

Object Oriented Analysis and Design

Project Deliverable 2

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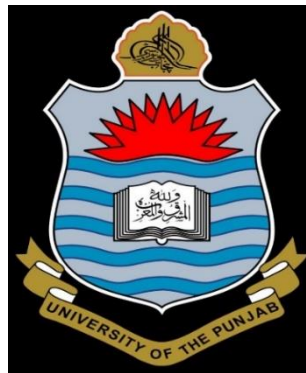
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History

Version	Date	Description
Elaboration draft	Dec 19, 2021	Elaboration first iteration. Further requirements will be clarified in later iterations.

--- The project is organized using UP Artifacts ---

Food Save Application

SYSTEM OVERVIEW

Choice of Android

Android has been chosen for this project due to open-source nature of the platform as well as the ease of development and deployment. It also has the largest market share and also supports cross platform application development, i.e., developers can develop Android application in Mac, Windows and many UNIX-based operating systems like Ubuntu.

System Architecture

This application consists of an Android application on the client side and JAVA-MySQL application on the server side. The Android application is the part visible to the user and one it interacts with, while the JAVA/MySQL-based server-side component serves as an interface between the Android application and the database on the server.

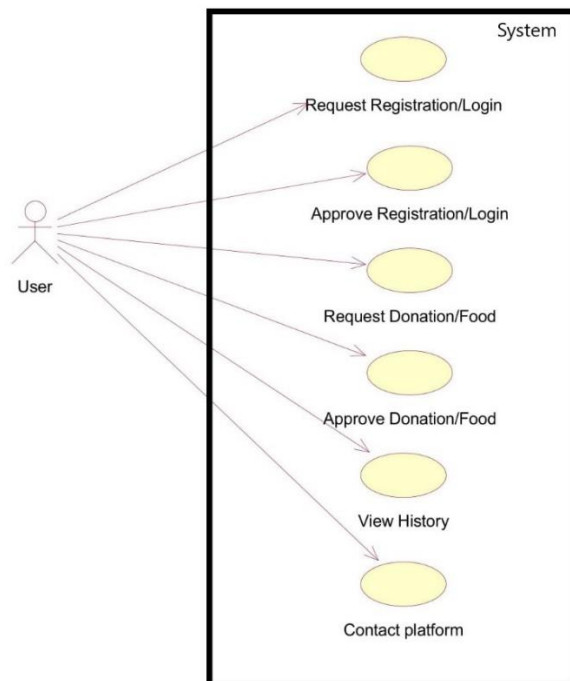


Fig. Use case for client-side application

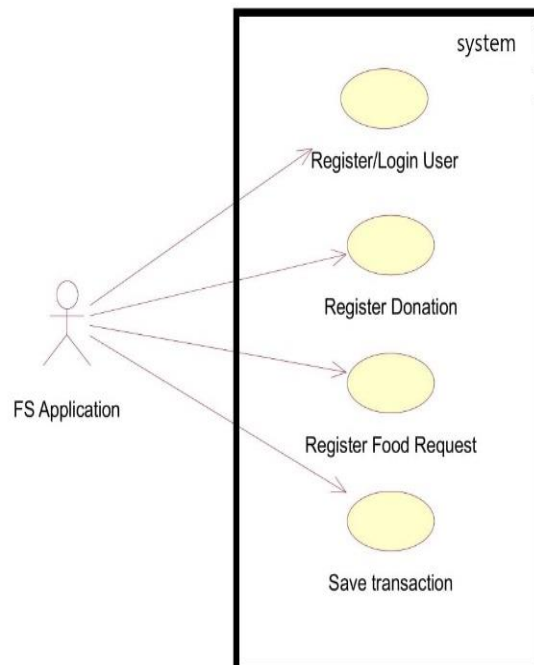


Fig. Use case for server-side implementation.

MVC Architecture

The application is a hybrid mobile app having 3 layers of presentation, business logic and data, defining the basis for MVC (Model View Controller) architecture. Specifically for Android mobile app, we will use **Clean Architecture** to allow each layer working separately and independently from others, helping to adopt changes only for that particular layer without disturbing the architecture of whole system.

