# LAWYER ERP Development Specification Document

**Project Name:** [Lawyer ERP]
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## Contents

# 1. Process Flow and Navigation

## 1.1 Use Case List (System Processes) and Required Flow Diagrams

| Module | Use Case ID | Use Case Description | Flow Diagram Required |
|---|---|---|---|
| Contacts | UC-001 | Create Contact | Yes |
| Country Management | UC-002 | Manage Countries | Yes |
| State Management | UC-003 | Manage States | Yes |
| City Management | UC-004 | Manage Cities | Yes |
| Currency Management | UC-005 | Manage Currencies | Yes |
| Country Code Management | UC-006 | Manage Country Codes | Yes |
| Industry Management | UC-007 | Manage Industries | Yes |
| Sector Management | UC-008 | Manage Sectors | Yes |
| Known Relationships | UC-009 | Manage Known Relationships | Yes |
| Events Management | UC-010 | Manage Events | Yes |
| Proposal Management | UC-011 | Manage Proposals | Yes |

## 1.2 Flow Diagram for System Processes

(Attach relevant flow diagrams for each process using Lucidchart, Visio, or other tools.)

## 2. Process-wise Details: Tables, Screens, Fields, and Validation Functions

## 2.1 Use Case: Create Contact (UC-001)

## 2.1.1 Screen Details

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Contact Form | Contact Name | Text | Mandatory | N/A | No |
| | Contact Title | Text | Optional | N/A | No |
| | Email | Email | Mandatory, valid email format | N/A | No |
| | Contact Number | Number | Optional, only digits | N/A | No |
| | Organization Name | Text | Optional | N/A | No |
| | Sector | Dropdown | Optional, foreign key from SectorMaster table | SectorMaster | No |
| | Industry | Dropdown | Mandatory, foreign key from IndustryMaster table | IndustryMaster | No |
| | Organization Turnover | Integer | Optional | N/A | No |
| | Organization Employee Size | Integer | Optional | N/A | No |
| | Contact Type | Dropdown | Mandatory, foreign key from ContractType table | ContractType | No |
| | Contact Role | Dropdown | Optional, foreign key from Role table | Role | No |
| | Country | Dropdown | Mandatory, foreign key from Country table | Country | No |
| | City | Dropdown | Mandatory, foreign key from City table, depends on selected state | City | No |

| | State | Dropdown | Mandatory, foreign key from State table, depends on selected country | State | No |
|---|---|---|---|---|---|
| | Address | Text Area | Optional | N/A | No |
| | Known Relationships | Multiselect | Optional, many-to-many relationship with KnownRelationships table | KnownRelationships | Yes |
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created At | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |
| | Updated At | DateTime | Auto-generated, timestamp of record update | N/A | No |

## 2.1.2 Field Validation Functions for Create Contact

| Field Name | Validation Function | Error Message |
|---|---|---|
| Contact Name | validateName() | "Contact Name is mandatory." |
| Email | validateEmail() | "Please enter a valid email address." |
| Contact Number | validateNumber() | "Contact Number must contain only digits." |
| Industry | validateIndustry() | "Please select an Industry." |
| Contact Type | validateContactType() | "Please select a Contact Type." |
| Country | validateCountry() | "Please select a Country." |
| State | validateState() | "Please select a State based on the selected Country." |

| City | validateCity() | "Please select a City based on the selected State." |
| Known Relationships | validateRelationships () | "Please select at least one Known Relationship." |

### 2.1.3 Table Mapping for UC-001

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Conta cts | Contact_ID | INT | Primary Key | N/A | N/A |
| | Contact_Name | VARCHAR | Not Null | N/A | N/A |
| | Contact_Title | VARCHAR | Null | N/A | N/A |
| | Email | VARCHAR | Not Null, Unique | N/A | N/A |
| | Contact_Number | INT | Null | N/A | N/A |
| | Organization_Name | VARCHAR | Null | N/A | N/A |
| | Sector_ID | INT | Null | SectorMaster .Sector_ID | Direct |
| | Industry_ID | INT | Not Null | IndustryMast er.Industry_I D | Direct |
| | Organization_Turnover | INT | Null | N/A | N/A |
| | Organization_Employee _Size | INT | Null | N/A | N/A |
| | Contact_Type_ID | INT | Not Null | ContractType .Contact_Typ e_ID | Direct |
| | Contact_Role_ID | INT | Null | Role.Role_ID | Direct |

| | Country_ID | INT | Not Null | Country.Country_ID | Direct (Mode 2) |
|---|---|---|---|---|---|
| | State_ID | INT | Not Null | State.State_ID | INDirect (Mode 2)When a country is selected, the related states should be displayed in the dropdown menu. |
| | City_ID | INT | Not Null | City.City_ID | INDirect (Mode 2)When a State is selected, the related City should be displayed in the dropdown menu. |
| | Address | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

