

**Project Functionalities and ERD
on**



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Information System Design and Software Engineering Lab (CSE 3224)

Date: 11/01/2022



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Functionalities and its function :

Function Name	Hospital
Description	In this location-based system, our app will use GPS to detect persons live location. Users can find near-by hospitals in any emergency situation
Precondition	None or Login

Function Name	Pharmacy
Scenario	In this location-based system, our app will use GPS to detect persons live location. Users can find near-by pharmacies from anywhere
Precondition	None or Login

Function Name	ATM Booth
Scenario	In this location-based system, our app will use GPS to detect persons live location. Users can find the nearest location of their desired ATM booths
Precondition	None or Login

Function Name	Police Station
Scenario	In this location-based system, our app will use GPS to detect persons live location. Users can contact any near-by police station for any emergency need
Precondition	None or Login

Function Name	Fuel Station
Scenario	In this location-based system, our app will use GPS to detect persons live location. Users can search for the nearest location of fuel stations
Precondition	None

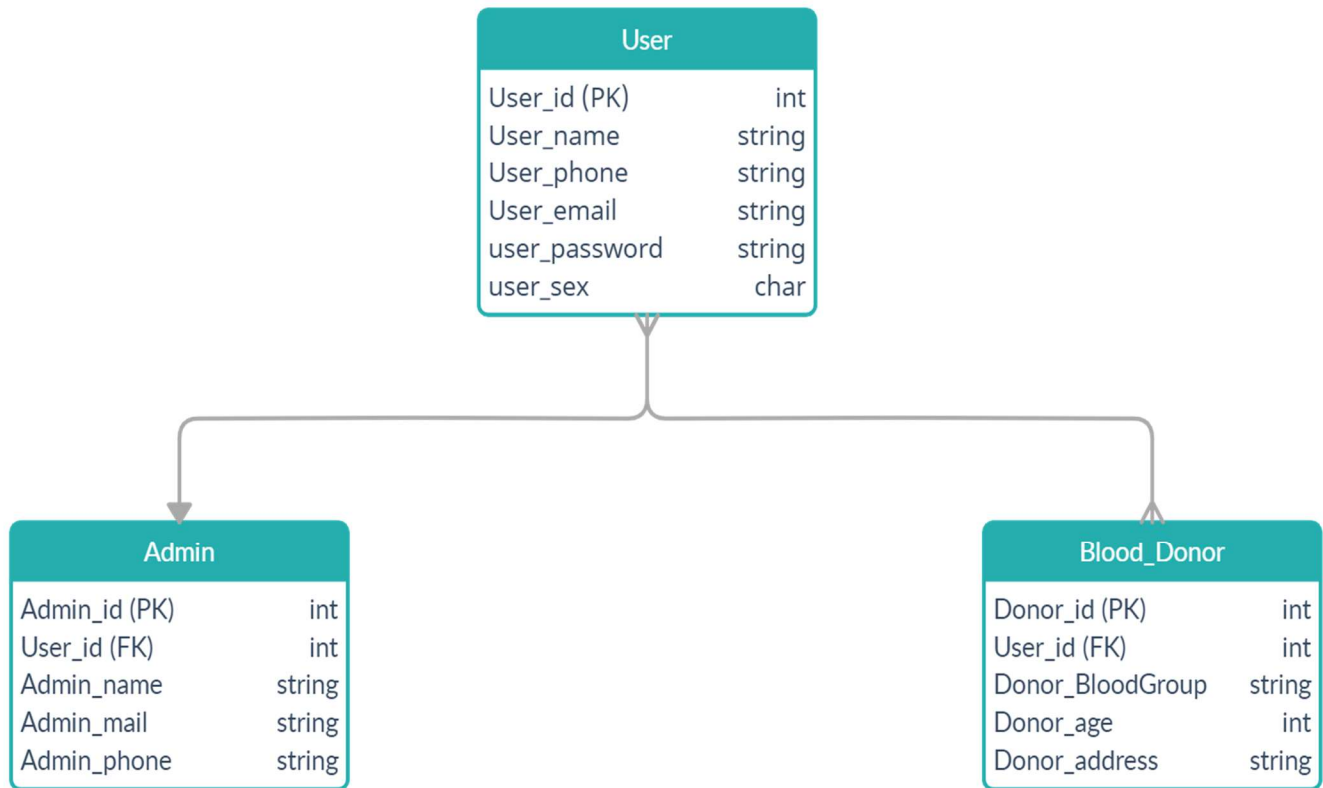
Function Name	Call 999
Scenario	If the user doesn't have an active internet connection, then he/she can use government emergency helpline service 999
Precondition	None