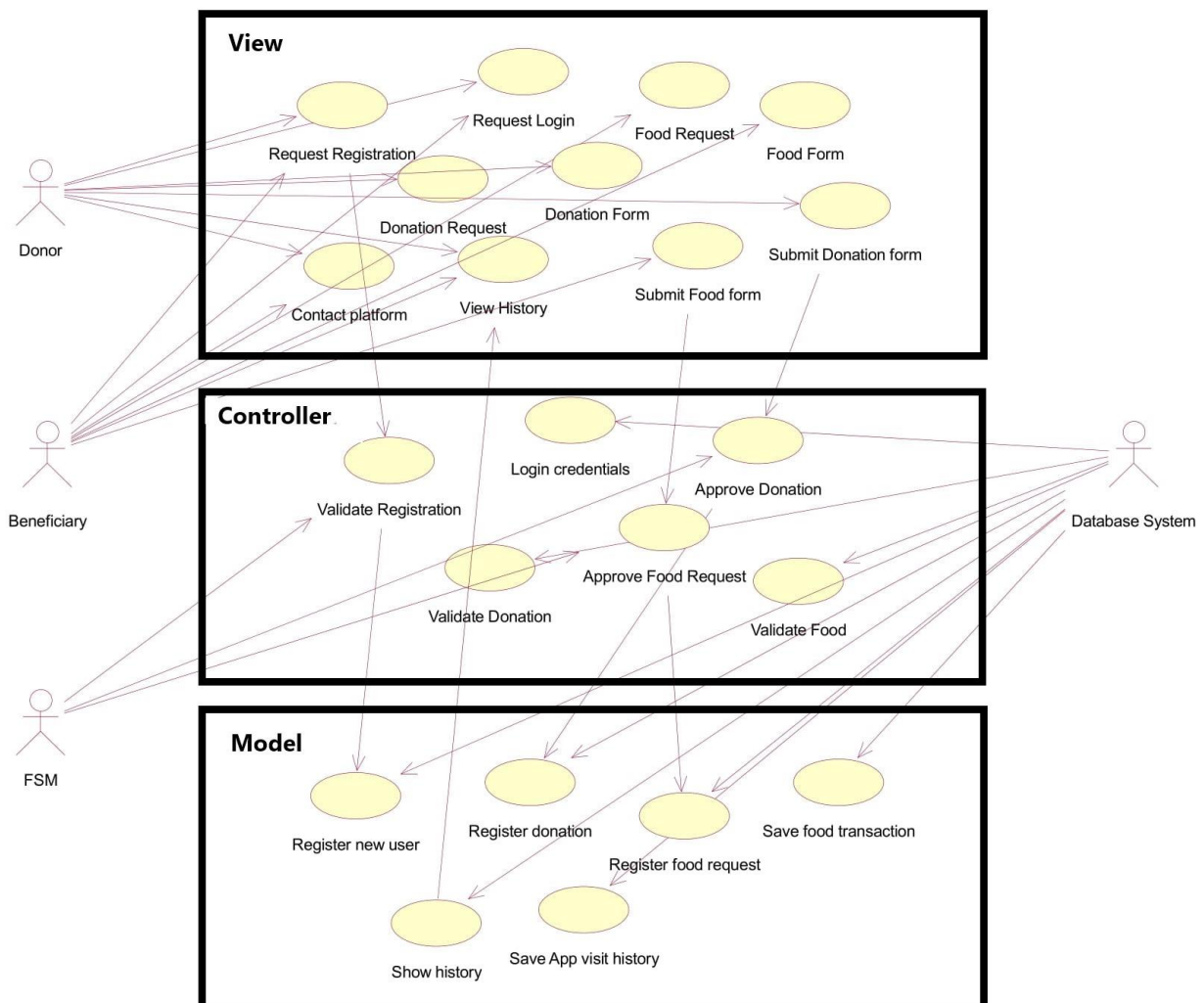


Fig. MVC USE CASE Architecture Diagram for Food Save Application

