# Functional Requirement

### 1.1 Asset Registration Function

\*\*Function Number: FR-01\*\*

\*\*Description:\*\* Users can register the basic information of new assets in the system, including asset name, type, category, specifications, purchase vouchers, etc., and generate a pre-registration record of assets awaiting approval.

\*\*Input:\*\*

- Asset Name (Required)

- Asset Category (Selected from a drop-down list)

- Asset Specification Parameters

- Purchase Voucher File (PDF/JPG/PNG format, maximum 10MB)

- Asset Unique Identification Code entered by scanning (Supports barcode scanners)

\*\*Output:\*\*

- Pre-registration record of assets (stored in a temporary database)

- Generation of asset pre-registration code

- Submission status prompt ("Registration application submitted, awaiting approval")

- Trigger approval process

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### 1.2 Asset Addition Function

\*\*Function Number: FR-02\*\*

\*\*Description:\*\* Users submit asset addition applications. The system verifies user permissions, filters the visible asset scope, performs data integrity checks, generates electronic asset files, and triggers cross-departmental approval processes.

\*\*Input:\*\*

- Asset category (must match the preset classification tree)

- Unique asset identification code

- Asset custodian (selected from the department personnel list)

- Asset purchase amount (automatically formatted with thousand separators)

- Asset storage location (linked to the department's physical space structure)

- Panoramic photos of the asset (at least three angles)

- Application description (e.g., asset purpose, application rationale)

\*\*Output:\*\*

- Asset master data stored in the database and marked as "Pending Review"

- Electronic asset files archived

- Approval task notifications sent to designated approvers

- Generation of asset traceability QR code

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### 1.3 Asset Modification Function

\*\*Function Number: FR-03\*\*

\*\*Description:\*\* Users can modify the basic information of assets, including name, custodian, location, etc., and upload relevant proof documents. The system verifies the compliance of the modifications and triggers a differentiated approval process.

\*\*Input:\*\*

- Asset ID (for locating the asset)

- Fields to be modified (e.g., name, custodian, location)

- Reason for modification (at least 50 characters)

- Proof documents (e.g., floor plan for location changes)

- Comparison view before and after modification

\*\*Output:\*\*

- Modification records stored in the audit log (including before-and-after comparisons)

- Update of asset QR code information

- Approval process triggered

- Modification status feedback to the user

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### 1.4 Asset Deletion Function

\*\*Function Number: FR-04\*\*

\*\*Description:\*\* Users can apply to delete assets. The system verifies deletion conditions (e.g., status, no associated business, etc.), generates a deletion traceability record, and triggers an approval process.

\*\*Input:\*\*

- Asset ID (for locating the asset)

- Reason for deletion (select from preset categories and provide an explanation)

- Upload necessary vouchers (e.g., scrapping certificate)

- Deletion impact analysis report

\*\*Output:\*\*

- Asset status changed to "Pre-deletion"

- Deletion traceability record stored in the system

- Approval task pushed to the approval chain

- Deletion operation freezes asset-related permissions

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### 1.5 Asset Transfer Function

\*\*Function Number: FR-05\*\*

\*\*Description:\*\* Users can initiate the asset transfer process. The system verifies the effectiveness of the recipient, asset status, and associated business, generates an electronic transfer document, and triggers a multi-level approval process.

\*\*Input:\*\*

- Asset ID (for locating the asset)

- Transferor information (auto-filled)

- Recipient information (selectable department/individual/external organization)

- Reason for transfer (select from preset categories)

- Expected handover date (not earlier than 3 working days)

- Transfer supporting documents (e.g., allocation notice)

\*\*Output:\*\*

- Generation of electronic transfer document (with a unique QR code)

- Update of temporary custodian information

- Asset status changed to "In Transfer"

- Approval process initiated

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### 1.6 Asset Return Function

\*\*Function Number: FR-06\*\*

\*\*Description:\*\* Users can apply to return assets. The system verifies asset status, return method, and photo clarity, generates an electronic return document, and triggers the asset acceptance process.

\*\*Input:\*\*

- Asset ID (for locating the asset)

- Return method (on-site handover/return by courier)

- Actual return date (automatically linked to the borrowing period)

- Current asset condition photos (must include a close-up of the label)

- Usage description (including records of abnormal wear and tear)

\*\*Output:\*\*

- Generation of electronic return document (with asset condition comparison)

- Asset status changed to "Pending Acceptance"

- Acceptance task assigned to the administrator

- Update of asset custodian information

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### 1.7 Asset Viewing Function

\*\*Function Number: FR-07\*\*

\*\*Description:\*\* Users can query asset information based on conditions. The system automatically filters visible data based on user permissions, generates access logs, and triggers desensitization mechanisms for sensitive fields.

