

Practice and Exploration of Full Life Cycle Informationization Management of Fixed Assets in a Public Tertiary Hospital

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Abstract: This paper provides an in-depth discussion of the application of fixed asset full life cycle information management (LifeCycle Asset Management, LCAM) in public tertiary hospitals. Through modern information technology means, it realizes the all-round and refined management of fixed assets from acquisition, use to scrapping. Practice shows that this management mode significantly improves the management efficiency and transparency of the hospital, and provides strong support for the improvement of medical service quality and the sustainable development of the hospital. At the same time, this paper also introduces the innovative tools introduced by the hospital in information management, such as “asset code” and “location code”, which further enhance the convenience and flexibility of management.

Keywords: Asset; Full Lifecycle; Hospital.

1. Introduction

With the rapid development of healthcare, public tertiary hospitals, as the core of the healthcare service system, are facing multiple challenges such as improving service quality and optimizing resource allocation. As the foundation of hospital operation, the management level of fixed assets is directly related to the efficiency and cost of medical services. However, the traditional manual management mode has been difficult to adapt to the needs of modern hospital management [1]. Therefore, exploring and implementing fixed assets full life cycle information management has become a key path to improve the management level of hospitals [2].

2. Connotation of Fixed Assets Full Life Cycle Information Management

LifeCycle Asset Management (LCAM) emphasizes the overall efficiency of assets, taking into account the whole process of investment planning, procurement and construction, use and maintenance, and retirement and withdrawal. Informatization management is the use of modern information technology to achieve intelligent, automated and refined management in all aspects. This management mode helps to improve the utilization efficiency of assets, reduce operating costs and lay the foundation for the sustainable development of hospitals [3].

3. Current Status and Challenges of Fixed Asset Management in Hospitals

Currently, fixed asset management in hospitals faces multiple challenges: dispersed management functions, resulting in management blind spots and overlap, increasing coordination difficulties and asset risks; large-scale and diverse assets, high management complexity, heavy inventory work, and difficult to achieve efficient and accurate management; non-standardized asset disposal process,

disposal of obsolete assets at will, undermining the seriousness and transparency of the management; lagging behind in the level of information technology management, a single system function, isolated interdepartmental information, reliance on manual operation, inefficient and error-prone to meet the needs of modern management. The information management level is lagging behind, the system has single function, the information between departments is isolated, and it relies on manual operation, which is inefficient and prone to errors, and it is difficult to meet the needs of modernized management. These problems seriously limit the effectiveness and safety of hospital asset management, and it is urgent to take effective measures to solve them.

4. Practical Process of Informationization Management of the Whole Life Cycle of Fixed Assets

4.1. Requirements Analysis and System Design

The hospital first carried out a comprehensive requirements analysis and clarified the objectives and requirements of information technology management. Subsequently, an informatization system containing modules for procurement management, inventory management, usage management, maintenance management and scrapping management was designed. The system adopts advanced database technology and network technology to ensure the real-time, accuracy and security of data.

4.2. System Development and Implementation

The hospital has cooperated with a professional software development company to jointly develop a fixed asset full life cycle information management system. During the development of the system, it focuses on the integration and docking with the existing system of the hospital to ensure the seamless flow and sharing of data. At the same time, training is provided to the head nurses and departmental asset managers of the whole hospital to ensure that they can master the use of the system and its operation skills.

4.3. Data Collection and Entry

Conduct a comprehensive inventory and stocktaking of existing fixed assets to ensure the accuracy and completeness of the data. The results of the inventory are entered into the information technology system to establish a complete fixed asset electronic file.

4.4. Process Optimization and Reengineering

The hospital has optimized and reengineered the whole life cycle management process of fixed assets. Through the information technology system, it has realized the automated processing of all aspects of procurement application, approval, procurement, warehousing, outgoing storage, use, maintenance and scrapping. At the same time, internal control and risk management have been strengthened to ensure

process compliance and effectiveness.

