# Functional Requirement

## 1.1 Asset Registration Function

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

\*\*Description:\*\* Users can fill in the basic information of assets and upload relevant proof documents to submit an asset registration application. The system generates a unique asset identification code and creates a pending approval record.

\*\*Input:\*\* Basic asset information (name/ID/category/value, etc.), asset-related proof documents (scanned copies in PDF/JPEG/PNG format).

\*\*Output:\*\* Pending approval record, unique asset identification code, system prompt message ("Asset registration successful, awaiting approval").

## 1.2 Asset Transfer Function

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

\*\*Description:\*\* Users can select the asset to be transferred and specify the recipient's account, fill in the reason for transfer, and submit the application. The system generates a three-level approval process and notifies the relevant approval administrators.

\*\*Input:\*\* Asset ID to be transferred, recipient account information, reason for transfer, additional information.

\*\*Output:\*\* Asset ownership change record, approval process record, system prompt message ("Transfer application submitted, please wait for the approval result").

## 1.3 Asset Return Function

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

\*\*Description:\*\* Users can select the asset to be returned, confirm the return information, and upload proof of the asset's current condition to submit a return application. The system generates a two-level approval process and pre-locks the asset status.

\*\*Input:\*\* Asset ID to be returned, confirmation of return information, proof of asset condition (photos/inspection reports).

\*\*Output:\*\* Asset status update record, approval process record, system prompt message ("Return application submitted, approval is expected to be completed within 2 working days").

## 1.4 View Asset Details Function

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

\*\*Description:\*\* Users can input a combination of conditions such as asset ID, holder, and time period to query detailed information about the asset. The system displays a composite view of asset information and generates a watermarked snapshot of the asset information.

\*\*Input:\*\* Combination query conditions such as asset ID, holder, time period, status label.

\*\*Output:\*\* Composite view of asset details (basic information, status tracking, document association, permission matrix), asset information snapshot, operation log record.

## 1.5 Modify Asset Information Function

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

\*\*Description:\*\* Users can modify core asset information, such as value, custodian, and storage location, and submit a modification application. The system creates a new version of the data snapshot and initiates a three-level joint review process.

\*\*Input:\*\* Asset ID, modified asset information (value/custodian/storage location, etc.), additional explanatory documents (PDF format).

\*\*Output:\*\* Versioned storage record of asset information, approval process record, system prompt message ("Modification application has entered the approval process").

## 1.6 Export Asset Data Function

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

\*\*Description:\*\* Users can set export conditions, such as asset status, time range, and field range, and submit an export request. The system generates an encrypted export file and creates a download link.

\*\*Input:\*\* Asset status filter conditions, time range selection, field range definition, export format (XLSX/CSV/PDF).

\*\*Output:\*\* Encrypted export file, download link, audit log record, asset access statistics update.

## 1.7 User Registration Function

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

\*\*Description:\*\* Visitors can fill in registration information and complete dual verification to submit a registration application. The system performs multi-dimensional validation and creates a temporary account pending activation.

\*\*Input:\*\* Registration information (name/ID card/mobile/email/password), human-machine verification result, dual verification (SMS/email activation).

\*\*Output:\*\* Temporary account record, approval process record, system prompt message ("Registration application accepted, approval is expected to be completed within 3 working days").

## 1.8 Modify User Information Function

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

\*\*Description:\*\* Users can modify their account information, such as contact details, position, and department, and submit a modification application. The system performs real-time validation and initiates a four-level approval process.

\*\*Input:\*\* User ID, modified account information (contact details/position/department, etc.), upload change basis documents.

\*\*Output:\*\* Versioned record of user information, approval process record, system prompt message ("Modification application entered the approval process").

## 1.9 Allocate User Permissions Function

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

\*\*Description:\*\* Administrators can assign permissions to users, including roles, permission levels, and data access scope. The system performs permission matching validation and creates an approval process.

\*\*Input:\*\* User ID, permission configuration (role/permission level/data access scope), upload permission grant basis documents.

\*\*Output:\*\* Permission change record, approval process record, permission matrix update.

## 1.10 View User List Function

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

\*\*Description:\*\* Users can query the user list based on a combination of conditions such as department, role, and status. The system performs permission validation and provides a multi-dimensional view.

\*\*Input:\*\* Department filter conditions, role filter conditions, status filter conditions, search keywords.

\*\*Output:\*\* User list (basic information/extended information), audit log record, permission access statistics update.

## 1.11 Delete User Account Function

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

\*\*Description:\*\* Administrators can select a user account and submit a deletion application. The system verifies the account status and associated business and triggers a five-level approval process.

\*\*Input:\*\* User ID, deletion mode (immediate deletion/delayed deletion), upload deletion basis documents.

\*\*Output:\*\* Account status change record, approval process record, audit log record.

## 1.12 Submit Approval Request Function

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

\*\*Description:\*\* Users can select the approval type, fill in the approval form, upload supporting materials, and submit an approval request. The system creates an approval process and notifies the approver.

\*\*Input:\*\* Approval type, approval form (associated business ID/reason for approval/urgency level), uploaded materials (PDF/Word/images).