\*\*Input:\*\*

- Asset ID/Name keywords

- Asset status (normal/scrapped/under repair)

- Asset classification hierarchy (Level 1 → Level 3)

- Query time range (start and end dates)

\*\*Output:\*\*

- Asset query results (key field table view)

- Asset details page (basic attributes, circulation history, related documents)

- Generation of asset browsing logs

- Automatic desensitization of sensitive fields

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### 1.8 User Addition Function

\*\*Function Number: FR-08\*\*

\*\*Description:\*\* Administrators can create new users, fill in basic user information, and set permissions. The system generates a temporary account and automatically sends an activation notification.

\*\*Input:\*\*

- User name

- Department (linked to the organizational structure tree)

- Contact information (phone/email format validation)

- Basic user role template (e.g., regular employee/department supervisor)

- Data access scope configuration

- Special operation permissions (requires secondary approval)

\*\*Output:\*\*

- User master data stored in the database and marked as "Pending Activation"

- Generation of initial login credentials (temporary password/activation link)

- Trigger permission configuration process

- Account activation notification sent

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### 1.9 User Modification Function

\*\*Function Number: FR-09\*\*

\*\*Description:\*\* Users or administrators can modify user information. The system performs data compliance checks and triggers an approval process based on the sensitivity of the changes, updating the user profile version number.

\*\*Input:\*\*

- User ID (for locating the target user)

- Fields to be modified (e.g., name, contact information, position)

- Reason for modification (must select from preset categories and provide an explanation)

- Upload proof materials (e.g., identification documents)

- Old password verification (if involving security information)

\*\*Output:\*\*

- User information updated

- Modification records stored in the audit tracking system

- Approval process initiated (if involving sensitive fields)

- Automatic iteration update of user profile version

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### 1.10 User Deletion Function

\*\*Function Number: FR-10\*\*

\*\*Description:\*\* Administrators can delete users. The system verifies whether the user can be deleted (e.g., resigned/account abnormality) and generates a deletion traceability record, triggering a multi-level approval process.

\*\*Input:\*\*

- User ID (for locating the target user)

- Reason for deletion (select from preset categories and provide an explanation)

- Upload necessary vouchers (e.g., resignation proof)

- Deletion impact analysis report

\*\*Output:\*\*

- User account changed to "Pre-deletion" status

- Deletion traceability record generated

- Related data for assets/permissions/approvals frozen

- Approval process initiated

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### 1.11 User Viewing Function

\*\*Function Number: FR-11\*\*

\*\*Description:\*\* Users can query other users' information based on conditions. The system automatically filters visible fields based on permissions, generates access logs, and triggers desensitization mechanisms.

\*\*Input:\*\*

- Query by user name/employee ID/department

- Query time range

- Business module (assets/permissions/approvals, etc.)

\*\*Output:\*\*

- User information summary view

- User profile details (displayed by role)

- Access log generated

- Automatic desensitization of sensitive information

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### 1.12 Permission Addition Function

\*\*Function Number: FR-12\*\*

\*\*Description:\*\* Administrators can create new permission configurations. The system verifies the uniqueness of the permission name and triggers a permission impact analysis and approval process.

\*\*Input:\*\*

- Permission name (must comply with naming conventions)

- Permission category (functional/data/management permissions)

- Permission level (general/important/core)

- Scope of application (department/position/user)

- Data access granularity (row-level/column-level/field-level)

- Business process binding rules

\*\*Output:\*\*

- Permission configuration stored in the database

- Generation of unique permission identification code

- Trigger approval process

- Update of permission map visualization view

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### 1.13 Permission Modification Function

\*\*Function Number: FR-13\*\*

\*\*Description:\*\* Administrators can modify permission configurations. The system verifies the legality of the modifications, generates a permission change impact report, and triggers a differentiated approval process.

\*\*Input:\*\*

- Permission ID (for locating the permission)

- Fields to be modified (e.g., name, scope of application, bound business, etc.)

- Reason for modification (must select from preset types and provide an explanation)

- Upload proof documents (e.g., system update notices)

\*\*Output:\*\*

- Permission modification records stored in the audit log

- Recalculation of permission impact scope

- Refresh of permission cache

- Approval process initiated

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### 1.14 Permission Deletion Function

\*\*Function Number: FR-14\*\*

\*\*Description:\*\* Administrators can delete permissions. The system verifies the usage status of the permission, generates a permission revocation impact report, and triggers an approval process.