5. Implementation Results and Innovations

5.1. Constructing a Full Life-Cycle Information Management Platform

It realizes all-round management of fixed assets from acquisition to retirement, including asset account management, acquisition approval, use, operation and maintenance, and quality and benefit analysis. The platform gives different management functions according to departmental authority to meet personalized management needs.

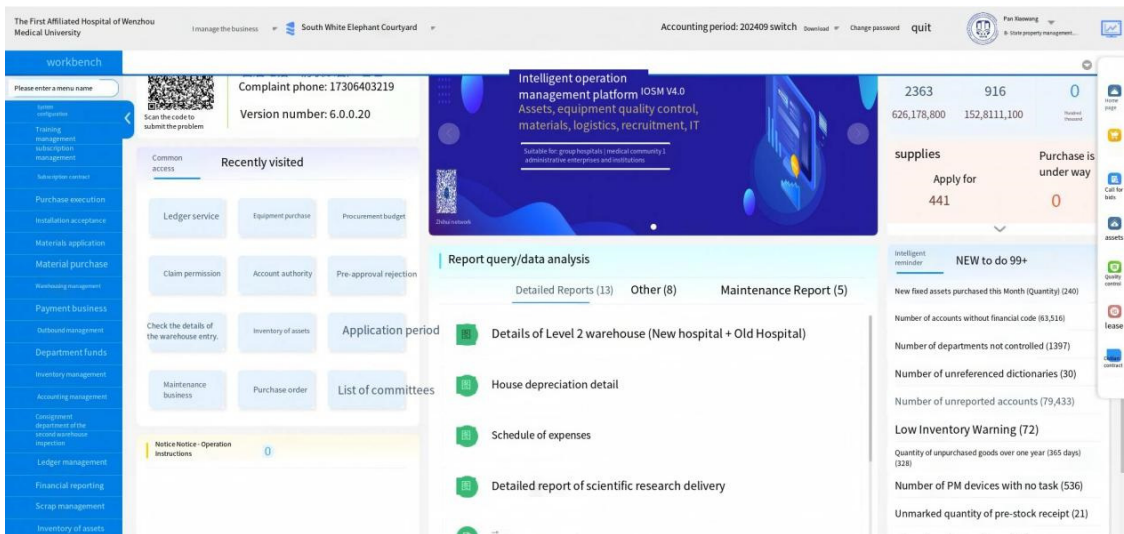


Figure 1. Asset Management Informationization Management Platform

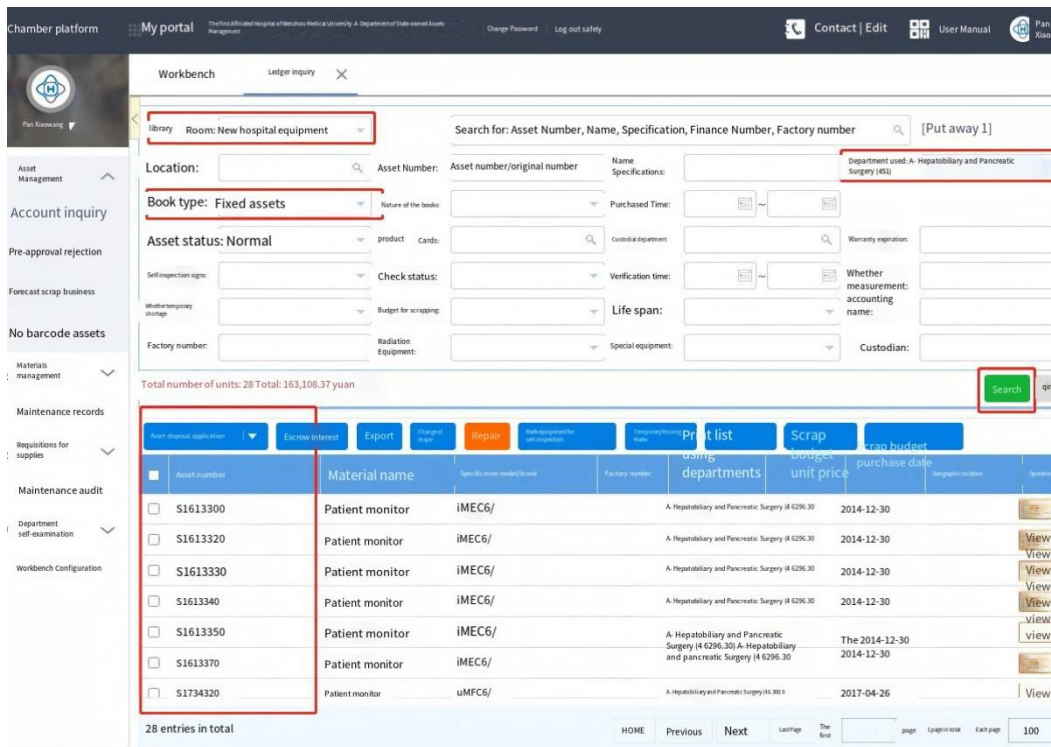


Figure 2. Section platforms

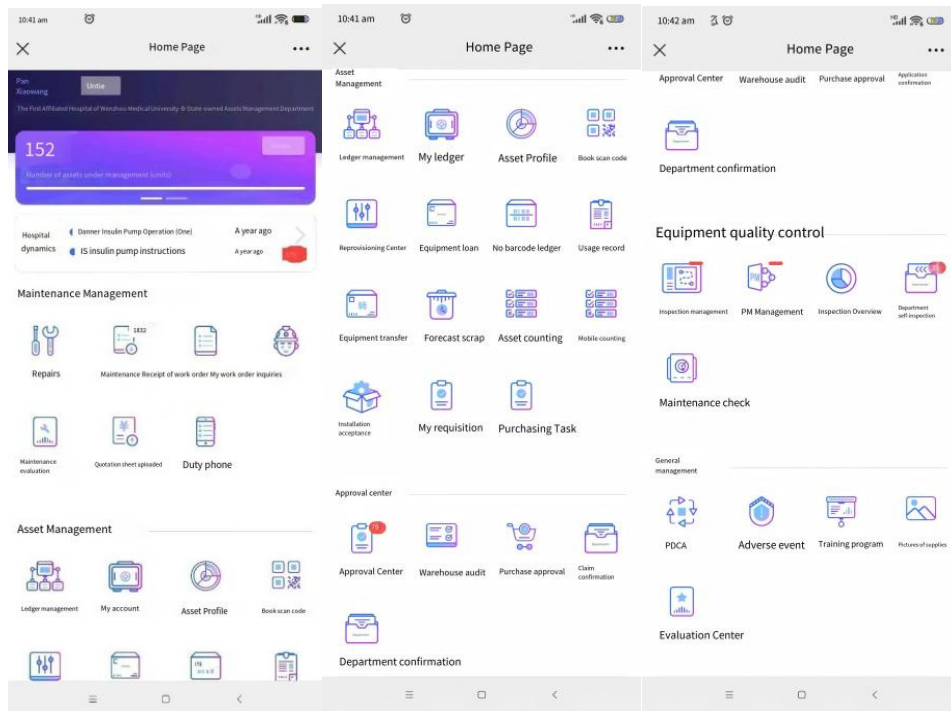


Figure 3. Platform Mobile

5.2. Application of Innovation Management Tools

5.2.1. Asset Code

As the unique identification of the asset, it is associated with the basic information of the asset. By scanning the asset code, it realizes the functions of quickly obtaining the asset information, one-click repair report, and checking the operation guide, etc., so as to improve the management efficiency.

5.2.2. Location Code

Used to identify the location of assets and simplify the process of reporting repairs. By scanning the location code, it quickly recognizes and responds to the demand of assets and related locations, enhancing management flexibility and response speed.

