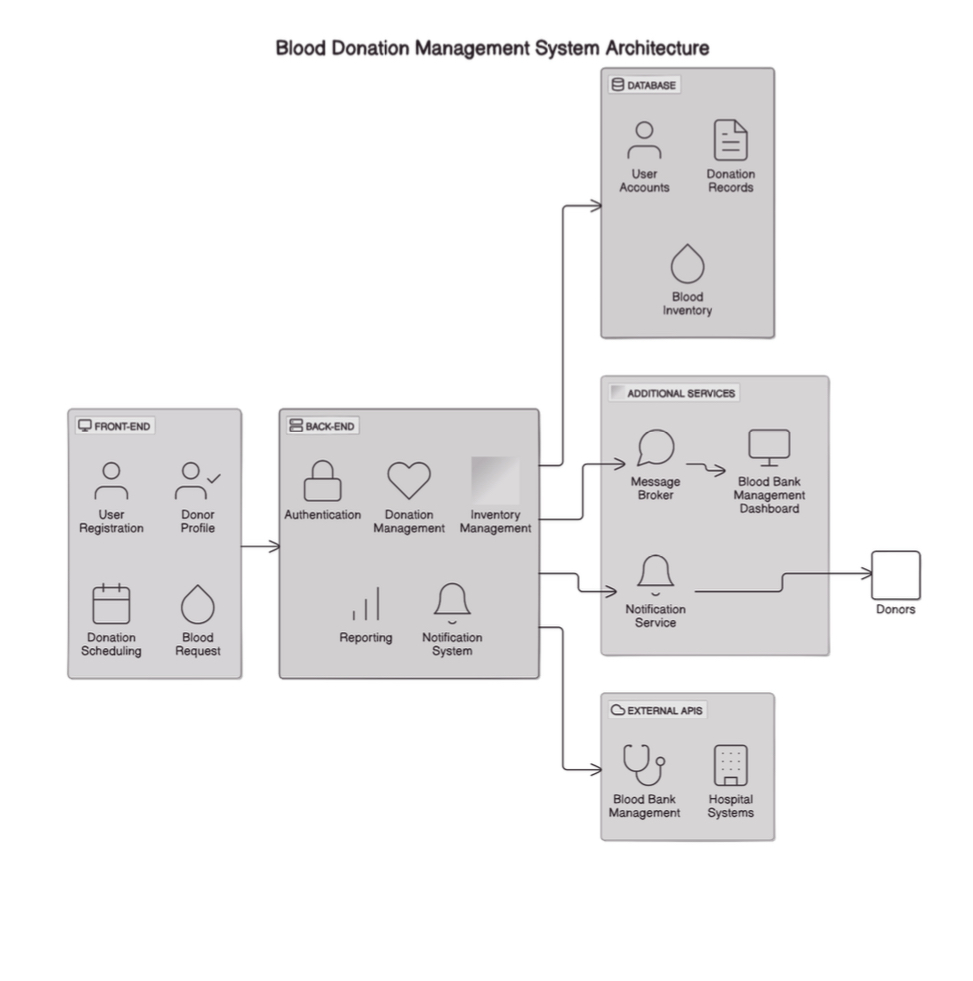