Domain Model Diagram

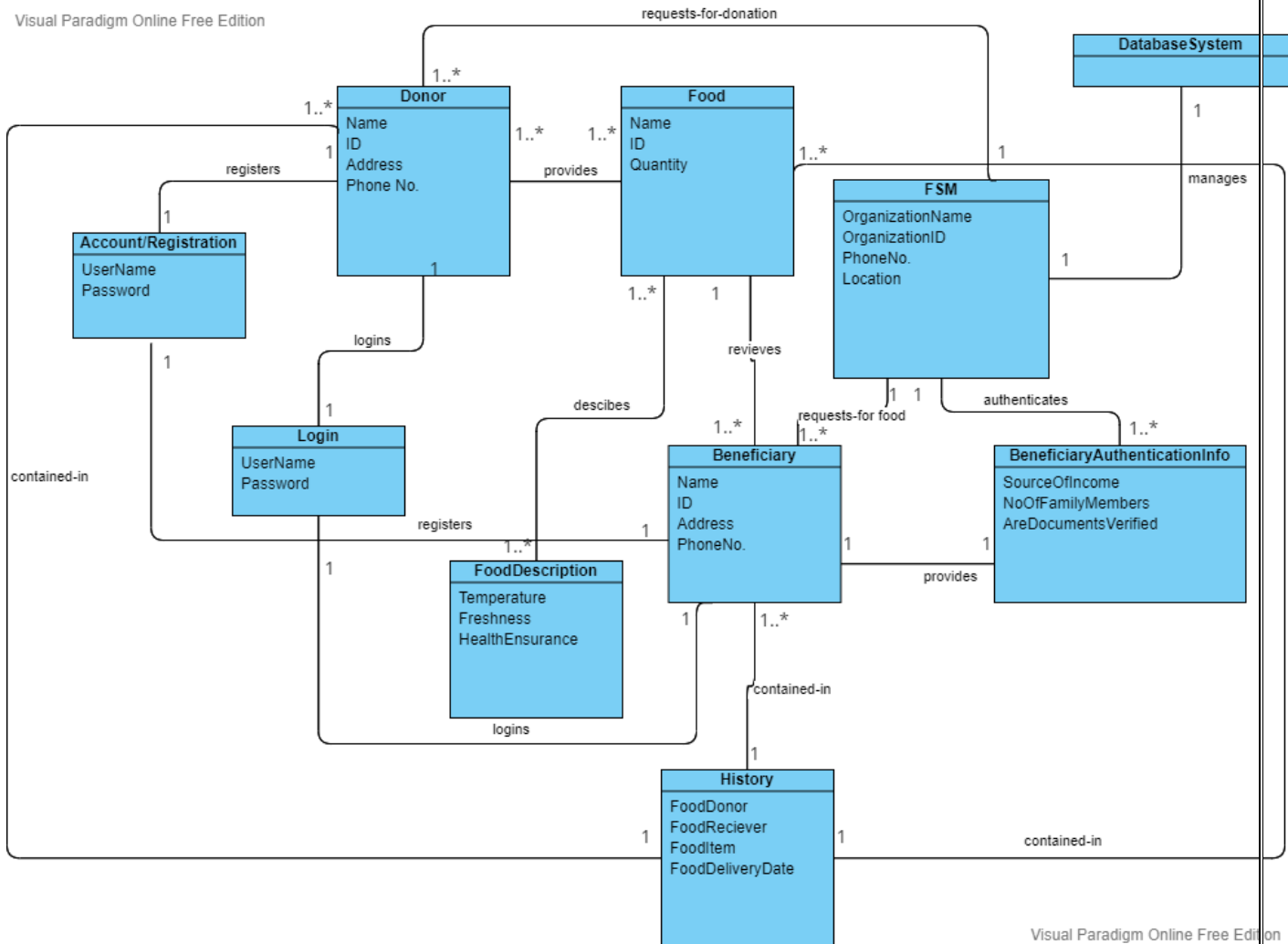
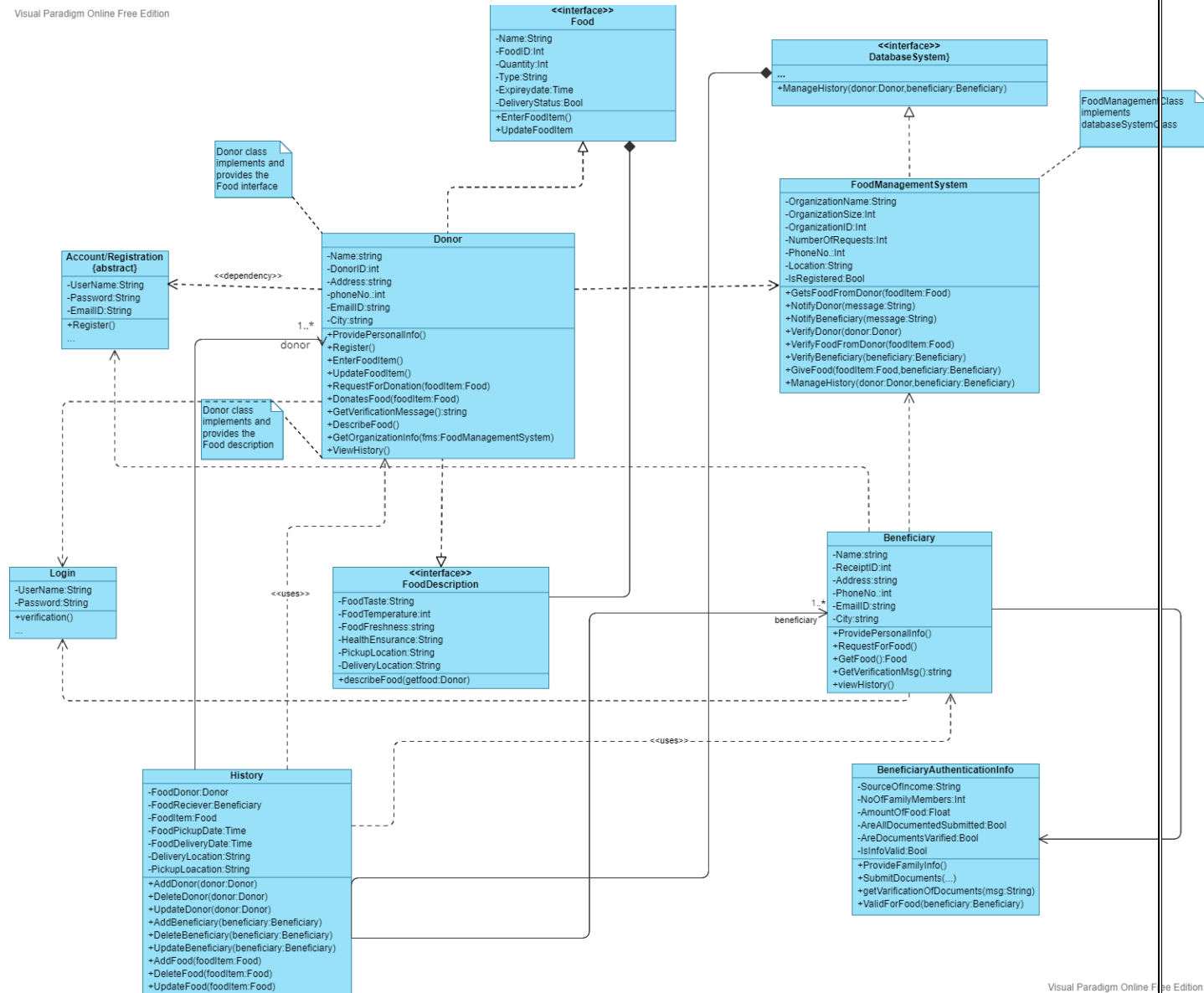


