# Functional Requirement

## 1.1 Asset Registration Function

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

\*\*Description\*\*: Ordinary users can register asset information, and the system needs to verify the data format, generate a unique identification code, and trigger the approval process.

\*\*Input\*\*: Asset name, asset number (optional), asset category, purchase date, using department, storage location, asset status, asset image/scan attachment.

\*\*Output\*\*: Persistently stored asset master data in the database, operation log records, approval process initiation status.

## 1.2 Asset Transfer Function

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

\*\*Description\*\*: Users can initiate asset transfer requests, and the system needs to verify the asset status and the validity of the target department, and start the approval process based on the asset value.

\*\*Input\*\*: Asset number/name, target department, new storage location, reason for transfer, expected transfer date, additional explanation document.

\*\*Output\*\*: The latest ownership information updated in the asset ledger, complete transfer operation log chain, approval process initiation status.

## 1.3 Asset Return Function

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

\*\*Description\*\*: Users can return borrowed assets, and the system needs to verify the return conditions and asset status, and trigger a multi-level confirmation process based on the asset value.

\*\*Input\*\*: Asset number/borrowing number, actual return date, asset status at return, on-site acceptance photo, damage description.

\*\*Output\*\*: Asset status updated to "available" or "awaiting maintenance", complete return operation record, multi-level confirmation process initiation status.

## 1.4 Asset Information Modification Function

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

\*\*Description\*\*: Users can modify asset information, and the system needs to trigger a tiered approval process based on field sensitivity and retain historical version snapshots.

\*\*Input\*\*: Asset number, fields to be modified (e.g., name, department of ownership, responsible person), additional change explanation document.

\*\*Output\*\*: Updated asset information version, operation log records, approval process initiation status.

## 1.5 Detailed Asset Information Viewing Function

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

\*\*Description\*\*: Users can view detailed asset information, including basic information, technical parameters, financial information, and related documents.

\*\*Input\*\*: Asset number, user role permissions, access timestamp.

\*\*Output\*\*: Detailed asset information view, access log records, audit trail data.

## 1.6 Asset Deletion Function

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

\*\*Description\*\*: Senior users can delete asset records, and the system needs to verify the asset status and the integrity of related data, and trigger a multi-level approval process.

\*\*Input\*\*: Asset number, deletion type (logical deletion/physical destruction), reason for deletion, approval document scan.

\*\*Output\*\*: Asset status updated to "deleted", deletion operation audit log, blockchain evidence hash value.

## 1.7 Operation Log Query Function

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

\*\*Description\*\*: Users can query system operation logs, and the system needs to filter the query scope based on permissions and provide visual analysis.

\*\*Input\*\*: Time range, operation type, user ID, asset number, operation result filter conditions.

\*\*Output\*\*: Operation log query results, access log records, audit watermark information.

## 1.8 Operation Log Export Function

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

\*\*Description\*\*: Users can export operation logs, and the system needs to desensitize sensitive fields, encrypt files, and record the export trajectory.

\*\*Input\*\*: Time range, operation type, export format, desensitization rules for sensitive fields.

\*\*Output\*\*: Encrypted operation log file, export record ledger, blockchain evidence hash value.

## 1.9 Approval Process Creation Function

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

\*\*Description\*\*: Process administrators can create new approval processes, and the system needs to provide a visual process designer and perform logical verification and release control.

\*\*Input\*\*: Process name, applicable business scenarios, approval node configuration, conditional branch expressions, effective time, mobile approval adaptation rules.

\*\*Output\*\*: New approval process version, operation log records, process health score report.

## 1.10 Approval Process Viewing Function

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

\*\*Description\*\*: Users can view detailed information of approval processes, including process versions, node configurations, and historical change records.

\*\*Input\*\*: Process name, user role permissions, process status, version number.

\*\*Output\*\*: Process panoramic view, access log records, blockchain evidence hash value.

## 1.11 Approval Process Modification Function

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

\*\*Description\*\*: Administrators can modify approval processes, and the system needs to create a new version, perform logical verification, and trigger a change approval process.

\*\*Input\*\*: Process name, version number, approval node modifications, conditional expression modifications, phased release configuration, rollback trigger conditions.

\*\*Output\*\*: Modified approval process version, change difference report, blockchain evidence hash value.

## 1.12 Approval Process Deletion Function

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

\*\*Description\*\*: Super administrators can delete approval processes, and the system needs to verify the process status and the integrity of related data, and record the deletion operation trajectory.

\*\*Input\*\*: Process name, deletion type (logical deletion/physical clearance), reason for deletion, governance committee resolution document.

\*\*Output\*\*: Approval process status updated to "deleted", deletion operation evidence chain, blockchain evidence hash value.

## 1.13 Approval Record Query Function

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

\*\*Description\*\*: Users can query approval records, and the system needs to verify access permissions and provide approval path and status comparison.

\*\*Input\*\*: Time range, approval type, approval status, related asset number, approver/initiator filter.

\*\*Output\*\*: Approval record query results, access log records, blockchain evidence hash value.

## 1.14 Approval Record Export Function

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

\*\*Description\*\*: Users can export approval records, and the system needs to desensitize sensitive fields, encrypt files, and record the export operation trajectory.

\*\*Input\*\*: Time range, approval type, desensitization rules for sensitive fields, export format, export purpose description.

\*\*Output\*\*: Encrypted approval record file, export record ledger, blockchain evidence hash value.

