# Functional Requirement

# Chapter 1: Functional Requirements  
  
## 1.1 Asset Registration Function   
\*\*Function ID:\*\* FR-01   
\*\*Description:\*\* Allows users with proper permissions to register new assets in the system.   
\*\*Input:\*\* Asset details (Name, Description, CategoryID, Location, PurchaseDate).   
\*\*Output:\*\* A new Asset record in the database with an assigned AssetID.  
  
## 1.2 View Asset Information Function   
\*\*Function ID:\*\* FR-02   
\*\*Description:\*\* Allows users with proper permissions to view detailed information about a specific asset.   
\*\*Input:\*\* Asset identifier (e.g., Name, AssetID, CategoryID).   
\*\*Output:\*\* Displayed asset details (Name, Description, CategoryID, Status, Location, PurchaseDate, Usage History).  
  
## 1.3 Modify Asset Details Function   
\*\*Function ID:\*\* FR-03   
\*\*Description:\*\* Enables users with proper permissions to update the information of an existing asset.   
\*\*Input:\*\* Asset identifier and updated details (e.g., Name, Description, CategoryID, Location).   
\*\*Output:\*\* Updated Asset record in the database, including a new AssetModification entry.  
  
## 1.4 Remove Asset Function   
\*\*Function ID:\*\* FR-04   
\*\*Description:\*\* Allows users with proper permissions to remove an asset from the system.   
\*\*Input:\*\* Asset identifier and confirmation of removal.   
\*\*Output:\*\* Asset is deleted from the database, and a new AssetDeletion record is created.  
  
## 1.5 User Registration Function   
\*\*Function ID:\*\* FR-05   
\*\*Description:\*\* Enables administrators to create new user accounts.   
\*\*Input:\*\* New user details (Name, Email, DepartmentID, Role).   
\*\*Output:\*\* A new User record in the database with a UserID and associated UserRegistration entry.  
  
## 1.6 Assign User Permissions Function   
\*\*Function ID:\*\* FR-06   
\*\*Description:\*\* Allows administrators to assign specific permissions to users based on their role or department.   
\*\*Input:\*\* User identifier and selected Permission(s).   
\*\*Output:\*\* Updated User record in the database and a new PermissionAssignment entry.  
  
## 1.7 Modify User Information Function   
\*\*Function ID:\*\* FR-07   
\*\*Description:\*\* Enables administrators to update the details of an existing user.   
\*\*Input:\*\* User identifier and updated details (Name, Email, DepartmentID, Role).   
\*\*Output:\*\* Updated User record in the database, including a new UserModification entry.  
  
## 1.8 Remove User Function   
\*\*Function ID:\*\* FR-08   
\*\*Description:\*\* Allows administrators to delete a user from the system.   
\*\*Input:\*\* User identifier and confirmation of removal.   
\*\*Output:\*\* User is deleted from the database, and a new UserDeletion record is created.  
  
## 1.9 Administrator Login Function   
\*\*Function ID:\*\* FR-09   
\*\*Description:\*\* Authenticates administrators and grants access to system management functions based on their assigned permissions.   
\*\*Input:\*\* Admin username and password.   
\*\*Output:\*\* Administrator login status and display of the main interface/dashboard.  
  
## 1.10 Manage Departments Function   
\*\*Function ID:\*\* FR-10   
\*\*Description:\*\* Enables administrators to create, update, or remove departments.   
\*\*Input:\*\* Department identifier and updated or new details (Name, Description).   
\*\*Output:\*\* Updated or deleted Department record in the database, including DepartmentMembership updates if necessary.  
  
## 1.11 Add Department Function   
\*\*Function ID:\*\* FR-11   
\*\*Description:\*\* Allows administrators to create a new department.   
\*\*Input:\*\* Department name and description.   
\*\*Output:\*\* A new Department record in the database with an assigned DepartmentID.  
  
## 1.12 Remove Department Function   
\*\*Function ID:\*\* FR-12   
\*\*Description:\*\* Allows administrators to delete a department and reassign or remove associated users and assets.   
\*\*Input:\*\* Department identifier and confirmation of removal.   
\*\*Output:\*\* Department record is deleted from the database, and DepartmentMembership entries are updated.  
  
