Chapter 4: System Design

4.1) Basic Modules:

a) Donor Management

This module handles donor registration, updates, and deletion. Each donor is assigned a unique ID for tracking purposes.

b) Donation Management

This module manages the actual donation, including the process of collection,

Tracking, and storing donation details.

c) Distribution Management

This module manages distribution of the donation to the requested ashramas

Or needy people as per their requirements.

d) Feedback

This module manages feedback from both users donor and ashram manager.

This feedback is about donation collection as well as the distribution process.

It help to improve the working of system.

4.2) Data Design:

4.2.1: Schema Design

The schema design includes the following key entities:

1. Donors: Holds information about donors (Donor\_ID, Name, Email, Contact,

Address, etc).

2. Donation: Holds information about each donation (Donation\_ID, Donor\_ID,

Donation\_Type, Date, etc).

3. Admin: Holds information about admin(Admin\_ID,Contact, Name,etc).

4. Ashram manager: Holds information about each Ashrams (Ashrama\_ID,

Manager\_ID, Address, Name, Contact, Email, etc).

5. Donation Box: Holds the information of the donation Box where the

Collected donation is stored (Donation\_Box\_ID,Quantity,Address,Status,etc).

4.2.2: Data Integrity and Constraints:

1) Data Integrity

The Donation System implements the following integrity mechanisms:

* Unique Constraints: Donor email and username should be unique to avoid duplicate registrations.
* Input Validation: All fields should have proper validation to ensure that that data entered is accurate and fits the expected format.
* Data Normalization: Data is organized in a way that reduces redundancy and ensures efficient data storage and retrieval.

2) Constraints

* Primary Key Constraints: Each table has primary key to uniquely identify records e.g. Donor\_ID, Donation\_ID.
* NOT NULL Constraints: Ensure mandatory fields are filled out before data is entered.
* Default Constraints: Automatically assign default values to certain fields when no input is provided .