Function Name	Blood Bank
Scenario	User can locate blood donor according to his need
Precondition	Login

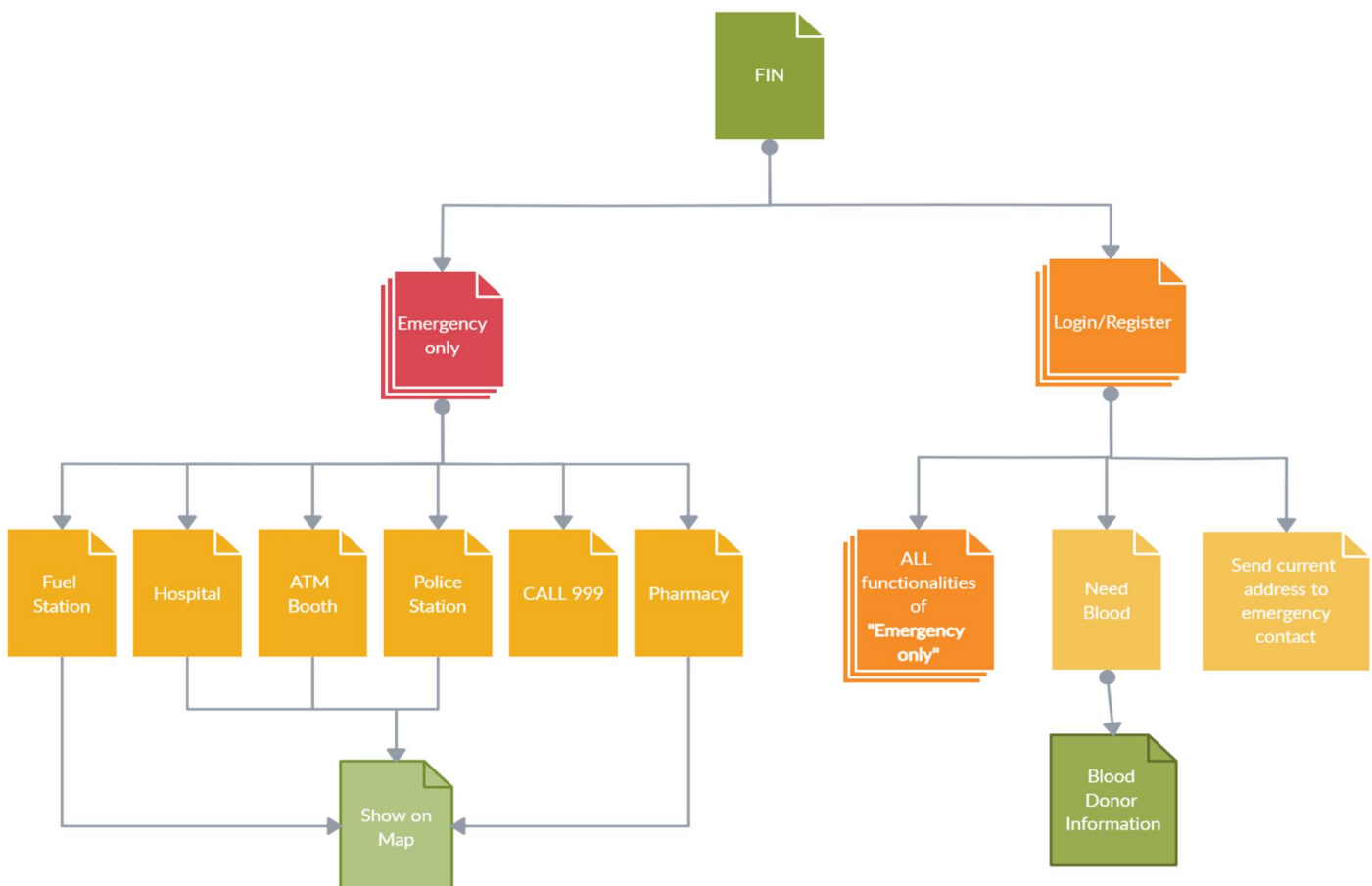
Entity and Attributes:

Entity	Attributes
User	user_id
	user_name
	user_phone
	user_mail
	user_password
	user_sex
Admin	admin_id
	User_id
	admin_name
	admin_mail
	admin_phone
Blood_Donor	donor_id
	User_id
	donor_BloodGroup
	donor_age
	donor_address

Entity Relationship Diagram :



Context Level Diagram :



Normalization :

Normalization basically has three form :

- 1.First Normal Form(1NF)
- 2.Second Normal Form(2NF)
- 3.Third Normal Form(3NF)

First Normal Form(1NF)

For a table to be in the First Normal Form It should follow the rules below:

- 1.It should only have single valued attributes.
- 2.Values stored in a column should be of the same domain.
- 3.All the columns in a table should have unique names.
- 4.And the order in which data is stored, does not matter.

Second Normal Form(2NF)

For a table to be in the 2nd Normal form,

- 1.It should be in the First Normal form.
- 2.It should not have partial Dependency.

Third Normal Form(3NF)

For a table to be in the 3rd Normal form,

- 1.It should be in the Second Normal form.
- 2.It does not have Transitive Dependency.

Normalization of FIN database:

1. User(User_id,User_name,User_phone,User_email,User_password,User_sex)

{User_id} \Rightarrow {User_name}{functional dependency exist,because two different User_name do not correspond to the same User_id.

{User_id} \Rightarrow {User_phone}{functional dependency exist}.

{User_id} \Rightarrow {User_email}{functional dependency exist}.

{User_id} \Rightarrow {User_password}{functional dependency exist}.

{User_id} \Rightarrow {User_sex}{functional dependency exist}.

The attributes of this table does not have sub attributes, it is in the First Normal form(1NF).As every no-primary key attribute is fully functionally dependent on the primary key of the table and it is already in the 1st Normal form ,this table is now in second normal form.

Again the table is in second normal form and no non-primary key attribute is transitively dependent on the primary key, the table is now in 3rd Normal form.

2. Admin(Admin_id,User_id,Admin_name,Admin_mail,Admin_phone)

{Admin_id} \Rightarrow {User_id}{functional dependency exist}.

{Admin_id} \Rightarrow {Admin_name}{functional dependency exist}.

{Admin_id} \Rightarrow {Admin_mail}{functional dependency exist}.

{Admin_id} \Rightarrow {Admin_phone}{functional dependency exist}.

The table is in first normal form.

The table is in second normal form.

The table is in third normal form.

3. Blood_Donor(Donor_id,User_id,Donor_BloodGroup,Donor_age,Donor_Address)

$\{Donor_id\} \Rightarrow \{User_id\}$ {functional dependency exist}.

$\{Donor_id\} \Rightarrow \{Donor_BloodGroup\}$ {functional dependency exist}.

$\{Donor_id\} \Rightarrow \{Donor_age\}$ {functional dependency exist}.

$\{Donor_id\} \Rightarrow \{Donor_Address\}$ {functional dependency exist}.

The table is in first normal form.

The table is in second normal form.

The table is in third normal form.