\*\*Output:\*\* Approval process instance, approval serial number, approval status update, notification message sent.

## 1.13 View Approval Progress Function

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

\*\*Description:\*\* Users can query the approval progress. The system provides a visual progress view and records the query operation trajectory.

\*\*Input:\*\* Approval number, associated business ID, query conditions (time range/approval type/status label).

\*\*Output:\*\* Approval progress view (timeline/process diagram/detail mode), audit log record, operation behavior analysis.

## 1.14 Process Approval Request Function

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

\*\*Description:\*\* Approval administrators can view approval requests and perform approval actions (approve/reject/return for modification). The system updates the approval status and triggers subsequent processes.

\*\*Input:\*\* Approval number, approval decision (approve/reject/return for modification), additional approval comments.

\*\*Output:\*\* Approval status update, associated business status change, approval comments record, notification message sent.

## 1.15 Generate Asset Report Function

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

\*\*Description:\*\* Users can configure report parameters, such as time range, asset category, and output format. The system generates an encrypted asset report and provides a download link.

\*\*Input:\*\* Report type (detail/statistical/analytical/comparative), time range, asset category, output format (XLSX/PDF/HTML).

\*\*Output:\*\* Encrypted report file, download link, audit log record, report metadata synchronization.

## 1.16 Export Approval Record Function

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

\*\*Description:\*\* Users can set export conditions (approval type, status, time range). The system generates an encrypted approval record file and provides a download link.

\*\*Input:\*\* Approval type, status, time range, export format (PDF/CSV).

\*\*Output:\*\* Encrypted approval record file, download link, audit log record, desensitization of sensitive information.

## 1.17 Allocate System Permissions Function

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

\*\*Description:\*\* System administrators can assign permissions to system modules, including user groups, roles, and service accounts. The system performs permission compliance validation and triggers an approval process.

\*\*Input:\*\* System module ID, authorization object (user group/role/service account), permission scope (read/write/execute/delete), validity period setting.

\*\*Output:\*\* System permission configuration record, approval process record, permission matrix update.

## 1.18 Modify Permission Settings Function

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

\*\*Description:\*\* Administrators can modify the permission configuration of roles, such as functional permissions, data access scope, and time constraints. The system performs permission conflict detection and triggers an approval process.

\*\*Input:\*\* Role ID, permission configuration (functional permissions/data permissions/time policy), upload business basis documents.

\*\*Output:\*\* Permission change record, approval process record, permission matrix update, risk assessment report.

## 1.19 View Permission List Function

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

\*\*Description:\*\* Users can view the permission configuration of themselves or a specified user. The system performs permission validation and provides a visual permission view.

\*\*Input:\*\* Permission viewing mode (global/personal/associated), user ID (optional), role ID (optional).

\*\*Output:\*\* Permission list view (tree structure/matrix table/heatmap), audit log record, permission access statistics update.

## 1.20 Search Asset Information Function

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

\*\*Description:\*\* Users can input search keywords or combination conditions. The system performs multi-dimensional validation and returns a list of asset information.

\*\*Input:\*\* Asset ID, name, category, custodian, time range, fuzzy match keywords.

\*\*Output:\*\* Asset information list, search result view (list/map/statistical), audit log record, index optimization.

## 1.21 Filter Asset Records Function

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

\*\*Description:\*\* Users can configure asset filtering conditions, such as status, value, and geographical location. The system performs permission validation and returns the filtering results.

\*\*Input:\*\* Asset status, value range, geographical fence, filtering logic (AND/OR/NOT).

\*\*Output:\*\* Asset filtering result view (table/kanban/map), audit log record, high-frequency filtering template cache.

## 1.22 Batch Update Asset Status Function

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

\*\*Description:\*\* Users can select multiple assets and update their status (e.g., idle/maintenance/scrapped). The system performs status logic validation and triggers an approval process.

\*\*Input:\*\* List of asset IDs, target status, reason for change, upload change basis documents.

\*\*Output:\*\* Status change record, approval process record, permission matrix update, asset monitoring dashboard refresh.

## 1.23 Manage Asset Classification Function

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

\*\*Description:\*\* Administrators can add, merge, or deactivate asset classifications. The system performs classification semantic validation and triggers an approval process.

\*\*Input:\*\* Classification operation type (add/merge/deactivate), classification code, classification label, upload change basis documents.

\*\*Output:\*\* Classification change record, approval process record, asset-classification association graph update, intelligent recommendation model training set reconstruction.

## 1.24 Audit Operation Logs Function

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

\*\*Description:\*\* Auditors can query system operation logs. The system performs permission validation and provides a visual analysis view.

\*\*Input:\*\* Time range, operation type, user role, query mode (regular/abnormal/associated).

\*\*Output:\*\* Operation log view (timeline/heatmap/association diagram), audit report, abnormal operation warning notification.

## 1.25 Configure Role Permissions Function

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

\*\*Description:\*\* Administrators can configure role permissions, including functional permissions, data access scope, and time constraints. The system performs permission inheritance validation and triggers an approval process.