5.3. Optimize the Management Process

5.3.1. Requisition Approval

A centralized and standardized asset project approval platform has been constructed to cover all departments and divisions in the hospital, on which project applications can be initiated regardless of whether the assets are medical equipment, office facilities or other professional equipment. The system has built-in intelligent algorithms that can automatically determine and accurately push the project application to the corresponding approval department or person in charge based on key information such as asset type, funding source, budget amount, and so on. Through the platform, the application, approval, progress and result of each asset project can be tracked and queried in real time, realizing the full transparency of the approval process.

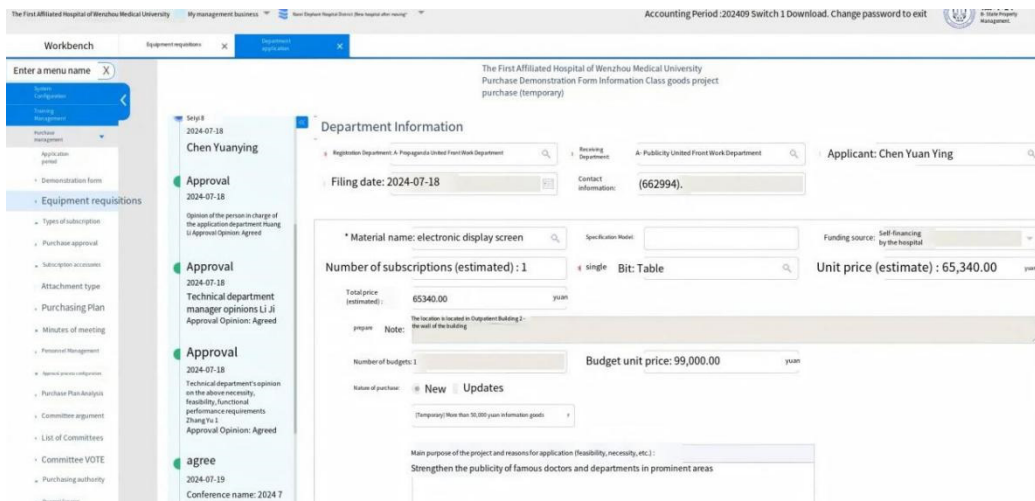


Figure 4. Requisition Approval

5.3.2. Committee Argumentation

If the approval amount exceeds 50,000 yuan and above, committee argumentation is required, then it enters the meeting argumentation voting management, realizes PC and

cell phone application, views the acquisition application information on the spot and votes by the committee members, displays the voting results in real time and automatically produces the voting results and records, and generates the

purchasing order to enter the purchasing management after approval, and the system supports the electronic signature to

realize the paperless management of the whole process.

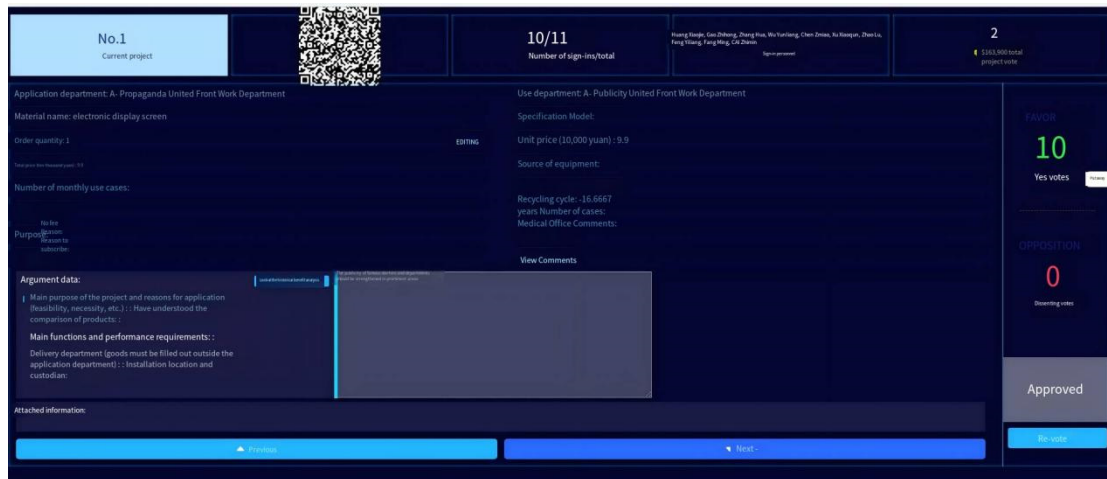


Figure 5. Argumentative vote of the Committee

5.3.3. Acquisition Management

Construct a perfect electronic file management module for procurement contracts, realizing the electronic management of the whole process from contract drafting, auditing, signing to filing. Fully implement the electronic uploading and