## 1.15 Report Generation Function

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

\*\*Description\*\*: Users can generate various asset-related reports, and the system needs to provide multi-dimensional data filtering, template rendering, and desensitization processing.

\*\*Input\*\*: Report type, time range, data dimensions (e.g., department, asset category), display fields, output format.

\*\*Output\*\*: Generated report file, operation log records, blockchain evidence hash value.

## 1.16 Report Viewing Function

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

\*\*Description\*\*: Users can view generated reports, and the system needs to verify permissions and provide visual analysis and data lineage tracing functions.

\*\*Input\*\*: Report type, report name, user role permissions, time range.

\*\*Output\*\*: Report view (including charts and data details), access log records, blockchain evidence hash value.

## 1.17 Report Export Function

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

\*\*Description\*\*: Users can export report data, and the system needs to desensitize sensitive fields, encrypt files, and record the export trajectory.

\*\*Input\*\*: Report type, report name, export format, time range, desensitization rule configuration.

\*\*Output\*\*: Encrypted report file, export record ledger, blockchain evidence hash value.

## 1.18 User Creation Function

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

\*\*Description\*\*: Administrators can create new users, and the system needs to verify the uniqueness of the employee number, password strength, and assign default roles and permissions.

\*\*Input\*\*: Employee number, name, department, position, initial password, multi-factor authentication method, permission allocation.

\*\*Output\*\*: Persistent storage of user information, operation log records, blockchain evidence hash value.

## 1.19 User Information Modification Function

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

\*\*Description\*\*: Users or administrators can modify user information, and the system needs to verify permissions and trigger an approval process for sensitive fields.

\*\*Input\*\*: User number, fields to be modified (e.g., name, contact information, password), approval code, modification explanation.

\*\*Output\*\*: Updated user information, operation log records, blockchain evidence hash value.

## 1.20 Detailed User Information Viewing Function

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

\*\*Description\*\*: Users or administrators can view detailed user information, and the system needs to verify access permissions and record the viewing trajectory.

\*\*Input\*\*: User number, access role permissions, viewing timestamp.

\*\*Output\*\*: Detailed user information view, access log records, blockchain evidence hash value.

## 1.21 User Deletion Function

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

\*\*Description\*\*: Super administrators can delete users, and the system needs to verify the user status and the integrity of business associations, and record the deletion trajectory.

\*\*Input\*\*: User number, deletion type, reason for deletion, HR department official resignation proof.

\*\*Output\*\*: User status updated to "deleted", deletion operation evidence chain, blockchain evidence hash value.

## 1.22 Role Creation Function

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

\*\*Description\*\*: Administrators can create new roles, and the system needs to verify the uniqueness of the role name and generate a permission matrix snapshot.

\*\*Input\*\*: Role code, role name, role description, permission configuration, approval process template, validity period configuration.

\*\*Output\*\*: Persistent storage of role information, operation log records, blockchain evidence hash value.

## 1.23 Role Information Modification Function

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

\*\*Description\*\*: Administrators can modify role configurations, and the system needs to verify permissions and trigger an approval process for sensitive permissions.

\*\*Input\*\*: Role number, modified fields (e.g., permission configuration, description), approval code, modification explanation.

\*\*Output\*\*: Updated role configuration, operation log records, blockchain evidence hash value.

## 1.24 Detailed Role Information Viewing Function

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

\*\*Description\*\*: Users or administrators can view detailed role information, and the system needs to verify access permissions and record the viewing trajectory.

\*\*Input\*\*: Role number, access role permissions, viewing timestamp.

\*\*Output\*\*: Detailed role information view, access log records, blockchain evidence hash value.

## 1.25 Role Deletion Function

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

\*\*Description\*\*: Super administrators can delete roles, and the system needs to verify the role status and the integrity of user associations, and record the deletion operation trajectory.

\*\*Input\*\*: Role number, deletion type, reason for deletion, governance committee resolution document.

\*\*Output\*\*: Role status updated to "deleted", deletion operation evidence chain, blockchain evidence hash value.

## 1.26 Data Import Record Query Function

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

\*\*Description\*\*: Users can query historical data import records, and the system needs to verify permissions and provide file hash verification functionality.

\*\*Input\*\*: Time range, import type, operator filter, file hash fuzzy match, import status filter.

\*\*Output\*\*: Data import record query results, access log records, blockchain evidence hash value.

## 1.27 Data Import Record Export Function

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

\*\*Description\*\*: Users can export data import records, and the system needs to desensitize sensitive fields, encrypt files, and record the export trajectory.

\*\*Input\*\*: Time range, import type, desensitization rules for sensitive fields, export format, export purpose description.

\*\*Output\*\*: Encrypted data import record file, export record ledger, blockchain evidence hash value.

## 1.28 Data Export Record Query Function

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

\*\*Description\*\*: Users can query historical data export records, and the system needs to verify permissions and provide analysis of export content and recipients.

\*\*Input\*\*: Time range, export type, operator filter, export status filter.

\*\*Output\*\*: Data export record query results, access log records, blockchain evidence hash value.

## 1.29 Data Export Record Export Function

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

\*\*Description\*\*: Users can export data export records, and the system needs to desensitize sensitive fields, encrypt files, and record the export operation trajectory.

\*\*Input\*\*: Time range, export type, export format, desensitization rules for sensitive fields, compliance declaration.

\*\*Output\*\*: Encrypted data export record file, export record ledger, blockchain evidence hash value.