# Functional Requirement

# 1. Functional Requirements   
  
## 1.1 Asset Registration Function   
\*\*Function ID\*\*: FR-01   
\*\*Description\*\*: The system allows an Administrator to register new assets into the database. The registration includes essential attributes such as name, description, category, status, purchase date, and location.   
\*\*Input\*\*: Asset name, description, category, status, purchase date, and location provided by the Administrator.   
\*\*Output\*\*: A new asset record stored in the database with the specified attributes.   
  
## 1.2 Asset Modification Function   
\*\*Function ID\*\*: FR-02   
\*\*Description\*\*: The system allows an Administrator to modify the information of an existing asset in the database. Only valid and authenticated administrators can perform this action.   
\*\*Input\*\*: Selected asset record and updated fields (e.g., name, location, status) provided by the Administrator.   
\*\*Output\*\*: Updated asset record stored in the database.   
  
## 1.3 Asset Deletion Function   
\*\*Function ID\*\*: FR-03   
\*\*Description\*\*: The system allows an Administrator to delete an asset from the database after confirmation.   
\*\*Input\*\*: Selected asset record and confirmation from the Administrator.   
\*\*Output\*\*: Deleted asset record from the database and a confirmation message to the Administrator.   
  
## 1.4 Asset Lifecycle Management Function   
\*\*Function ID\*\*: FR-04   
\*\*Description\*\*: The system allows an Administrator to update the lifecycle stage of an asset (e.g., from "In Use" to "Retired") and logs the change.   
\*\*Input\*\*: Selected asset and new lifecycle stage provided by the Administrator.   
\*\*Output\*\*: Updated lifecycle stage stored in the database and a confirmation message to the Administrator.   
  
## 1.5 Asset Usage Tracking Function   
\*\*Function ID\*\*: FR-05   
\*\*Description\*\*: The system records and tracks the usage of an asset by a user, including the usage date, duration, and purpose.   
\*\*Input\*\*: Selected asset, associated user, usage date, duration, and purpose provided by the Administrator.   
\*\*Output\*\*: A new asset usage record stored in the database.   
  
## 1.6 Asset Allocation Function   
\*\*Function ID\*\*: FR-06   
\*\*Description\*\*: The system enables an Administrator to allocate an asset to a user, recording the allocation date, expected return date, and user association.   
\*\*Input\*\*: Selected asset, associated user, and allocation parameters (e.g., allocation date, expected return date) provided by the Administrator.   
\*\*Output\*\*: A new asset allocation record stored in the database and an updated asset status.   
  
## 1.7 Asset Release Function   
\*\*Function ID\*\*: FR-07   
\*\*Description\*\*: The system allows an Administrator to release an asset from a user, recording the release date and reason for release.   
\*\*Input\*\*: Selected asset, associated user, and release parameters (e.g., release date, reason) provided by the Administrator.   
\*\*Output\*\*: A new asset release record stored in the database and an updated asset status.   
  
## 1.8 Asset Status Change Tracking Function   
\*\*Function ID\*\*: FR-08   
\*\*Description\*\*: The system logs changes in asset status (e.g., from "Available" to "In Use") including the timestamp and previous status.   
\*\*Input\*\*: Selected asset, previous status, new status, and timestamp (if provided) from the system.   
\*\*Output\*\*: A new asset status change record stored in the database.   
  
## 1.9 Asset Availability Monitoring Function   
\*\*Function ID\*\*: FR-09   
\*\*Description\*\*: The system monitors the availability status of assets, recording the check date and any notes related to the status.   
\*\*Input\*\*: Asset to be monitored and system-generated availability status.   
\*\*Output\*\*: A new asset availability monitor record stored in the database.   
  
## 1.10 Asset Allocation Record Management Function   
\*\*Function ID\*\*: FR-10   
\*\*Description\*\*: The system allows an Administrator to modify or update an existing asset allocation record, such as changing the return date or allocation status.   
\*\*Input\*\*: Selected asset allocation record and updated parameters provided by the Administrator.   
\*\*Output\*\*: Updated asset allocation record stored in the database.   
  
## 1.11 Asset Release Record Management Function   
\*\*Function ID\*\*: FR-11   
\*\*Description\*\*: The system allows an Administrator to modify or update an existing asset release record, such as changing the release date or reason.   
\*\*Input\*\*: Selected asset release record and updated parameters provided by the Administrator.   
\*\*Output\*\*: Updated asset release record stored in the database.   
  