## 1.13 Create Asset Category Function   
\*\*Function ID:\*\* FR-13   
\*\*Description:\*\* Enables administrators to define new asset categories.   
\*\*Input:\*\* Category name, description, and parent category identifier (if applicable).   
\*\*Output:\*\* A new AssetCategory record in the database with an assigned CategoryID.  
  
## 1.14 Modify Asset Category Function   
\*\*Function ID:\*\* FR-14   
\*\*Description:\*\* Allows administrators to update the details of an existing asset category.   
\*\*Input:\*\* Asset category identifier and updated details (Name, Description).   
\*\*Output:\*\* Updated AssetCategory record in the database and a new CategoryManagement entry.  
  
## 1.15 Remove Asset Category Function   
\*\*Function ID:\*\* FR-15   
\*\*Description:\*\* Enables administrators to delete an asset category and reassign or remove associated assets.   
\*\*Input:\*\* Asset category identifier and confirmation of removal.   
\*\*Output:\*\* AssetCategory record is deleted from the database, and Asset records are updated accordingly.  
  
## 1.16 View Asset Category Function   
\*\*Function ID:\*\* FR-16   
\*\*Description:\*\* Allows users or administrators to view details of an asset category.   
\*\*Input:\*\* Asset category identifier.   
\*\*Output:\*\* Displayed category details (Name, Description, ParentCategoryID, associated Assets).  
  
## 1.17 Manage Permission Assignment Function   
\*\*Function ID:\*\* FR-17   
\*\*Description:\*\* Enables administrators to assign, modify, or revoke permissions for a user.   
\*\*Input:\*\* User identifier and Permission(s) to be assigned, modified, or revoked.   
\*\*Output:\*\* Updated PermissionAssignment record in the database and associated AuditLog entry.  
  
## 1.18 Record Asset Usage Function   
\*\*Function ID:\*\* FR-18   
\*\*Description:\*\* Allows users or administrators to log the usage of an asset.   
\*\*Input:\*\* Asset identifier and usage details (UsageDate, UsageDuration, Purpose).   
\*\*Output:\*\* A new UsageRecord in the database and an AuditLog entry for the usage action.  
  
## 1.19 View Usage Records Function   
\*\*Function ID:\*\* FR-19   
\*\*Description:\*\* Enables users or administrators to view the usage history of a specific asset.   
\*\*Input:\*\* Asset identifier.   
\*\*Output:\*\* Displayed usage records (UsageDate, UsageDuration, Purpose, UserID).  
  
## 1.20 Modify Usage Records Function   
\*\*Function ID:\*\* FR-20   
\*\*Description:\*\* Allows users or administrators to update existing asset usage records.   
\*\*Input:\*\* UsageRecord identifier and updated details (UsageDate, UsageDuration, Purpose).   
\*\*Output:\*\* Updated UsageRecord in the database and an AuditLog entry for the modification.  
  
## 1.21 Delete Usage Records Function   
\*\*Function ID:\*\* FR-21   
\*\*Description:\*\* Enables administrators or users with permissions to delete a specific usage record.   
\*\*Input:\*\* UsageRecord identifier and confirmation of deletion.   
\*\*Output:\*\* UsageRecord is removed from the database and an AuditLog entry is created.  
  
## 1.22 View Audit Log Function   
\*\*Function ID:\*\* FR-22   
\*\*Description:\*\* Allows users or administrators with proper permissions to view audit logs.   
\*\*Input:\*\* Filtering criteria (e.g., timestamp range, affected entity, action type).   
\*\*Output:\*\* Displayed audit log entries (LogID, UserID, AssetID, RecordID, Action, Timestamp, Details).  
  
## 1.23 Generate Audit Report Function   
\*\*Function ID:\*\* FR-23   
\*\*Description:\*\* Enables administrators to generate and optionally send audit reports.   
\*\*Input:\*\* Report generation parameters (e.g., time range, action type).   
\*\*Output:\*\* A structured audit report and an AuditLog entry for the report generation.  
  
## 1.24 Send Email Notification Function   
\*\*Function ID:\*\* FR-24   
\*\*Description:\*\* Allows users or administrators to send email notifications to other users for various system events.   
\*\*Input:\*\* Recipient identifier, email content or template, and event details.   
\*\*Output:\*\* EmailNotification record in the database and an AuditLog entry for the email action.