### 2.1.4 Masters Section

| Master Name | Screen Name | Table Name | Description |
|---|---|---|---|
| Sector Master | Sector Management | SectorMaster | Stores different sectors related to organizations. |
| Industry Master | Industry Management | IndustryMaster | Stores different industries related to organizations. |
| Contract Type Master | Contract Type Management | ContractType | Stores different types of contacts, e.g., Client,Staff, etc. |

| Role Master | Role Management | Role | Stores different roles that contacts can have within their organization. |
|---|---|---|---|
| Country Master | Country Management | Country | Stores list of all countries. |
| State Master | State Management | State | Stores list of all states within a country. |
| City Master | City Management | City | Stores list of all cities within a state. |
| Known Relationships Master | Known Relationships Management | KnownRelationships | Stores list of known relationships associated with the organization, facilitating networking opportunities. |

## 2.2.5. Triggers and Actions

| Trigger Name | Trigger Type | Action Initiated | Example |
|---|---|---|---|
| On Form Submission | Save Data | Save to Users table | Create Contact |
| On Field Change | Validate Input | Check Email Format | Email Field |

## 2.2.6. Aggregation of Components

| Component Type | Component Name |
|---|---|
| Tables | Contacts,Contact Type ,Country Master , State Master,City Master,Industry Master and Sector Master |
| Screens | Contacts Create,Contact Type Create,Country Master Create , State Master Create ,City Master Create ,Industry Master Create  and Sector Master Create |
| Fields | Contact_ID, Contact_Name, Contact_Title, Email, Contact_Number, Organization_Name, Sector_ID, Industry_ID, Organization_Turnover, Organization_Employee_Size, Contact_Type_ID, Contact_Role_ID, |

| | Country_ID, State_ID, City_ID, Address, Created_By, Created_At, Updated_By, Updated_At ……….Ext(Country,State,City,Contatct Type, Industry..) |
|---|---|
| Buttons | Submit, Cancel |
| Pop-Up Messages | Success, Error |
| Microservices | Payment Gateway, Notification Service |

## 2.2.7. Microservices and Custom Functions

| Microservice Name | Purpose | API Endpoint | Expected Inputs/Outputs |
|---|---|---|---|
| Create_contact,Create_country, Create_contact_type,Create_sta te.Create_city,Create_industry,C reate_sector,Known Relationships | Create | /api/lawyer_erp/ | JSON Request/Response |

**Known Relationships NOTES:**

When adding a "Known Relationship" as a Many-to-Many field while creating a contact, you should first save the data for all other fields. After submission, save the Many-to-Many field, and then, using the Known Relationship list ID, save the contact.

## 2.2 Use Case: Manage Countries (UC-002)

### 2.2.1 Screen Details

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Country Form | Country Name | Text | Mandatory | N/A | No |
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, from User table | User | No |
| | Created Date | DateTime | Auto-generated | N/A | No |
| | Updated By | Foreign Key | Optional, from User table | User | No |
| | Updated Date | DateTime | Auto-generated | N/A | No |

### 2.2.2 Field Validation Functions for Manage Countries

| Field Name | Validation Function | Error Message |
|---|---|---|
| Country Name | validateName() | "Country Name is mandatory." |

| Created By | validateUser() | "Created By field should be valid user." |
|---|---|---|

### 2.2.3 Table Mapping for UC-002

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Country | Country_ID | INT | Primary Key | N/A | N/A |
| | Country_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

### 2.3 Use Case: Manage States (UC-003)

### 2.3.1 Screen Details

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| State Form | Country | Dropdown | Mandatory, foreign key from Country table | Country | No |
| | State Name | Text | Mandatory | N/A | No |
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created Date | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |

| | Updated Date | DateTime | Auto-generated, timestamp of record update | N/A | No |
|---|---|---|---|---|---|