preservation of bidding information, bidding farewell to the cumbersome and inconvenience of paper documents. Realize instant uploading of all kinds of key information in the whole procurement cycle to ensure the synchronization of information without lag.

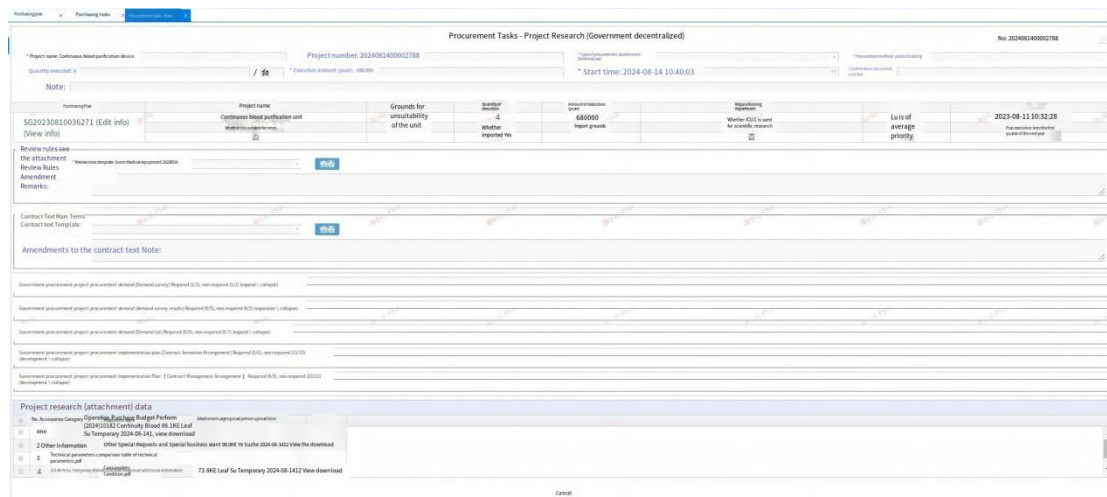


Figure 6. Procurement module

5.3.4. Acceptance Management

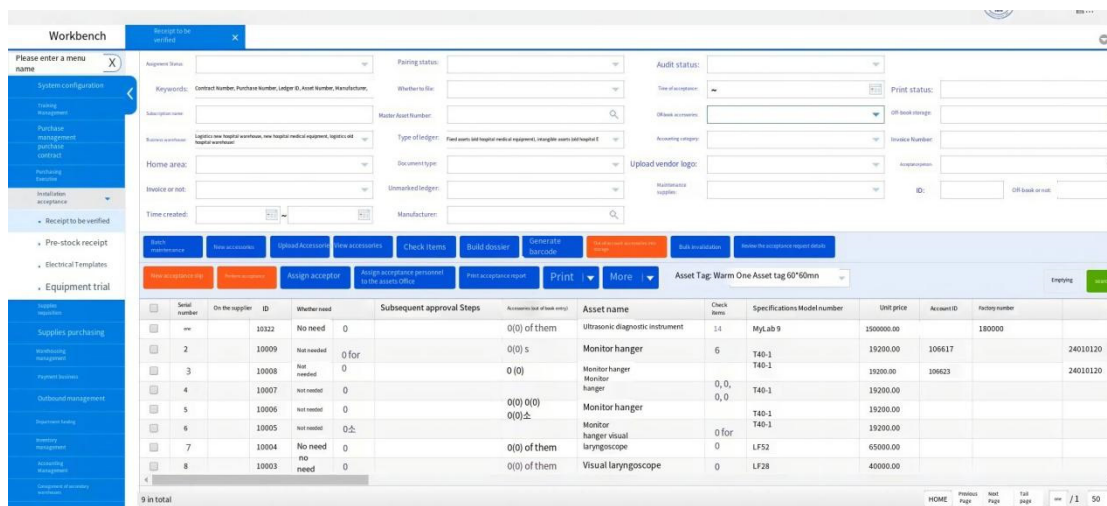


Figure 7. Catalog pending acceptance

Based on the detailed archived contract information, the system automatically generates a ledger of equipment to be accepted, which can clearly define the acceptance stage and status of each piece of equipment. In order to ensure the standardization and consistency of acceptance work, the system has built-in detailed acceptance templates to ensure the comprehensiveness and accuracy of acceptance data. Once the equipment passes all the acceptance stages, the system will automatically update its status to “Pre-stocked”. The system also realizes cell phone input function for acceptance data, which greatly enhances the flexibility and efficiency of acceptance work.

Figure 8. Mobile entry

5.4. Operation and Maintenance Management

Combined with the WeChat Enterprise management platform, it realizes the standardization and automation of tasks such as use registration, inspection and repair reporting.

In the asset lifecycle, the utilization, operation and maintenance management stage are a core management challenge due to its long-time span and the many departments and personnel involved. In order to efficiently and conveniently handle the tasks in this phase, such as usage registration, inspection, self-inventory, repair report, repair, inspection, preventive maintenance, redeployment and inventory, etc., the hospital innovatively introduced two management assistants, “Asset Code” and “Code Manager”, and combined them with the WeChat enterprise number

management platform to build a standardized and automated management system. The hospital innovatively introduced two management assistants, “Asset Code” and “Code Manager”, and combined them with the WeChat enterprise number management platform to build an automated asset management system.

