# Functional Requirement

2. Functional Requirements (Updated)  
2.1 Asset Registration  
Input: Asset details (name, type, serial number, category, location, purchase date, value)  
Output: Confirmation of successful asset registration and assignment of a unique asset ID.  
Description: Users can register new assets into the system. Administrators may approve or reject registration requests via workflow.  
2.2 Asset Usage Tracking  
Input: Asset ID, user ID, start/end times of usage  
Output: Updated usage log and status of the asset.  
Description: Track when and by whom an asset is used. Supports concurrent usage validation.  
2.3 Asset Transfer  
Input: Source user ID, destination user ID, asset ID  
Output: Updated ownership record and notification to both users.  
Description: Allows transferring ownership of an asset from one user to another. Requires administrative approval.  
2.4 Asset Return  
Input: Asset ID, user ID, reason for return  
Output: Updated status and location of the asset.  
Description: Records the return of an asset to its designated location or storage facility.  
2.5 Report Analysis  
Input: Time range, asset category, user group  
Output: Summary reports in PDF/Excel format.  
Description: Generates reports on asset usage, availability, transfers, and maintenance history.  
2.6 Permission Allocation  
Input: User ID, role (admin/user), permissions list  
Output: Updated user profile and permission settings.  
Description: Assigns and modifies user roles and permissions for different system functions.  
2.7 Approval Workflow  
Input: Request type (registration, transfer, deletion), requester ID  
Output: Status update and email notification upon approval/rejection.  
Description: Implements a configurable multi-step approval process for sensitive operations.  
2.8 Data Import and Export  
Input: CSV/Excel file with asset or user data  
Output: Imported data or exported file in standard format  
Description: Allows bulk import/export of asset and user data for easy migration or backup.  
2.9 Authentication Integration  
Input: Username, password  
Output: Login success/failure message  
Description: Integrates with existing authentication systems (e.g., LDAP, Active Directory) for secure user login.  
2.10 Email Notification  
Input: Event trigger (approval needed, asset returned, etc.)  
Output: Email sent to relevant users  
Description: Sends automated emails for key events like approvals, reminders, and updates.  
2.11 Asset Maintenance Record  
Input: Asset ID, maintenance date, technician name, issue description, solution  
Output: Updated asset status and maintenance history  
Description: Records each maintenance or repair event to track the health and service history of an asset.  
2.12 Asset Disposal / Scrapping  
Input: Asset ID, disposal reason, disposal date  
Output: Updated asset status as "disposed" and audit trail entry  
Description: Provides a formal process for marking an asset as disposed, ensuring it no longer appears in active inventory while maintaining historical records.  
2.13 Inventory Reconciliation / Stocktaking  
Input: Reconciliation period, warehouse location  
Output: Reconciliation report showing discrepancies between system records and physical stock  
Description: Supports periodic or ad-hoc reconciliation of asset inventory to ensure accuracy and detect missing items.  
2.14 Asset Borrowing / Reservation  
Input: User ID, asset ID, borrowing start/end time  
Output: Updated borrowing log and asset status  
Description: Enables temporary borrowing of assets with scheduled check-out and check-in, preventing conflicts in usage.