\*\*Input:\*\*

- Permission ID (for locating the permission)

- Reason for revocation (redundant/expired/security risk)

- Upload revocation vouchers (e.g., management committee resolution)

- Alternative permission plan

\*\*Output:\*\*

- Permission status changed to "Revocation in Progress"

- Permission revocation record stored in the audit system

- Generation of impact analysis report

- Approval process initiated

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### 1.15 Permission Viewing Function

\*\*Function Number: FR-15\*\*

\*\*Description:\*\* Users can view their own or others' permission information. The system filters visible content based on user permissions and generates a permission query log.

\*\*Input:\*\*

- User ID (optional, supports fuzzy matching)

- Permission type (functional/data/management permissions)

- Viewing mode (personal/comparative/historical)

- Query time range

\*\*Output:\*\*

- Permission details information (functional tree/data heatmap/change records)

- Permission compliance check results

- Access log generated

- Automatic desensitization of sensitive permissions

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### 1.16 Approval Submission Function

\*\*Function Number: FR-16\*\*

\*\*Description:\*\* Approvers can process asset operation applications. The system verifies the completeness of approval permissions, generates an electronic approval form, and updates the application status.

\*\*Input:\*\*

- Approval application ID

- Approval conclusion (approve/reject/forward for review)

- Approval comments (using preset templates)

- Electronic signature (handwritten signature/upload signature image)

\*\*Output:\*\*

- Approval results stored in the audit log

- Application status updated

- Subsequent process triggered (execute operation/notify applicant)

- Approver signature verification results

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### 1.17 Approval Processing Function

\*\*Function Number: FR-17\*\*

\*\*Description:\*\* Approvers can view and process pending asset operation applications. The system provides intelligent auxiliary information and updates the asset status based on the approval results.

\*\*Input:\*\*

- Approval application ID

- Approval conclusion (approve/reject/forward for review)

- Approval comments (filled in or using templates)

- Electronic signature

\*\*Output:\*\*

- Approval results stored in the system

- Application status updated

- Approval receipt generated (with unique traceability code)

- Approval notification sent

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### 1.18 Approval Record Viewing Function

\*\*Function Number: FR-18\*\*

\*\*Description:\*\* Users can view historical approval records. The system filters visible content based on permissions and generates access logs.

\*\*Input:\*\*

- Approval type (asset registration/modification/deletion, etc.)

- Time range (default to the last 3 months)

- Approval number/applicant/asset ID

\*\*Output:\*\*

- Summary list of approval records

- Approval process diagram and detailed page

- Export visible field data

- Access log generated

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### 1.19 User Permission Allocation Function

\*\*Function Number: FR-19\*\*

\*\*Description:\*\* Administrators can allocate permissions to users. The system verifies the compatibility of permissions with users and triggers an approval process.

\*\*Input:\*\*

- User ID

- Permission ID (selected from the permission directory)

- Effective time (immediate/timed/condition-triggered)

- Data access boundary configuration

- Upload approval attachments (e.g., permission application form)

\*\*Output:\*\*

- Update of user permission configuration

- Generation of permission allocation record

- Permission change impact analysis report

- Permission allocation notification sent

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### 1.20 Administrator Permission Management Function

\*\*Function Number: FR-20\*\*

\*\*Description:\*\* Administrators can manage user permissions, including adding, removing, and modifying permission scopes. The system verifies the compliance of permission changes and triggers an approval process.

\*\*Input:\*\*

- User ID

- Operation type (add/remove/modify permission)

- Permission change explanation (must reference management regulations)

- Upload approval documents (e.g., authorization letter)

\*\*Output:\*\*

- Update of permission configuration

- Generation of permission change impact report

- Approval process initiated

- Permission change notification sent

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### 1.21 Administrator Approval Management Function

\*\*Function Number: FR-21\*\*

\*\*Description:\*\* Administrators can configure approval processes, including approval chain nodes, rule settings, and exception handling configurations, and trigger process change approval mechanisms.

\*\*Input:\*\*

- Approval process type (asset registration/transfer/deletion, etc.)

- Approval chain node settings (add/remove/adjust order)

- Amount-based approval rules

- Automatic approval rule configuration

- Upload test case files

\*\*Output:\*\*

- Update of approval process configuration

- Generation of process impact analysis report

- Update of approval configuration version number

- Approval process notification sent

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### 1.22 Administrator Log Viewing Function

\*\*Function Number: FR-22\*\*

\*\*Description:\*\* Administrators can view system logs. The system filters content based on permissions and generates access logs.

\*\*Input:\*\*

- Query time period

- Operation type (login/asset operation/permission change, etc.)