Fig. Domain Model Diagram for Food Save Application

Design Class Diagram

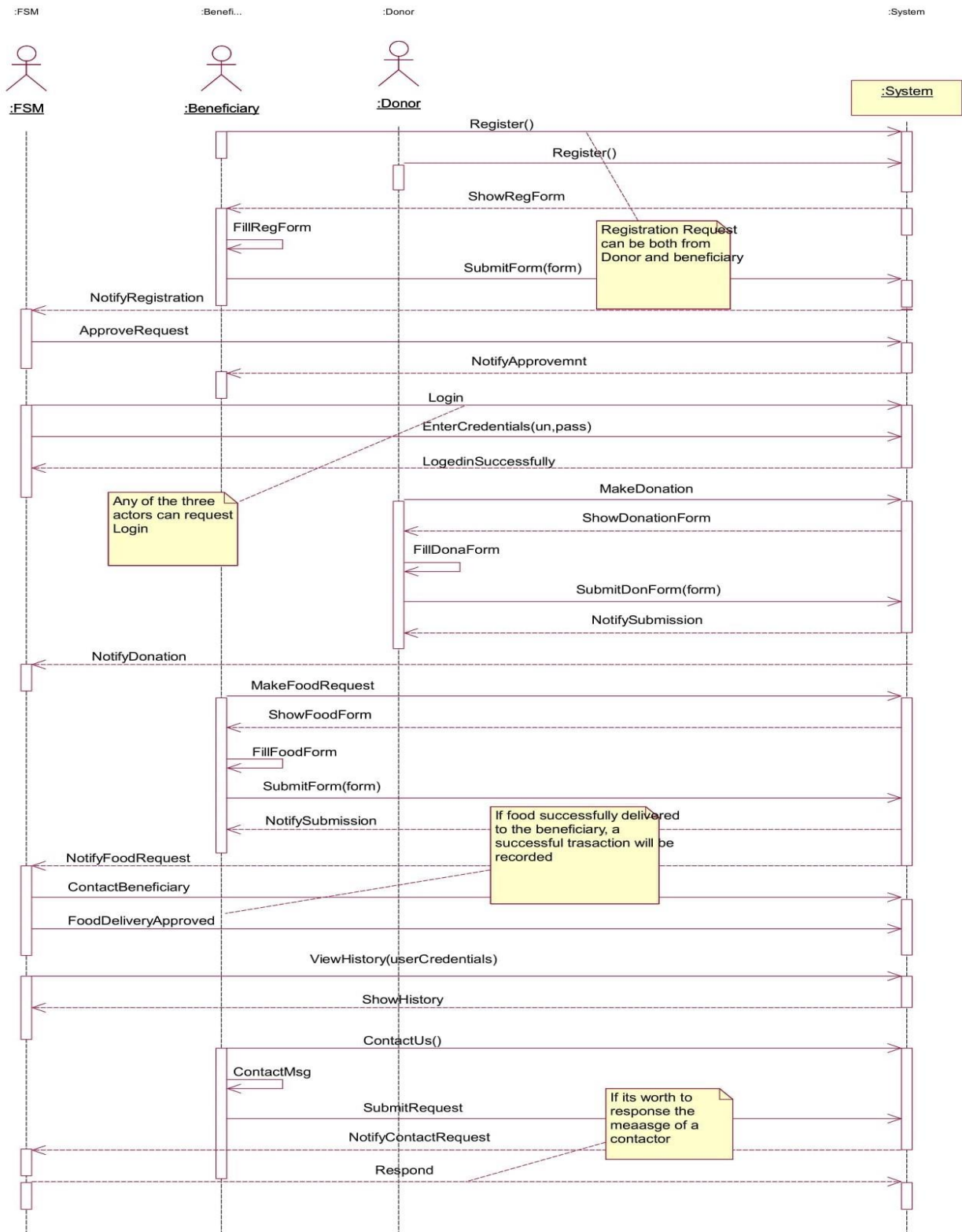
Visual Paradigm Online Free Edition



Visual Paradigm Online Free Edition

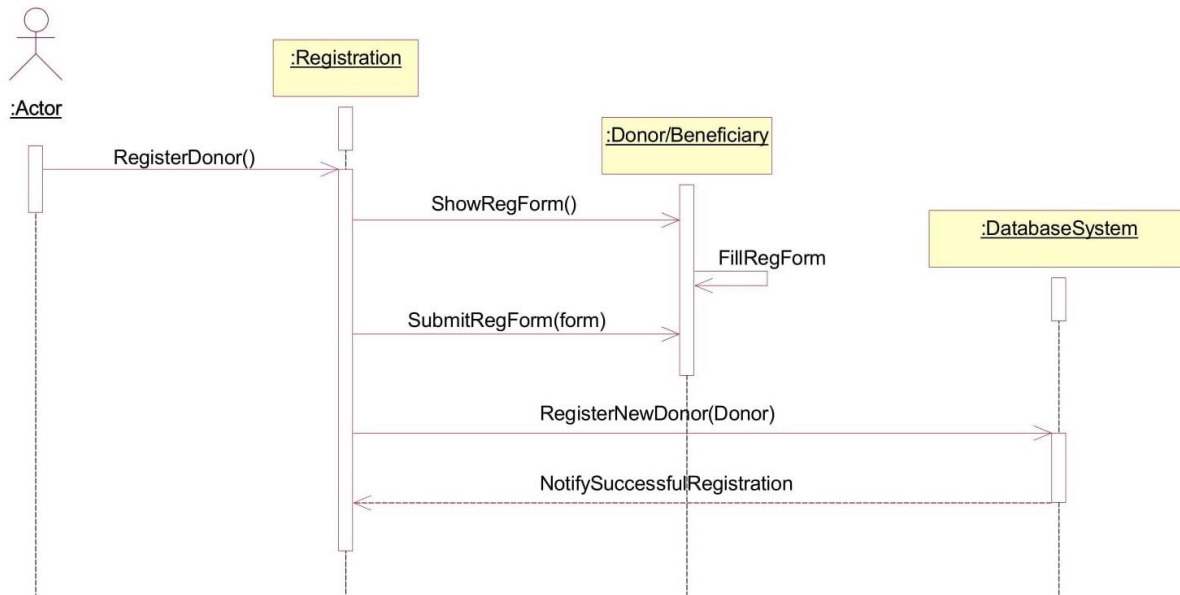
Fig. Design Class Diagram for Food Save Application