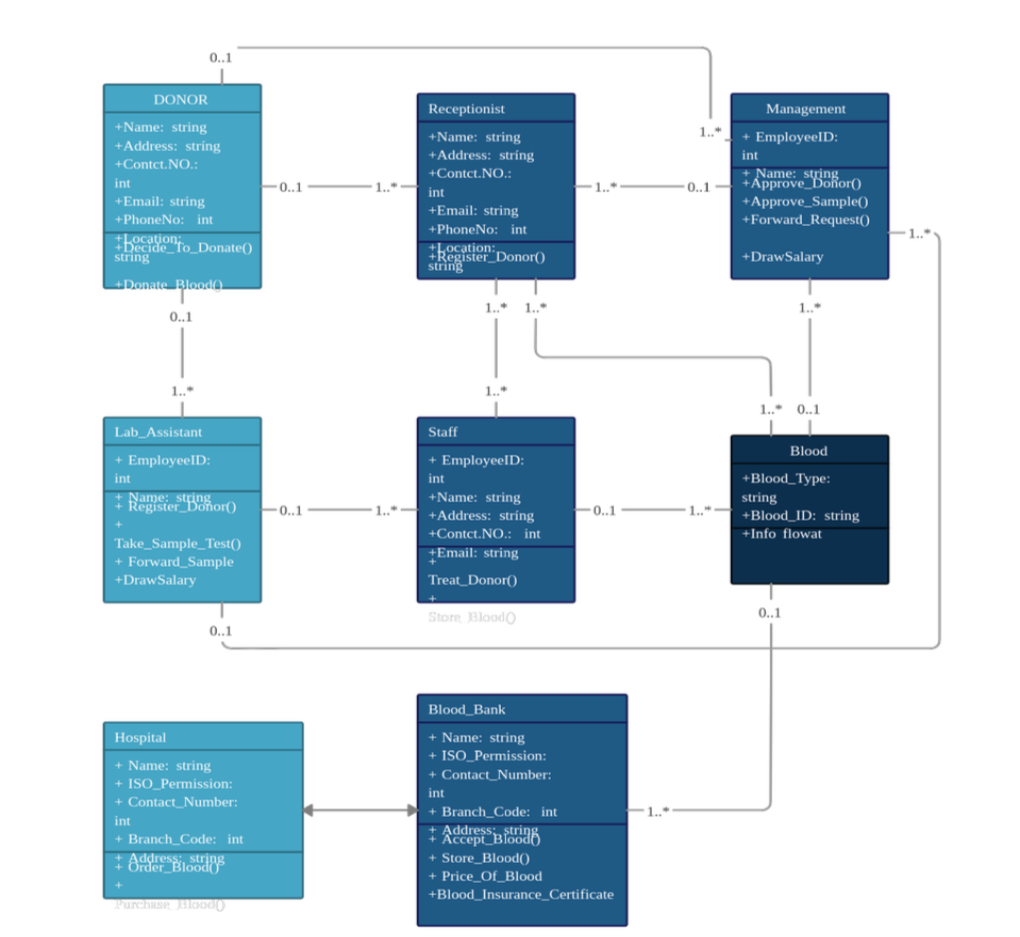
4 **Chapter 4: System Design**