- Operation user ID or name

- IP address/device information

\*\*Output:\*\*

- Summary list of logs

- Log details (timestamp/IP/operation content)

- Generation of access log

- Automatic desensitization of sensitive information

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### 1.23 Asset Operation Record Management Function

\*\*Function Number: FR-23\*\*

\*\*Description:\*\* Administrators can manage asset operation records, including viewing, modifying, and deleting, and generate operation impact analysis reports.

\*\*Input:\*\*

- Asset ID

- Operation type (registration/modification/transfer/deletion)

- Operation time range

- Operator ID

\*\*Output:\*\*

- Summary list of operation records

- Operation details page (including approval status)

- Modification/deletion of operation records

- Generation of operation impact report

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### 1.24 Log Management Function

\*\*Function Number: FR-24\*\*

\*\*Description:\*\* Administrators can manage log records, including deletion and export, and generate log access records.

\*\*Input:\*\*

- Log ID

- Reason for deletion (e.g., data cleanup)

- Export format (CSV/PDF)

- Export time range

\*\*Output:\*\*

- Deletion of log records

- Export of log files (with watermark)

- Generation of export approval process

- Generation of access log

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### 1.25 Asset Category Management Function

\*\*Function Number: FR-25\*\*

\*\*Description:\*\* Administrators can manage asset categories, including adding, modifying, and deleting, and trigger classification impact analysis and approval processes.

\*\*Input:\*\*

- Category name (multi-language support)

- Category code (automatically generated)

- Applicable business scenarios (procurement/maintenance/disposal, etc.)

- Upload document templates (e.g., acceptance criteria)

- Reason for deletion (redundant/expired/security risk)

\*\*Output:\*\*

- Update of category information

- Generation of classification change impact report

- Update of category tree dropdown list

- Approval process initiated

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### 1.26 Report Generation Function

\*\*Function Number: FR-26\*\*

\*\*Description:\*\* Users can generate asset-related reports based on conditions. The system verifies data access permissions and generates watermarked report files.

\*\*Input:\*\*

- Report type (asset register/depreciation calculation/flow statistics)

- Time range (natural month/quarter/custom)

- Organizational structure filter (department/project team/geographical location)

- Asset status filter (in use/idle/scrapped)

\*\*Output:\*\*

- Generation of report files (PDF/Excel/HTML)

- Generation of analysis charts

- Report stored in the document library

- Report distribution notification sent

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### 1.27 Report Management Function

\*\*Function Number: FR-27\*\*

\*\*Description:\*\* Administrators can create, modify, and delete report templates, verify template configuration compliance, and trigger approval processes.

\*\*Input:\*\*

- Report template type (ledger/analysis/statistics)

- Data source selection (assets/operations/approvals data)

- Dimension configuration (time/department/asset category)

- Measure definition (quantity/amount/turnover rate)

- Upload test data set

\*\*Output:\*\*

- Update of report template configuration

- Generation of test preview

- Update of template version number

- Approval process initiated

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### 1.28 Report Export Function

\*\*Function Number: FR-28\*\*

\*\*Description:\*\* Users can export report data. The system verifies export permissions and generates encrypted export files, triggering an automatic destruction mechanism.

\*\*Input:\*\*

- Report ID

- Export format (PDF/Excel/CSV)

- Data filter range (optional)

- Export password (complying with complexity rules)

- File expiration time

\*\*Output:\*\*

- Generation of encrypted export file

- Export log record

- File download link sent to user's email

- Automatic destruction of file (according to set time)

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### 1.29 Report Analysis Function

\*\*Function Number: FR-29\*\*

\*\*Description:\*\* Users can perform multi-dimensional asset data analysis. The system provides interactive dashboards and generates intelligent analysis reports.

\*\*Input:\*\*

- Data source selection (asset register/operation records/financial data)

- Analysis dimensions (time/department/asset category)

- Measure indicators (quantity/amount/depreciation rate)

- Drill-down levels (year → quarter → month → week)

\*\*Output:\*\*

- Interactive analysis dashboard (main view + trend chart)

- AI-generated analysis insight report

- Detection and alert notification of anomalies

- Save/export of analysis scenarios

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### 1.30 Data Import and Export Function

\*\*Function Number: FR-30\*\*

\*\*Description:\*\* The system supports batch import and export of asset, user, approval, and other data to meet data migration and auditing needs.

\*\*Input:\*\*

- Import file (Excel/CSV)

- Export data scope (assets/users/approvals, etc.)

- Export format (Excel/CSV/PDF)

- Export password (if encryption is required)

\*\*Output:\*\*

- Imported data stored in the database

- Exported file generated (with watermark)

- Export operation log generated

- Export approval process initiated