\*\*Input:\*\* Role ID, permission configuration (functional permissions/data permissions/time policy), upload business basis documents.

\*\*Output:\*\* Role permission configuration record, approval process record, permission matrix update, risk assessment report.

## 1.26 Export Operation Logs Function

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

\*\*Description:\*\* Auditors can export operation log files. The system performs permission validation and provides an encrypted download link.

\*\*Input:\*\* Time range, operation type, user role, export format (JSONL/CSV).

\*\*Output:\*\* Encrypted operation log file, download link, audit log record, disaster recovery storage synchronization.

## 1.27 User Login Function

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

\*\*Description:\*\* Users can enter login credentials and pass dual authentication to log in to the system. The system performs account status validation and generates an access token.

\*\*Input:\*\* Username/employee ID, password, dual authentication result (dynamic verification code/biometric feature).

\*\*Output:\*\* Access token (JWT format), user personalized dashboard, login audit record.

## 1.28 User Logout Function

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

\*\*Description:\*\* Users can actively log out. The system performs session clearing and records the logout log.

\*\*Input:\*\* Logout request, session token, client information.

\*\*Output:\*\* Logout status update, client cache cleanup, audit log record, system resource release.

## 1.29 Reset Password Function

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

\*\*Description:\*\* Users can reset their password through a bound mobile phone or email. The system performs verification code validation and updates the password record.

\*\*Input:\*\* Username/registered mobile phone number/email, verification code, new password (complies with complexity rules).

\*\*Output:\*\* Password update record, audit log, session termination notification, binding channel confirmation.

## 1.30 Data Backup Function

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

\*\*Description:\*\* Administrators can set backup parameters and execute system data backup. The system performs integrity validation and generates a backup file.

\*\*Input:\*\* Backup type (full/incremental), storage location (local/cloud/tape), encryption option.

\*\*Output:\*\* Encrypted backup file, backup log record, disaster recovery node synchronization, system status update.

## 1.31 Data Recovery Function

\*\*Function Number: FR-31\*\*

\*\*Description:\*\* Administrators can select a backup file and restore system data to a specified point in time. The system performs consistency validation and updates the recovery record.

\*\*Input:\*\* Backup file ID, recovery point in time, recovery type (full/granular).

\*\*Output:\*\* System data recovery record, audit log, associated system consistency validation result.

## 1.32 Set Approval Process Function

\*\*Function Number: FR-32\*\*

\*\*Description:\*\* Administrators can define the approval process, including approval levels, automatic routing rules, and approver roles. The system performs process logic validation and triggers the approval process.

\*\*Input:\*\* Approval process name, approval node configuration, routing rules, upload process explanation document.

\*\*Output:\*\* Approval process configuration record, approval template update, sandbox validation result, notification message sent.

## 1.33 Export Asset Report Function

\*\*Function Number: FR-33\*\*

\*\*Description:\*\* Users can export asset reports. The system performs permission validation and generates an encrypted file.

\*\*Input:\*\* Report type, time range, asset category, output format (XLSX/PDF).

\*\*Output:\*\* Encrypted report file, download link, audit log, disaster recovery storage synchronization.

## 1.34 Data Analysis Function

\*\*Function Number: FR-34\*\*

\*\*Description:\*\* Users can select an analysis algorithm and define analysis dimensions. The system performs data processing and generates visual analysis results.

\*\*Input:\*\* Analysis type (trend/association/exception), time range, asset category, output granularity.

\*\*Output:\*\* Encrypted analysis report, visual charts, audit log, abnormal data warning notification.

## 1.35 View Approval Record Function

\*\*Function Number: FR-35\*\*

\*\*Description:\*\* Users can query approval records. The system performs permission validation and provides a multi-dimensional view.

\*\*Input:\*\* Approval number, associated business ID, time range, approval status.

\*\*Output:\*\* Approval record view (timeline/process diagram/detail), audit log record, desensitization of sensitive fields.

## 1.36 View Operation Logs Function

\*\*Function Number: FR-36\*\*

\*\*Description:\*\* Users can query operation logs. The system performs permission validation and provides a multi-dimensional analysis view.

\*\*Input:\*\* Time range, operation type, user role, search keywords.

\*\*Output:\*\* Operation log view (timeline/association diagram/statistical), audit log record, desensitization of sensitive fields.

## 1.37 Export Operation Logs Function

\*\*Function Number: FR-37\*\*

\*\*Description:\*\* Users can export operation log files. The system performs permission validation and generates an encrypted file.

\*\*Input:\*\* Time range, operation type, user role, export format (JSONL/CSV).

\*\*Output:\*\* Encrypted operation log file, download link, audit log record, disaster recovery storage synchronization.

## 1.38 Asset Classification Management Function

\*\*Function Number: FR-38\*\*

\*\*Description:\*\* Administrators can add, modify, or deactivate asset classifications. The system performs classification logic validation and generates an approval record.

\*\*Input:\*\* Classification operation type (add/modify/deactivate), classification code, classification label, upload change basis documents.

\*\*Output:\*\* Classification change record, approval process record, asset-classification association update, intelligent recommendation model training set update.