System Sequence Diagram

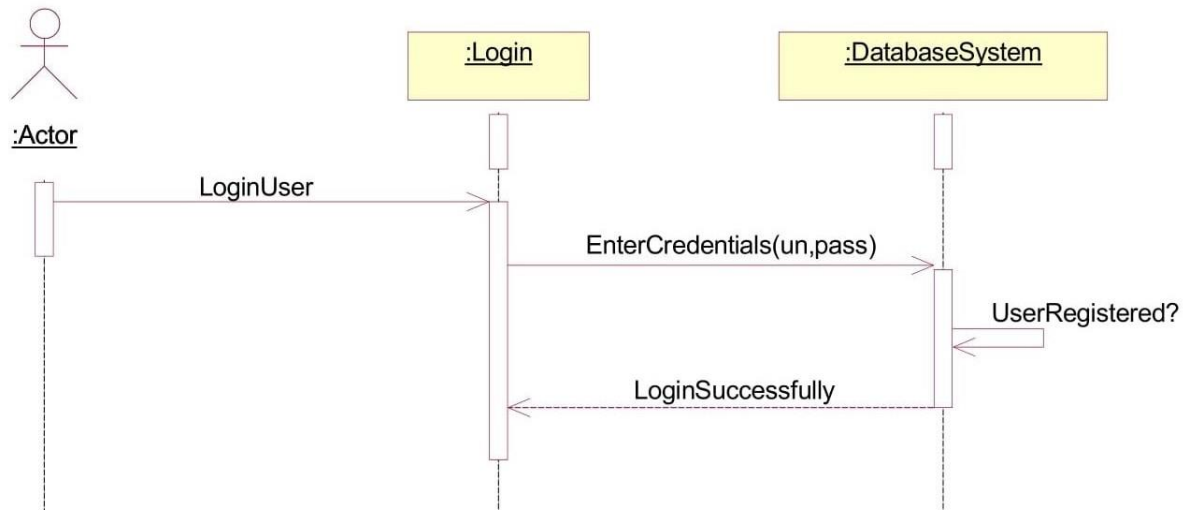


Sequence Diagrams

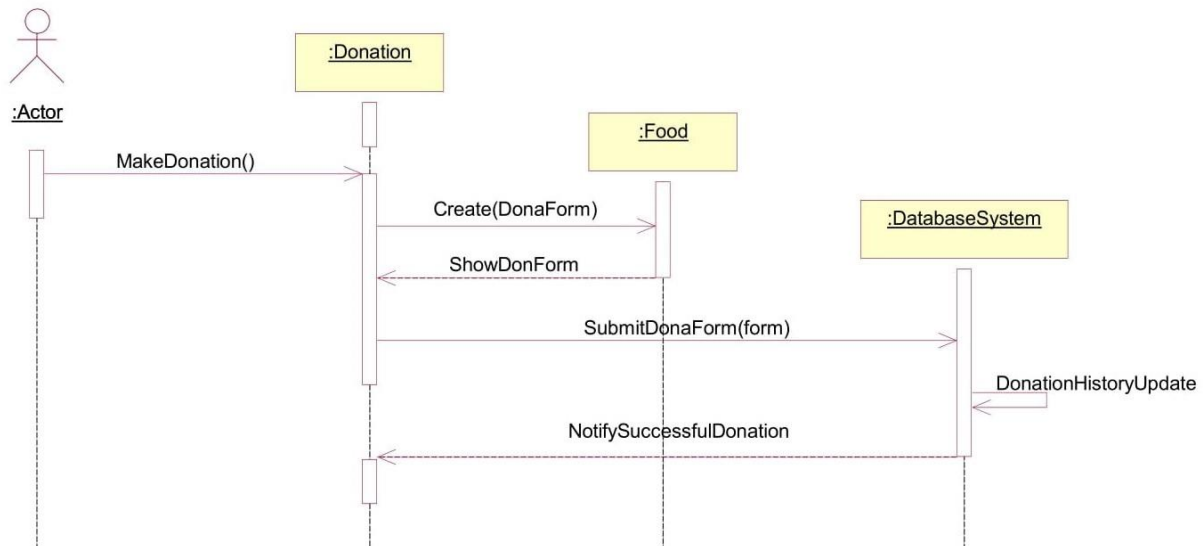
1. Register User



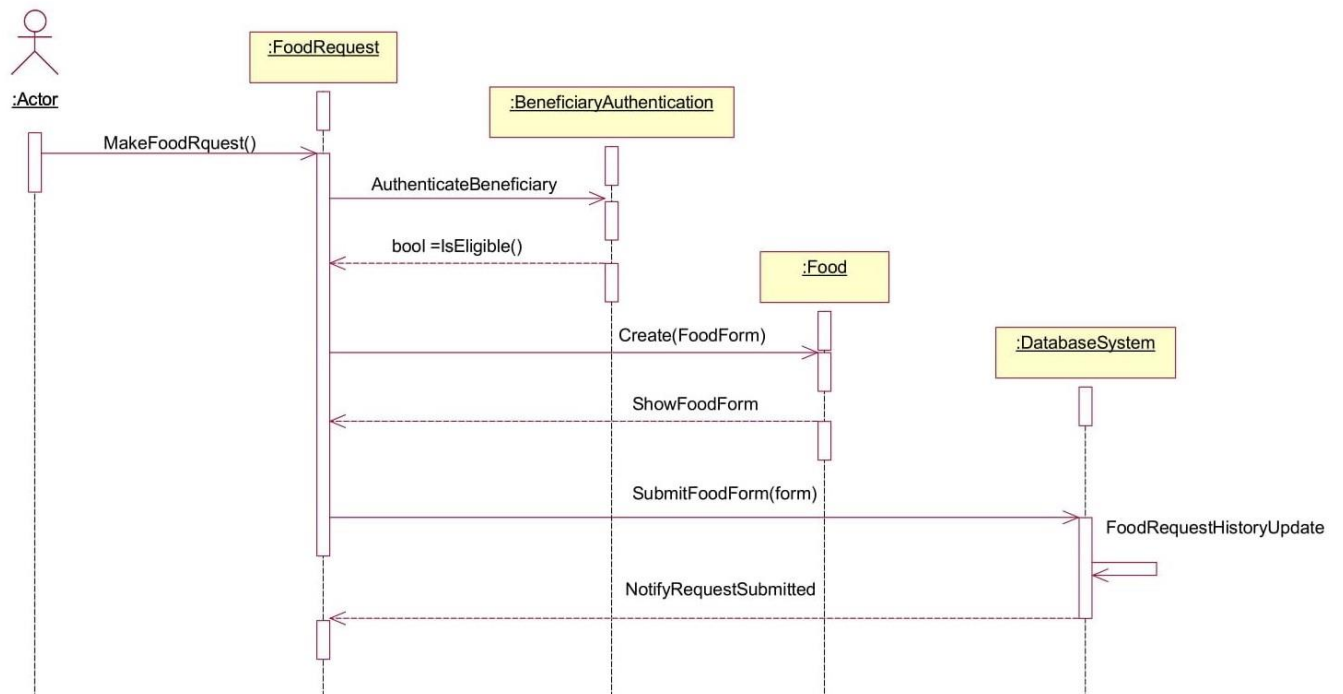
2. Login



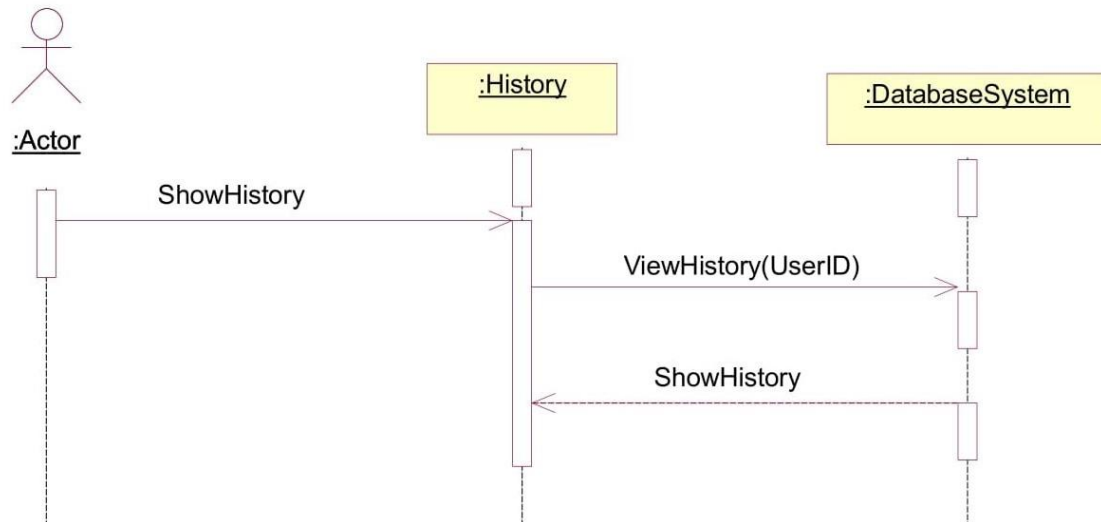
3. Donate Food



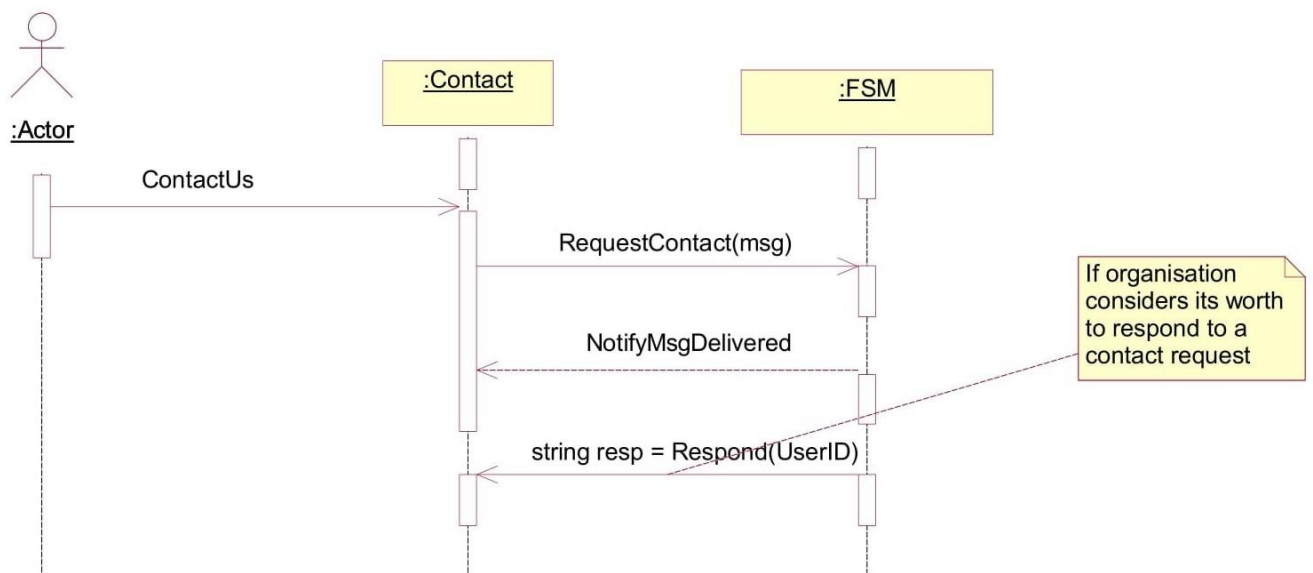
4. Request Food



5. View History



6. Contact Us



Collaboration Diagrams

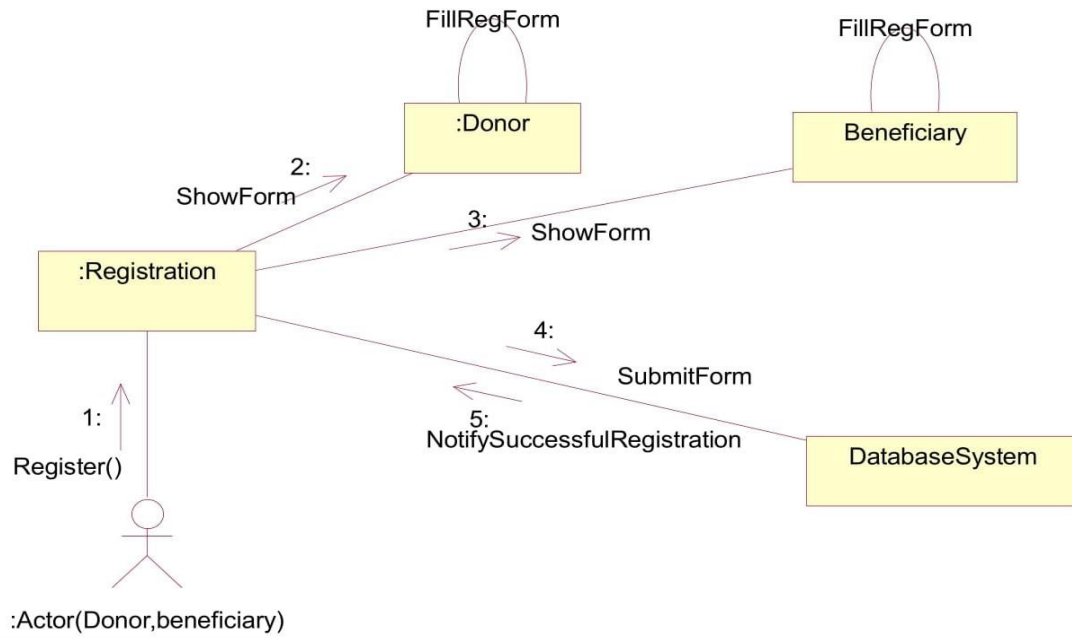


Fig. User Registration Collaboration diagram

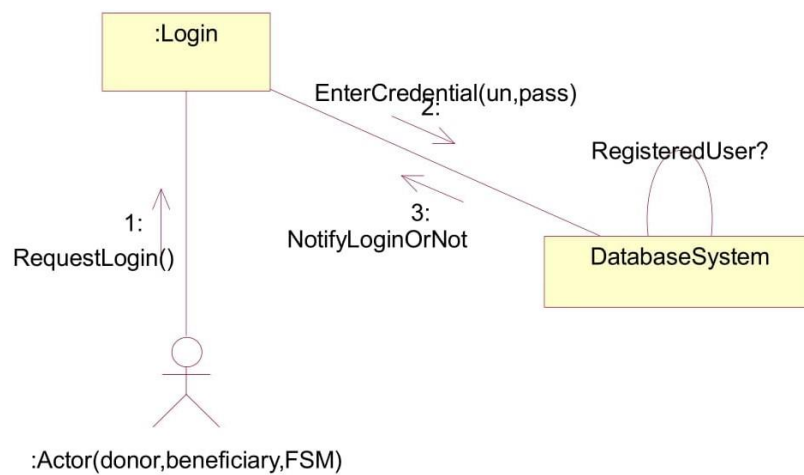


Fig. User Login Collaboration diagram

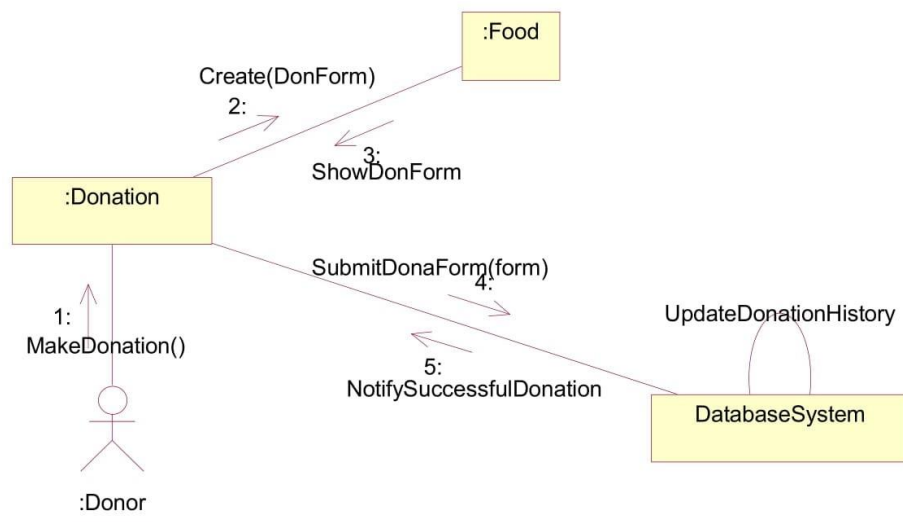


Fig. Food Donation Collaboration diagram

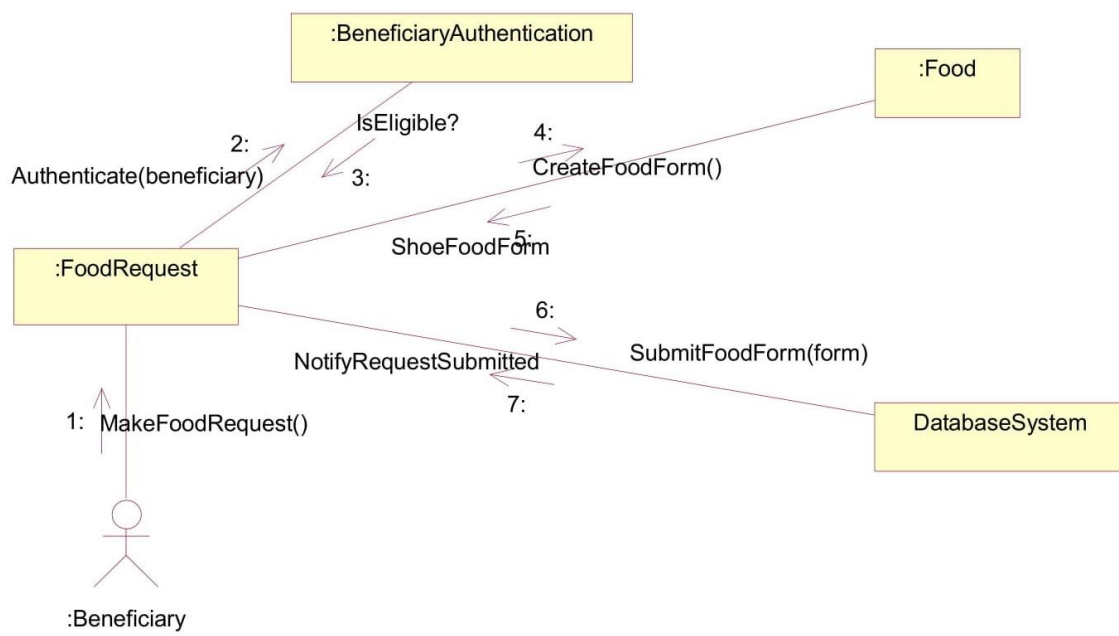


Fig. Food Request Collaboration diagram

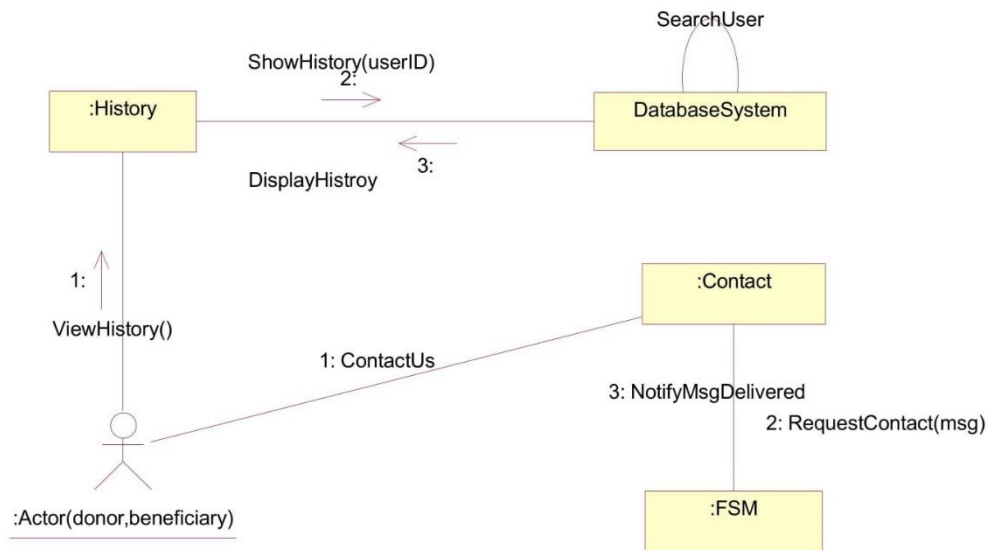


Fig. Show History And Contact US Collaboration diagram

Operation Contracts

C01- Registration()

Contract C01: Registration

Operation: Registration()

Cross Reference: Request Registration

Precondition: The internet accessibility is mandatory, and the user should not be registered to the system already.

