Research on Application of Mobile Terminals in Power Industry

Zhao Shihong[1, a], Pei Yujie[1, a], Tang Junci[2, b], Mu Jinglong[1, a], Li Jiabin[1, a], Chi Yuan[1, a], Bei Lijie[1, a], Guo Xinyu[1, a]

[1]Fushun Power Supply Company, Liaoning Electric Power Company Limited, State Grid, China

[2]Liaoning Electric Power Company Limited, State Grid, China

[a, b]dqgc2015@126.com

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Abstract. With the development of mobile Internet technology, mobile applications will gradually replace the traditional equipment; become the mainstream of business applications. The operation of the pillar industries of electricity, will gradually realize the mobile application. The emergence and development of mobile intelligent terminal provides reference and reference for the future application of electric power business. The from the mobile terminal, the typical industry application analysis, described in detail the development process of mobile terminal, and engage in electricity production, marketing, debugging, ICT professional business and operation and maintenance requirements, discusses the business functions and the development directions of the power of mobile terminal application.

Introduction

The mobile terminal device is commonly used in public services, transportation, health care, logistics, services and other industries in according to complete mobile communications, the scene processing, mobile medical applications, mobile applications and services to extend the existing business. Mobile intelligent terminals as an important application of mobile Internet technology, help customers achieve business process moving which will get rid of the shackles of traditional fixed office.

The power industry as a national pillar industry provides a stable power supply for social development. Electricity supply, transmission, control, marketing and management are based on information technology support. The power of information technology ensures stable production and marketing efforts. PC terminal equipment as the main carrier, complete electricity production, scheduling, marketing, ICT and other professional daily business processes. Application of technology innovation is to promote the power of enterprise development power source. Things cloud computing technology in the successful application and practical effects of the power industry, demonstrating the power industry in the absorption and application of new technologies, in the same industry-leading level. So with the mobile Internet technology and products mature, it will rise in the power industry and applications.

In the power industry the mobile terminal is used mainly for the production, marketing, data entry and gathering. Currently on the market there is no specific electricity production of mobile terminal equipment for professional use. Processing power production business information still relies on the completion of the PC side. Whether in electricity production and distribution, substation, transmission, or scheduling, marketing, safety supervision, ICT, financial and other management professionals, lack of business processes in the field of mobile terminal equipment. With electricity needs professional management and business applications, the number of mobile terminals demand is still very great and smart mobile terminals in raw power industry prospects are very impressive[1-3].

The Development of Mobile Terminal

The mobile terminal (mobile communication terminal) is a computer device that can be used on

the move, broadly speaking, including mobile phones, laptops, POS machines and even onboard computer. But in most cases it refers to a cell phone or have a variety of applications for smart phones. As more and more broadband networks and technology towards the direction of the development of the mobile communications industry will move toward a true information age. On the other hand, with the rapid development of integrated circuit technology, the processing capabilities of the mobile terminal already has a powerful processing capabilities, the mobile terminal is moving from simple call tool into an integrated information processing platform. This also adds to the mobile terminal broader space for development[4, 5].

Modern mobile terminal already has a very powerful processing capability (CPU frequency is close to 2G), memory, storage media and cured like a computer operating system. It is a complete ultra-compact computer system. The mobile terminal also has a very rich communication, namely through GSM, CDMA, WCDMA, EDGE, 3G and other wireless operators Netcom. It also can communicate via wireless LAN, Bluetooth and infrared. Mobile terminals are divided into three categories, and shown in Table 1.

Table 1 Mobile terminal category

Mobile terminal classification	Features
Communication Equipment	That mobile terminals, each terminal has a number of mobile network
Ultra Mobile PC devices	It belongs to the category of the PC, there is calculation and processing capabilities, with mobile Internet properties. Smaller than a laptop, but larger than the phone's mobile Internet devices. Users can access the Internet, at any time to enjoy the entertainment, information inquiries and so on.
Portable entertainment terminal	Including MP3 / MP4 player, CMMB, dedicated terminal readers

Application of Power Mobile Terminal

Power enterprises used mobile terminal equipment, basic for information collection, query and records, completion processing site business-related information. From the initial application of a dozen years ago to now, we have experienced scanning terminal, MCU terminals, PDA terminals, mobile data collection terminals, smart mobile terminals. Mobile terminal information from a single record, develop into a mobile terminal having multiple collection functions. Here are a power applications Handset:

Scanning terminal can not be completely counted handheld terminal has only to scan the bar code input, used widely in the power industry, mainly used in power marketing, measurement, supplies and other professionals, with the asset management system, complete supplies, power meter barcode scanning entry . Scanning features a single terminal device; there is no data processing and storage capacity.