**4.2****Architectural design**

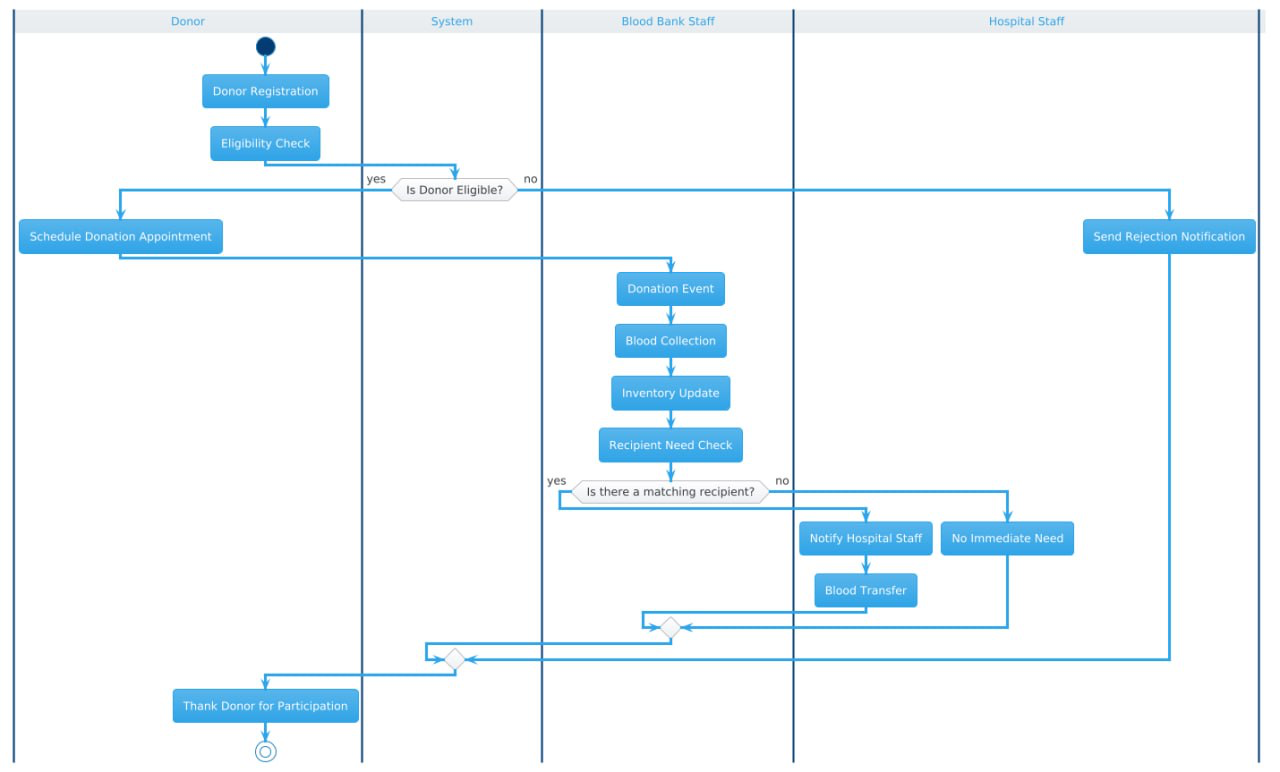


**4.3****Object Oriented Design**

4.3.1 **Class Diagram**



4.3.3 **Activity Diagram**



## 

## Database Design

This section focuses on the design of the system's database, including the creation of entity-relationship diagrams (ERDs) and schema definitions. **Table: DONOR**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| DonorID | **number** | **PK** |
| Name | **varchar** |  |
| Address | **varchar** |  |
| Contact\_NO | **varchar** |  |
| Email | **varchar** |  |
| Reg\_Date | **date** |  |
| Blood\_Group | **varchar** | **FK** |

**Table: RECIPIENT**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| RecipientID | **number** | **PK** |
| Name | **varchar** |  |
| Address | **varchar** |  |
| Contact\_NO | **varchar** |  |
| Email | **varchar** |  |
| Phone\_NO | **varchar** |  |
| Reg\_Date | **date** |  |
| Blood\_ID | **number** | **FK** |

**Table: MANAGEMENT**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| EmployeeID | **number** | **PK** |
| Name | **varchar** |  |
| Approve\_Sample | **boolean** |  |
| Forward\_Request | **boolean** |  |
| DrawSalary | **decimal** |  |

**Table: LAB\_ASSISTANT**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| EmployeeID | **number** | **PK** |
| Name | **varchar** |  |
| Forward\_Sample | **boolean** |  |
| DrawSalary | **decimal** |  |
| Blood\_ID | **number** | **FK** |

**Table: STAFF**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| EmployeeID | **number** | **PK** |
| Name | **varchar** |  |
| Contact\_NO | **varchar** |  |
| Email | **varchar** |  |
| Treat\_Donor | **boolean** |  |
| DonorID | **number** | **FK** |

**Table: BLOOD**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| Blood\_ID | **number** | **PK** |
| Blood\_Type | **varchar** |  |
| Expiry\_Date | **date** |  |

**Table: BLOOD\_BANK**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| BankID | **number** | **PK** |
| Name | **varchar** |  |
| ISO\_Permission | **number** |  |
| Contact\_Number | **varchar** |  |
| Address | **varchar** |  |
| Reg\_Date | **date** |  |
| Stock | **number** |  |
| Issue\_Blood | **boolean** |  |
| Blood\_Insurance\_Certificate | **boolean** |  |

**Table: HOSPITAL**

|  |  |  |
| --- | --- | --- |
| Attribute | Type | Role |
| HospitalID | **number** | **PK** |
| Name | **varchar** |  |
| ISO\_Permission | **number** |  |
| Contact\_NO | **varchar** |  |
| Blood\_Cluster | **number** |  |