### 2.3.2 Field Validation Functions for Manage States

| Field Name | Validation Function | Error Message |
|---|---|---|
| Country | validateCountry() | "Please select a Country." |
| State Name | validateName() | "State Name is mandatory." |
| Created By | validateUser() | "Created By field should be valid user." |

### 2.3.3 Table Mapping for UC-003

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| State | State_ID | INT | Primary Key | N/A | N/A |
| | Country_ID | INT | Not Null | Country.Country_ID | Direct (Mode 1) |
| | State_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

### 2.4 Use Case: Manage Cities (UC-004)

### 2.4.1 Screen Details

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| City Form | State | Dropdown | Mandatory, foreign key from State table | State | No |

| | City Name | Text | Mandatory | N/A | No |
|---|---|---|---|---|---|
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created Date | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |
| | Updated Date | DateTime | Auto-generated, timestamp of record update | N/A | No |

**2.4.2 Field Validation Functions for Manage Cities**

| Field Name | Validation Function | Error Message |
|---|---|---|
| State | validateState() | "Please select a State." |
| City Name | validateName() | "City Name is mandatory." |
| Created By | validateUser() | "Created By field should be valid user." |

**2.4.3 Table Mapping for UC-004**

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| City | City_ID | INT | Primary Key | N/A | N/A |
| | State_ID | INT | Not Null | State.State_ID | Direct (Mode 1) |
| | City_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

**2.5 Use Case: Manage Currencies (UC-005)**

**2.5.1 Screen Details**

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Currency Form | Country | Dropdown | Mandatory, foreign key from Country table | Country | No |
| | Currency Name | Text | Mandatory | N/A | No |
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created Date | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |
| | Updated Date | DateTime | Auto-generated, timestamp of record update | N/A | No |

**2.5.2 Field Validation Functions for Manage Currencies**

| Field Name | Validation Function | Error Message |
|---|---|---|
| Country | validateCountry() | "Please select a Country." |
| Currency Name | validateName() | "Currency Name is mandatory." |
| Created By | validateUser() | "Created By field should be valid user." |

**2.5.3 Table Mapping for UC-005**

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Currency | Currency_ID | INT | Primary Key | N/A | N/A |

| | Country_ID | INT | Not Null | Country.Country_ID | Direct (Mode 1) |
|---|---|---|---|---|---|
| | Currency_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

**2.6 Use Case: Manage Country Codes (UC-006)**

**2.6.1 Screen Details**

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Country Code Form | Country | Dropdown | Mandatory, foreign key from Country table | Country | No |
| | Country Code | Text | Mandatory, unique, specific format (e.g., alpha-2, alpha-3) | N/A | No |
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created Date | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |

| | Updated Date | DateTime | Auto-generated, timestamp of record update | N/A | No |
|---|---|---|---|---|---|

## 2.6.2 Field Validation Functions for Manage Country Codes

| Field Name | Validation Function | Error Message |
|---|---|---|
| Country | validateCountry() | "Please select a Country." |
| Country Code | validateCountryCode() | "Country Code is mandatory and should follow the specified format." |
| Created By | validateUser() | "Created By field should be valid user." |

## 2.6.3 Table Mapping for UC-006

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Country Code | Country_Code_ID | INT | Primary Key | N/A | N/A |
| | Country_ID | INT | Not Null | Country.Country_ID | Direct (Mode 1) |
| | Country_Code | VARCHAR | Not Null, Unique | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

## 2.7 Use Case: Manage Industries (UC-007)

## 2.7.1 Screen Details

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Industry Form | Industry Name | Text | Mandatory | N/A | No |
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, from User table | User | No |
| | Created Date | DateTime | Auto-generated | N/A | No |
| | Updated By | Foreign Key | Optional, from User table | User | No |
| | Updated Date | DateTime | Auto-generated | N/A | No |

**2.7.2 Field Validation Functions for Manage Industries**

| Field Name | Validation Function | Error Message |
|---|---|---|
| Industry Name | validateName() | "Industry Name is mandatory." |
| Created By | validateUser() | "Created By field should be valid user." |

**2.7.3 Table Mapping for UC-007**

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Industry | Industry_ID | INT | Primary Key | N/A | N/A |
| | Industry_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