Asset Code: As the digital ID card of the asset, it is directly related to and shows the basic information of the asset. By scanning the asset code, you can not only quickly get the detailed information of the asset, but also realize one-click repair report, view the operation guide and maintenance manual, record the daily use and maintenance information, as well as carry out key operations such as pre-scrap, transfer, and redeployment. In addition, the historical repair and preventive maintenance (PM) records of the assets can also be seen at a glance, which greatly improves management efficiency and transparency.

Code Manager: Located in location management, Code Manager is affixed to a specific location (e.g., above a door lock) to enable rapid reporting and processing of fixed assets and location-related matters. This design simplifies the repair reporting process so that problems with the asset itself or other location-related needs can be quickly identified and responded to, further enhancing management flexibility and responsiveness.

WeChat Enterprise Management Platform: As the central hub for integrating the above functions, the platform integrates the management modules for key tasks such as maintenance inspection, fault repair and inventory, realizing the standardization and automation of processes. Through this platform, personnel from various departments can conduct work reporting, task reception and processing through WeChat anytime, anywhere, greatly reducing the use of paper documents, while automatically generating electronic records for subsequent inquiries and audits, ensuring the accuracy and traceability of data.



Figure 9. Asset code and code manager

5.5. Disposal Management

To realize the efficient flow of scrapping applications and ensure that physical assets are closely synchronized with the electronic process to avoid loss or confusion.

In the asset scrapping management process, the user department formally initiates the scrapping application and then transfers the physical assets to be scrapped to the professional appraisal department. Once the appraisal department agrees to the scrapping application after rigorous evaluation and confirmation, the process is seamlessly connected to the asset management function, realizing an efficient flow from application to approval. During this process, the physical assets are closely synchronized with the electronic process to ensure that every step of the operation is documented and the information is accurate, effectively

avoiding any possible loss or confusion.