SCM terminals, handheld terminal originally used the power industry, are mainly used for power marketing field meter. Meter Reading solve marketing problems manual records. Since the functional requirements are relatively simple, energy represents the number of records you can. So the performance meter terminal is relatively low, small storage space. Display is black and white LED. Reading only power marketing operations in the application. Does not apply to the power other professionals in recent years, the performance of the meter has not significantly improved, only to increase the processing speed and storage space on the lower end of the overall application.

PDA, based on a commercial PDA terminal, is used in the power industry which advantages is wireless communications and interactive operation. To complete distribution lines, station area information tags and collection, as well as inspections and record transmission lines. PDA terminal with GPS and GPRS wireless communication capabilities, and with the electricity workers complete the positioning and data upload operation. Because it is a commercial PDA, and therefore the single function, large battery power consumption, a key input is not convenient with poor practicality. Performance, handling abilities, the storage space is limited, and does not support barcode scanning, finished only single information input operation.

Mobile data collection terminals, handheld smart terminal in recent years gradually used the use of windows CE system has been greatly improved screen color LCD touch screen, ease of operation, the large storage space, and extended memory. The processing speed of the ARM processor, compared PDA, meter reading and the data processing capability has been greatly improved. In power applications mainly in the production and marketing of professional, business expand business processes, including batch for the table, new clothes, a full withdrawal, surveys, inspection. With business information entry, bar code scanning, camera and other functions, has been greatly improved in the application functionality. To further promote the application of power of the mobile terminal, are shown in Table 2.

Table 2 Power mobile terminal application of professional and business

Professional	Main business	Function	Scale
Marketing	Meter reading, inspection, industry expansion	Recording, scanning	Large
Power distribution	Distribution lines, station area collection	Recording, positioning	Small
Power transmission	Transmission line, overhaul	Recording, positioning	Large
Substation	Overhaul	Recording, positioning	Small

Power Mobile Terminals Trend

Application of power of the mobile terminal, from the most junior of a simple record, is to the existing diverse data collection and business control. For the functional and performance requirements of mobile terminals become more sophisticated, and the mobile terminal and the power of professional level fit together is an important guarantee application. Power of the professional and business functions, the mobile terminal performance by limiting, and not all aspects of the application, there is still a large number of operational and functional use of space and promotion prospects. In current communications technology and in the development of mobile Internet network technology, the performance of the mobile terminal to be a qualitative leap in the performance of the mobile terminal will no longer be a constraint to the power industry of mobile applications obstacle, it will promote the application and development of the power of the mobile terminal, so that power flow applications become another smart mobile terminal.

An important carrier and applications, mobile terminal mobile terminal as mobile Internet technology applications in power applications, will effectively enhance the quality of management and efficiency. The mobile terminal includes a conventional fixed PC terminal unmatched real-time performance and portability, real-time information query and business processes, smart mobile devices will gradually replace the PC, it has become the most popular information acquisition and processing terminal. PC performance to the same processing power is better portability. So the mobile terminal in the foreground of the power industry is very considerable.

The mobile terminal in the power of all aspects of the application and promotion, enhance power management, the integration of a variety of acquisition design, acquisition module configured for different power professional. The mobile terminal uses a modular design, based on electricity demand business applications, to adjust the configuration of the mobile terminal to meet application needs.

Summary

Through the course of the application of electric power marketing, distribution, production, transmission can be seen, the initial purpose of the power of the mobile terminal applications is to complete the recording of business data, and improve the efficiency of information input field. With the strengthening of business management, and improving the accuracy of the data requirements of the mobile terminal business processes, increasingly requires the ability to enter more

comprehensive information and content. Supporting richer services, supporting the completion of field operations management and control, enhance the power of real-time business processing.

The mobile terminal applications in the power industry, the power of the professional services and the performance and functionality of mobile terminals combined, the mobile terminal must cater to the electricity business and management needs, and constantly improve the performance and functionality of mobile terminals integration. Provide for the power industry a wide range of mobile terminals to meet the electricity different professional needs of different environments, to mobile applications and as a precondition to achieve fast query processing power of business information, business management personnel complete control. The mobile terminal is bound to be widely used in the power industry.

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