically calculate the maximum, minimum and average value of the data within a certain time range (Fig. 3).

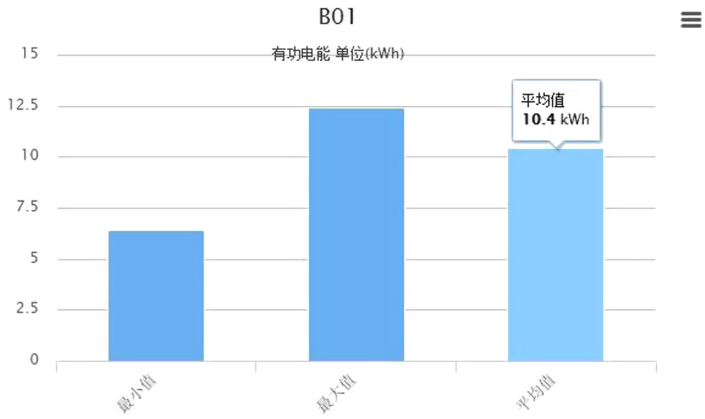

Fig. 3. Peak statistics

3.2 Energy Reference Line

Users can use the function of energy reference line in the statistical analysis module, set the energy reference line for each parameter of each equipment, define its assessment index, and achieve data quota management, which can be detailed to each workshop and each production line. Once the index exceeds the limit, the system will automatically alarm (Fig. 4).

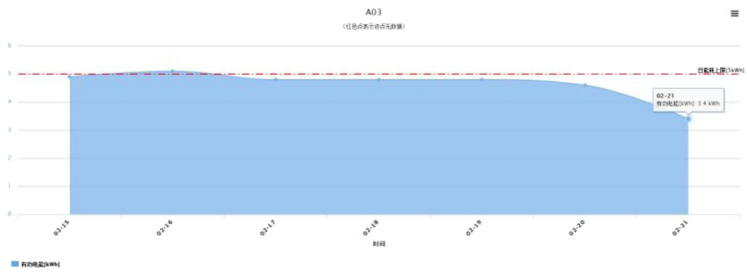

Fig. 4. Reference post

3.3 Comparison of Equipment Energy Consumption

Users can use the equipment energy consumption comparison function in the statistical analysis module to achieve the energy consumption comparison of the same type of equipment, the workshop and the factory. If Zhending Technology can dock with more systems in the future, it can achieve a fine comparison of equipment efficiency (Fig. 5).

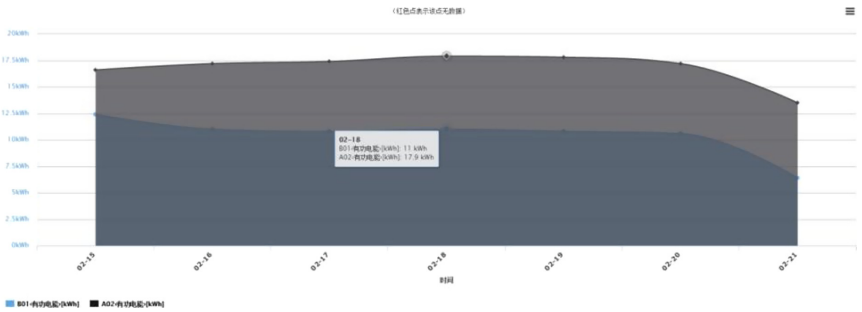

Fig. 5. Comparison of equipment energy consumption

3.4 Intelligence Reports

Energy PEC Enterprise provides smart reporting capabilities for enterprises, the ability to customize report templates, provide report design tools, and export, save, and print energy reports (Figs. 6 and 7).

Fig. 6. Intelligence reports

Fig. 7. Compatible with computers, phones and tablets

4 Conclusions

A data acquisition module of intelligent meter based on WIFI is designed in this paper. Through analyzing the detailed data of HT6015 chip and ESP-7 WIFI module, the circuit schematic diagram of this module is designed and the code of related hardware is written, and the design and development of intelligent meter data acquisition module based on WIFI is realized.

References

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