**2.8 Use Case: Manage Sectors (UC-008)**

**2.8.1 Screen Details**

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Sector Form | Industry | Dropdown | Mandatory, foreign key from Industry table | Industry | No |
| | Sector Name | Text | Mandatory | N/A | No |
| | Description | Text Area | Optional | N/A | No |
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created Date | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |
| | Updated Date | DateTime | Auto-generated, timestamp of record update | N/A | No |

**2.8.2 Field Validation Functions for Manage Sectors**

| Field Name | Validation Function | Error Message |
|---|---|---|
| Industry | validateIndustry() | "Please select an Industry." |
| Sector Name | validateName() | "Sector Name is mandatory." |
| Created By | validateUser() | "Created By field should be valid user." |

**2.8.3 Table Mapping for UC-008**

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Sector | Sector_ID | INT | Primary Key | N/A | N/A |

| | | | | | |
|---|---|---|---|---|---|
| | Industry_ID | INT | Not Null | Industry.Industry_ID | Direct (Mode 1) |
| | Sector_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

**2.9 Use Case: Manage Known Relationships (UC-009)**

**2.9.1 Screen Details**

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Known Relationship Form | Name | Text | Mandatory | N/A | No |
| | Email | Text | Optional, valid email | N/A | No |
| | Phone Number | Number | Optional, only digits | N/A | No |
| | Created By | Foreign Key | Mandatory, from User table | User | No |
| | Created Date | DateTime | Auto-generated | N/A | No |
| | Updated By | Foreign Key | Optional, from User table | User | No |
| | Updated Date | DateTime | Auto-generated | N/A | No |

**2.9.2 Field Validation Functions for Manage Known Relationships**

| Field Name | Validation Function | Error Message |
|---|---|---|
| Name | validateName() | "Name is mandatory." |
| Email | validateEmail() | "Please enter a valid email address." |
| Phone Number | validateNumber() | "Phone Number must contain only digits." |
| Created By | validateUser() | "Created By field should be valid user." |

### 2.9.3 Table Mapping for UC-009

| Table Name | Column Name | Data Type | Constraints | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| KnownRelationships | KnownRelationship_ID | INT | Primary Key | N/A | N/A |
| | Name | VARCHAR | Not Null | N/A | N/A |
| | Email | VARCHAR | Null | N/A | N/A |
| | Phone_Number | INT | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIME | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |
| | Updated_At | DATETIME | Null | N/A | N/A |

### 2.10 Use Case: Manage Contact Type(UC-010)

### 2.10.1 Screen Details

| Screen Name | Field Name | Field Type | Validations | Relationships | Multivalue |
|---|---|---|---|---|---|
| Contact Type Form | Contact Type Name | Text | Mandatory | N/A | No |

| | Descriptio n | Text Area | Optional | N/A | No |
|---|---|---|---|---|---|
| | Created By | Foreign Key | Mandatory, foreign key from User table | User | No |
| | Created Date | DateTime | Auto-generated, timestamp of record creation | N/A | No |
| | Updated By | Foreign Key | Optional, foreign key from User table, updates on data modification | User | No |
| | Updated Date | DateTime | Auto-generated, timestamp of record update | N/A | No |

**2.10.2 Field Validation Functions for Manage Contact type**

| Field Name | Validation Function | Error Message |
|---|---|---|
| Contact Type  Name | validateName() | "Contact Type  Name is mandatory." |
| Created By | validateUser() | "Created By field should be valid user." |

**2.10.3 Table Mapping for UC-008**

| Table Name | Column Name | Data Type | Constrain ts | Foreign Key | Foreign Key Mode |
|---|---|---|---|---|---|
| Contact Type | contact_type _ID | INT | Not Null | Contact_Type .contact_type _ID | Direct (Mode 1) |
| | Contact_Typ e_Name | VARCHAR | Not Null | N/A | N/A |
| | Description | VARCHAR | Null | N/A | N/A |
| | Created_By | INT | Not Null | User.User_ID | Direct (Mode 1) |
| | Created_At | DATETIM E | Not Null | N/A | N/A |
| | Updated_By | INT | Null | User.User_ID | Direct (Mode 1) |

| | Updated_At | DATETIME E | Null | N/A | N/A |