System Design Document

GiveNet

February 10, 2022

University of Toronto - Mississisuga

Table of Contents:

CRC CARDS

Class Name: User
Parent Class (If any): None **Subclassess (if any):** Donor, Charitable Organisation, Personal Donor

Responsibilities:	**Collaborators:**
- Know your AccID - Sign up - Log in - Log out - Delete account - Change Profile Data (Name, Location, Address etc.) - Search up what C.O want by item	- Wanted items - Donor - Charitable Organisation

Class Name: Donor
Parent Class (If any): User **Subclassess (if any):**

Responsibilities:	**Collaborators:**
- View total contributions - Add/remove available items (listings) - Accept pickups	- Charitable Organisation

Class Name: Charitable Organisation
Parent Class (If any): Charitable Organisation **Subclassess (if any):**

| **Responsibilities:**	**Collaborators:**
- Update wanted items - Claim listings as a shopping cart experience - Schedule Pickup times for listings	- Donor - User

Class Name: Admin

Parent Class (If any): User
Subclassess (if any):

Responsibilities:	Collaborators:
- Handle registration of Donors / donation centres	- Donor - Charitable Organisation

Class Name: Listing

Parent Class (If any):
Subclassess (if any):

Responsibilities:	Collaborators:
- Knows what items are in the order with respective expiry dates - Knows the weight of each item/total weight of donation - Knows the expiry date of each item - Knows the container type of each item - Knows the location of the overall listing	- Charitable Organisation - Donor

Class Name: Pickup

Parent Class (If any):
Subclassess (if any):

Responsibilities:	Collaborators:
- Knows where the location for pick up is - Knows the pick up time - Knows the weight of the items - Knows what vehicles are required to pick up - Knows whos picking it up - Knows if the transaction already occurred - Knows whos picking it up and who is giving the item	- Charitable Organisation - Donor

Class Name: Item	
Parent Class (If any): **Subclassess (if any):** ItemGroup	

Responsibilities:
   - Knows it name
   - Knows its food group
	Collaborators:
	   - Donor
	   - Charitable Organisation

Software Architecture:
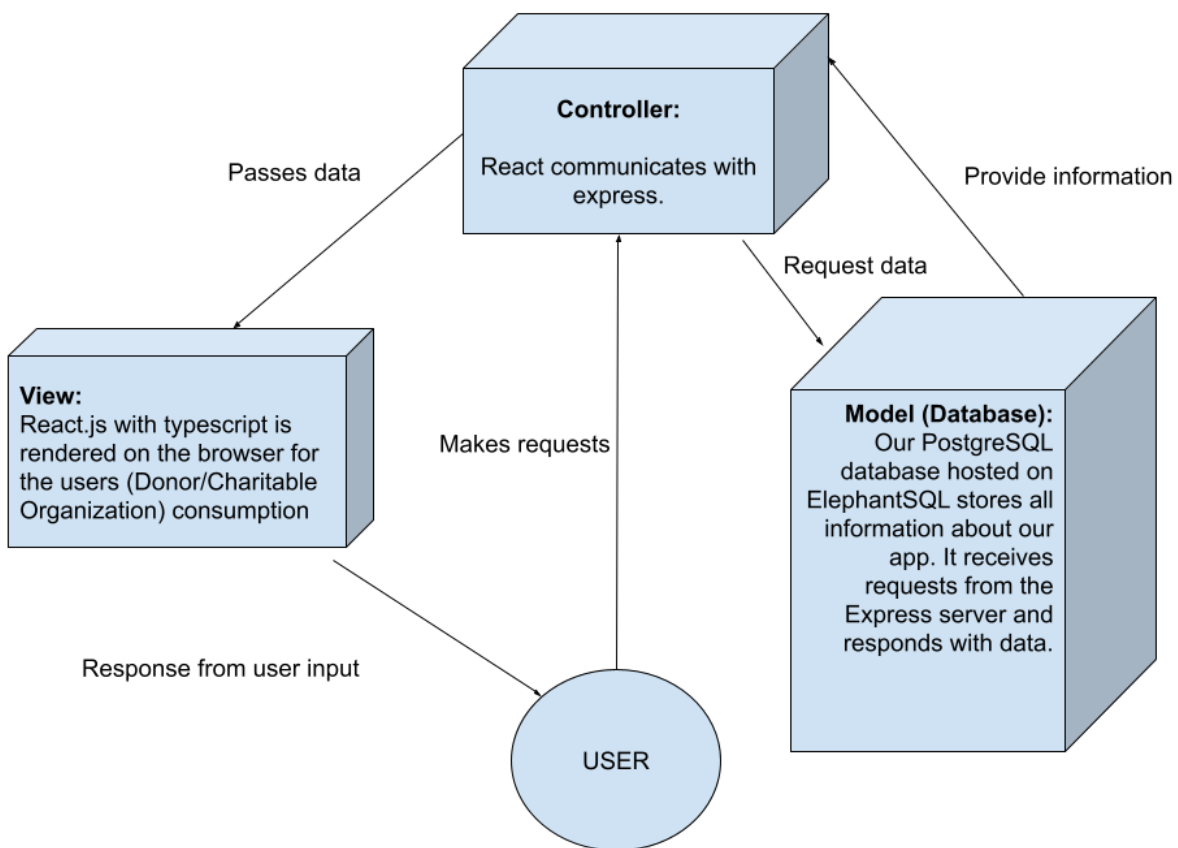
Database Design:

PROFILE TABLES

Account				
Tuple	**AccID**	Username	Password	Type
Type	Int	String	String	Int
Extra	UNIQUE	UNIQUE	HASHED	(0-2) (0 = Admin, 1 = Donor, 2= Charitable Organization)

Users						
Tuple	**AccID**	Name	Location	HoO	Phone	Email	Desc
Type	Int	String	String	String	String[9]	String	String
Extra	KEY + FOREIGN KEY	”	UNIQUE	(Hours of operation)			(About the users whatever)

SocialMedia				
Tuple	**AccID**	Website	Twitter	Instagram	Facebook
Type	Int	String	String	String	String
Extra	KEY + FOREIGN KEY				

ITEM TABLES

Items			
Tuple	**ItemID**	Name	ItemGroupID
Type	Int	String	Integer
Extra	KEY	UNIQUE	FOREIGN KEY

WantedItems		
Tuple	**AccID**	Items
Type	Int	[ItemID]
Extra	KEY + FOREIGN KEY	FOREIGN KEY

ItemGroup			
Tuple	**ItemGroupID**	Desc	Name
Type	Int	STRING	STRING
Extra	KEY		

LISTING TABLES

Listings								
Tuple	**ListingID**	AccID	Items	Weight	Expiry	Container	Location	Notes
Type	Int	Int	[String]	[Float]	[Date]	Int	String	String[255]
Extra	KEY	UNIQUE + FOREIGN KEY				See *		For notes

- Container int must be one of [0 = Individual, 1 = Boxes, 2 = Crates, 3 = Skids]

Pickups								
Tuple	**PickupID**	Time	Location	ListingID	CharAccID	DonAccID	isCompleted	Details
Type	Int	TIMESTAMP	String	Boolean	Int	Int	Boolean	String[255]
Extra	KEY	UNIQUE	UNIQUE	UNIQUE + FOREIGN KEY	Account(CharAccID).type == 2 + FOREIGN KEY	Account(DonAccID).type == 1 + FOREIGN KEY		

PREF TABLES

BlackList		
Tuple	**AccID**	BlackListedID
Type	Int	Int
Extra	KEY + FOREIGN KEY	UNIQUE + FOREIGN KEY

WhiteList		
Tuple	**AccID**	WhiteListedID
Type	Int	Int
Extra	KEY + FOREIGN KEY	UNIQUE + FOREIGN KEY

Referential Constraints:

PROFILE TABLES:
- DonorData(AccID) ⊆ Account(AccID)
- SocialMedia(AccID) ⊆ Account(AccID)
- WantedItems(AccID) ⊆ Account(AccID)
- Listings(AccID) ⊆ Account(AccID)
- Pickups(CharID) ⊆ Account(AccID)
- Pickups(DonID) ⊆ Account(AccID)
- BlackList(AccID) ⊆ Account(AccID)
- BlackList(BlackListedID) ⊆ Account(AccID)
- WhiteList(AccID) ⊆ Account(AccID)
- WhiteList(WhiteListedID) ⊆ Account(AccID)
- Listings(Location) ⊆ DonorData(Location)
- Pickups(Location) ⊆ DonorData(Location)

ITEM TABLES:
- WantedItems(Items) ⊆ Items(ItemID)
- Listings(Items) ⊆ Items(ItemID)
- Items(ItemGroupID) ⊆ ItemGroup(ItemGroupID)

LISTING TABLES:
- Pickups(ListingID) ⊆ Listings(ListID)

ERD Diagram