Postcondition: After successful registration, an instance of donor class is generated which stores the donor details and donor will be registered to the system as User.

C02- Login/Logout()

Contract C02: Login/Logout

Operation: Login()/Logout()

Cross Reference: Request Login/Log out

Precondition: User must have internet facility and must be registered before Login.

Postcondition: After this, the system services provided to the user and association with database.

C03- RequestForDonation()

Contract C03: Request for Donation

Operation: RequestForDonation()

Cross Reference: Request Donation

Precondition: Donor must have an internet facility, logged in to the system and donation form is opened in front of user.

Postcondition: The instance of donor class is passed to organization(FSM). FSM receives the donor with food item. There is association between Donor and organization(FSM).

C04 - NotifyDonor()

Contract C04: Notify Donor

Operation: NotifyDonor()

Cross Reference: Approve Donation

Precondition: User must has submitted the donation request form to FSM.

Postcondition: There is an association between Donor and organization(FSM) in which organization sent a message of approval or disapproval to donor.

C05 - ApproveDonation()

Contract C05: ApproveDonation

Operation: ApproveDonation()

Cross Reference: Approve Donation

Precondition: User must have submitted the donation request form to FSM.

Postcondition: The instance of donor class is passed to organization(FSM). FSM receives the donor with food item. There is association between Donor and organization(FSM).

C06 - RequestForFood()

Contract C06: Request for Food

Operation: RequestForFood()

Cross Reference: Request Food

Precondition: Beneficiary is logged in to the system and food request form is opened in front of user.

Postcondition: The instance of Beneficiary class is passed to organization(FSM). FSM receives the beneficiary with his valid personal information. There is association between Beneficiary and organization(FSM).