## 1.12 Asset Status Log Management Function   
\*\*Function ID\*\*: FR-12   
\*\*Description\*\*: The system allows an Administrator to update or modify an asset status log entry, including timestamps and notes about the change.   
\*\*Input\*\*: Selected asset status log entry and updated parameters provided by the Administrator.   
\*\*Output\*\*: Updated asset status log entry stored in the database.   
  
## 1.13 Asset Notification Management Function   
\*\*Function ID\*\*: FR-13   
\*\*Description\*\*: The system allows an Administrator to send notifications related to assets to users via the configured email system and logs the notification event.   
\*\*Input\*\*: Selected asset, recipient(s), message content, and send request from the Administrator.   
\*\*Output\*\*: A new notification record stored in the database and the notification message sent via the email system.   
  
## 1.14 Asset History Audit Function   
\*\*Function ID\*\*: FR-14   
\*\*Description\*\*: The system enables an Administrator to audit the history of an asset, retrieving all lifecycle and status changes for review.   
\*\*Input\*\*: Selected asset from the asset list.   
\*\*Output\*\*: Asset history data retrieved from the database and displayed to the Administrator.   
  
## 1.15 Asset Permission Assignment Function   
\*\*Function ID\*\*: FR-15   
\*\*Description\*\*: The system allows an Administrator to assign specific permissions (e.g., view, edit, manage) to users or roles for a given asset.   
\*\*Input\*\*: Selected asset, user or role, and permission level provided by the Administrator.   
\*\*Output\*\*: A new user permission assignment record stored in the database.   
  
## 1.16 Asset Permission Update Function   
\*\*Function ID\*\*: FR-16   
\*\*Description\*\*: The system allows an Administrator to update existing asset permissions for users or roles.   
\*\*Input\*\*: Selected asset and updated permission settings provided by the Administrator.   
\*\*Output\*\*: Updated user permission assignment record stored in the database.   
  
## 1.17 Asset Permission Revocation Function   
\*\*Function ID\*\*: FR-17   
\*\*Description\*\*: The system allows an Administrator to revoke permissions for users or roles on a specific asset.   
\*\*Input\*\*: Selected asset and user or role to revoke permissions from, provided by the Administrator.   
\*\*Output\*\*: Updated or removed user permission assignment record stored in the database.   
  
## 1.18 User Permission Assignment Management Function   
\*\*Function ID\*\*: FR-18   
\*\*Description\*\*: The system allows an Administrator to modify or update an existing user permission assignment record, such as changing the assigned permission or status.   
\*\*Input\*\*: Selected user permission assignment record and updated parameters provided by the Administrator.   
\*\*Output\*\*: Updated user permission assignment record stored in the database.   
  
## 1.19 Asset Usage Analysis Report Generation Function   
\*\*Function ID\*\*: FR-19   
\*\*Description\*\*: The system allows an Administrator to generate a report analyzing asset usage, including filters such as time range, asset category, and location.   
\*\*Input\*\*: Report parameters (e.g., time range, asset category) provided by the Administrator.   
\*\*Output\*\*: An asset usage analysis report displayed or exported to the Administrator.   
  
## 1.20 Asset Usage Data Analysis Function   
\*\*Function ID\*\*: FR-20   
\*\*Description\*\*: The system allows an Administrator to analyze asset usage data based on selected criteria (e.g., time range, usage frequency).   
\*\*Input\*\*: Analysis criteria provided by the Administrator.   
\*\*Output\*\*: Analysis results (e.g., usage trends, underutilized assets) displayed to the Administrator.   
  
## 1.21 External Database Integration Function   
\*\*Function ID\*\*: FR-21   
\*\*Description\*\*: The system allows an Administrator to configure and integrate with an external database for asset data exchange.   
\*\*Input\*\*: External database configuration details (e.g., hostname, port, username, password) provided by the Administrator.   
\*\*Output\*\*: Integration configuration stored in the internal database and confirmation message to the Administrator.   
  
## 1.22 Asset Search Function   
\*\*Function ID\*\*: FR-22   
\*\*Description\*\*: The system allows an Administrator to search for asset records based on filters such as asset name, category, status, and location.   
\*\*Input\*\*: Search criteria (e.g., name, status) provided by the Administrator.   
\*\*Output\*\*: Matching asset records retrieved from the database and displayed to the Administrator.