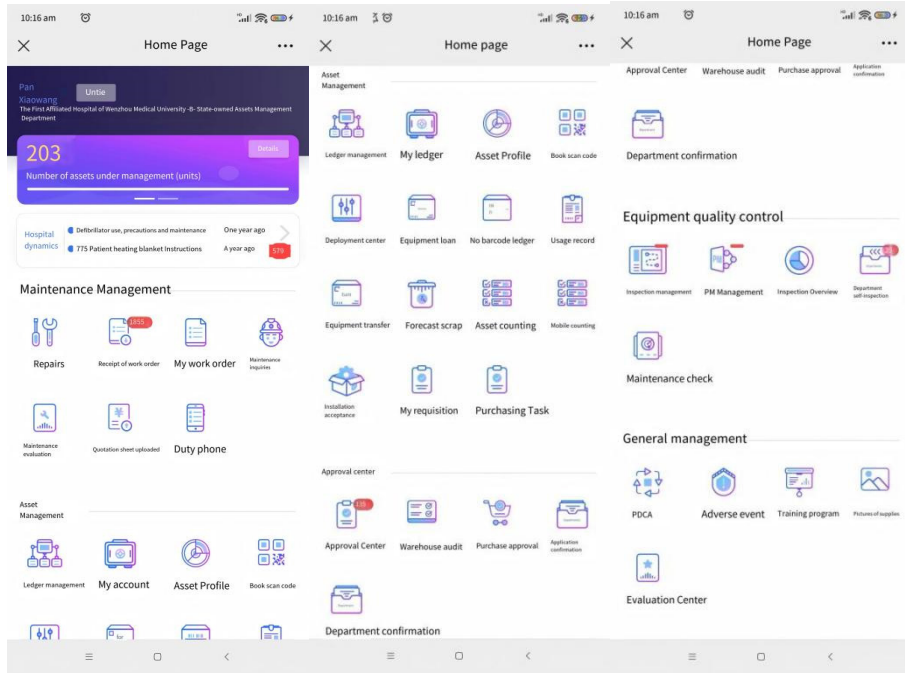


Figure 10. WeChat Enterprise Management Platform

Warehouse	Current approval steps	Subsequent Approval steps	Pictures	Type	Asset Number	Yard code	Asset name	Specification model	Use-department
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department appraisal, 3: computer technology		Forecast Waste	2010102016051026201	Z1680300	laptop	HP (P74book 640 A: Endoscopy Center	
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department appraisal, 3: computer technology		Forecast Waste	2010102016051026202	Z1680290		HP (P74book 640 A: Endoscopy Center	
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department certification, 3: computer technology		Forecast Waste	0902012014085004182	S1588900		LXZ-2005	B: Accidents/therapy
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department certification, 3: computer technology		Forecast Waste	2010102016102012651	Z1701890	computer	HP (P74book 640 A: Endoscopy Center	B: Fourteen Ward (14
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department identification, 3: physical recovery		Forecast Waste	2320902019041058551	G2004487	TV set	Skyworth 43" LCD	B: Endoscopy Center
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department identification, 3: physical recovery		Forecast Waste	6010502000112019628	20159740	Filing cabinet	812	B: State Assets Department warehouse
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department identification, 3: physical recovery		Forecast Waste	3222402012091046445	Z1227360	trolley	A: Neurosurgery (352	
Logistics New Hospital Library	1: Maintenance department appraisal	2: Maintenance department identification, 3: physical recovery		Forecast Waste	3222402012091046443	Z1227350	stroller	Medical records	A: Neurosurgery (352

Figure 11. Pre-retirement process

6. Conclusion

Through the implementation of fixed asset full life cycle information management, public tertiary hospitals have successfully built an efficient and intelligent asset management platform. The innovation of this management model not only breaks the limitations of traditional manual management, realizes real-time data sharing and automated processing of processes, but also significantly improves the management level and operational efficiency. Meanwhile, the introduction of innovative management tools further enhances the convenience and flexibility of management. In the future, with the continuous advancement of technology and innovation of management concepts, the information

management of the whole life cycle of fixed assets in public tertiary hospitals will move to a higher level, providing patients with more high-quality and efficient medical services.

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