C07 - NotifyBeneficiary()

Contract C07: Notify Beneficiary

Operation: NotifyBeneficiary()

Cross Reference: Approve Delivered Food

Precondition: Beneficiary must has submitted the food request form to FSM.

Postcondition: There is an association between Beneficiary and organization(FSM) in which organization sent a message of approval or disapproval to Beneficiary.

C08- ApproveDeliveredFood()

Contract C08: Approve Delivered Food

Operation: Approve Delivered Food()

Cross Reference: Approve Food Delivery

Precondition: Beneficiary has sent the food request to Organization and organization has declared beneficiary eligible for food.

Postcondition: There is an association between Beneficiary and organization(FSM). Instance of Donor class to get foodItem from Food class is passed to FSM class

C09- ViewHistory()

Contract C09: View History

Operation: ViewHistory()

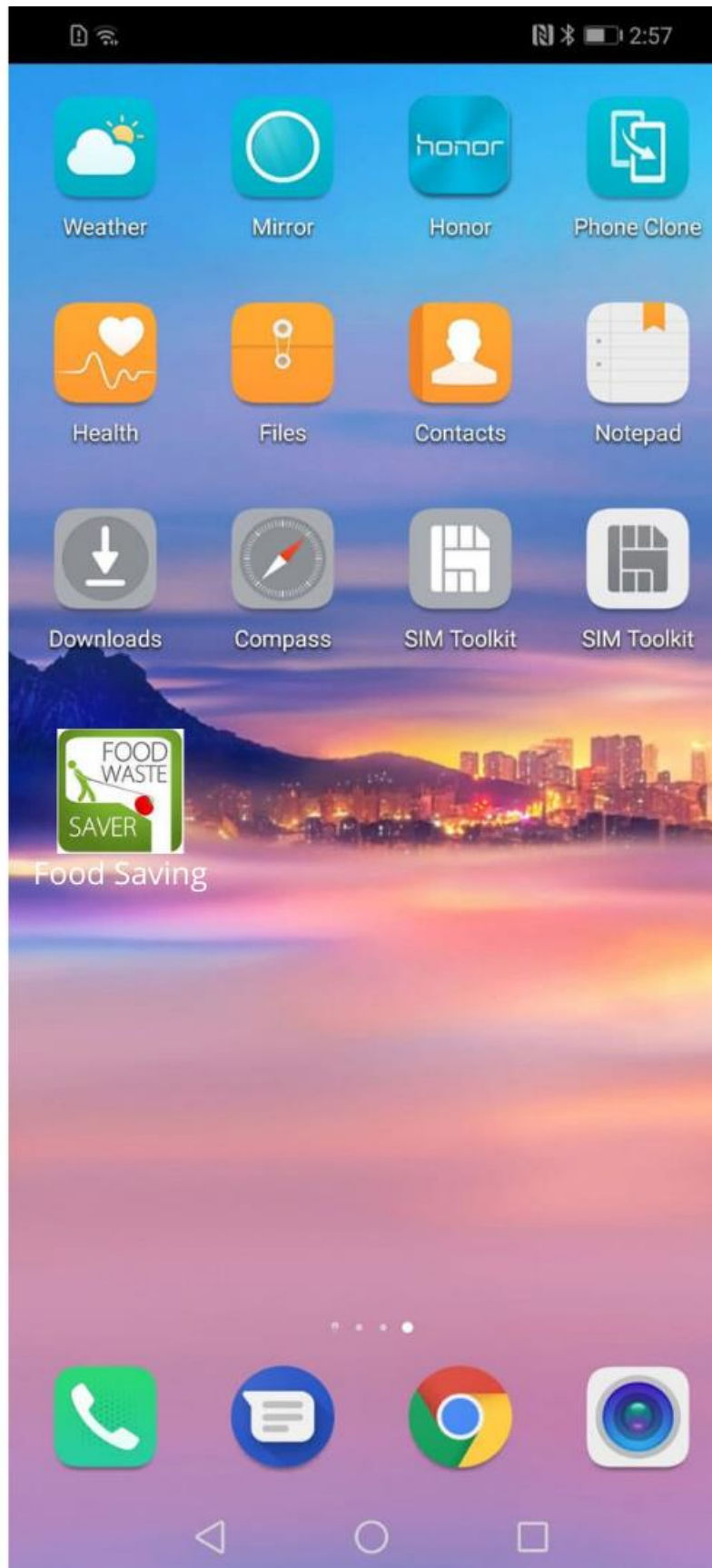
Cross Reference: Show History

Precondition: Record of all details are added by organization in database correctly.

Postcondition: There is an association between history class and organization(FSM). Instance of history class is created by FSM class.

Prototypes

Some User Interfaces to understand the basic flow of application are attached in the document.



11:11 am



[Register](#) | [Login](#)

Welcome! To Humanity...

*One Meal Can
Heal*

11:11 am



Register

First Name* : _____

Last Name* : _____

Phone* : _____

Email : _____

Address* : _____

Password* : _____

Send Code

11:11 am



Save Food, Save Lives

Donate Food

Receive Food

History

Support



11:11 am



Donation Form

Donor Id* :

Food Type* :

Quantity* :

Expiry Date :

Pick-up Location* :

Submit



11:11 am



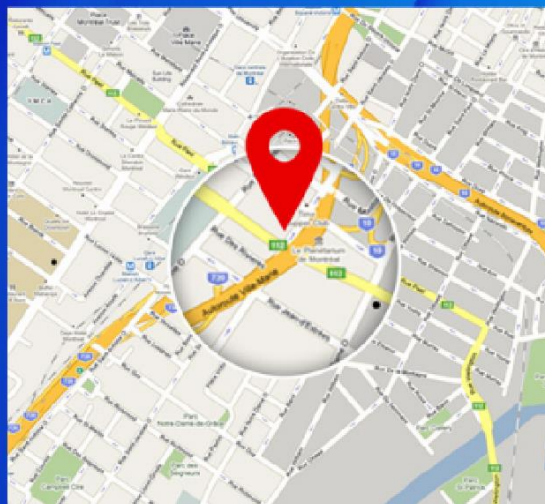
Receiver Form

Receiver Id* :

Food Type* :

Quantity* :

Pick-up Location* :



Submit



11:11 am



History

Time	Date	Quantity	Location	Status
123	1-2	678	xyz	pending
345	8-9	345	pqr	approved
456	4-5	987	ghi	denied





Customer Service

Chat support to solve any issue that you face.

Live Chat

Support available 24/7

