

# **System Design Document**

GiveNet

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University of Toronto - Mississauga

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## CRC CARDS

<b>Class Name:</b> User	
<b>Parent Class (If any):</b> None <b>Subclassess (if any):</b> Donor, Charitable Organisation, Personal Donor	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>- Know your AccID</li><li>- Sign up</li><li>- Log in</li><li>- Log out</li><li>- Delete account</li><li>- Change Profile Data (Name, Location, Address etc.)</li><li>- Search up what C.O want by item</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>- Wanted items</li><li>- Donor</li><li>- Charitable Organisation</li></ul>

<b>Class Name:</b> Donor	
<b>Parent Class (If any):</b> User <b>Subclassess (if any):</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>- View total contributions</li><li>- Add/remove available items (listings)</li><li>- Accept pickups</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>- Charitable Organisation</li></ul>

<b>Class Name:</b> Charitable Organisation	
<b>Parent Class (If any):</b> Charitable Organisation <b>Subclassess (if any):</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"><li>- Update wanted items</li><li>- Claim listings as a shopping cart experience</li><li>- Schedule Pickup times for listings</li></ul>	<b>Collaborators:</b> <ul style="list-style-type: none"><li>- Donor</li><li>- User</li></ul>

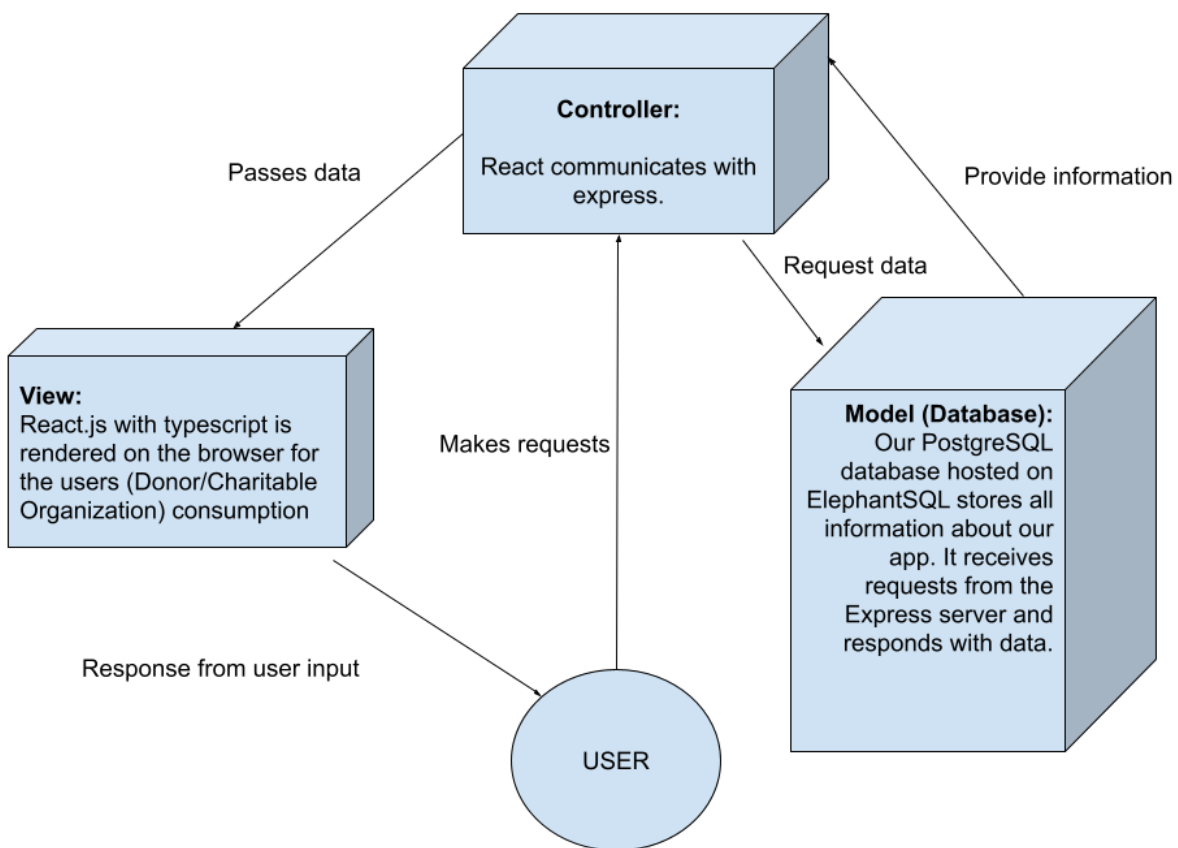
<b>Class Name:</b> Admin	
<b>Parent Class (If any):</b> User <b>Subclassess (if any):</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>- Handle registration of Donors / donation centres</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>- Donor</li> <li>- Charitable Organisation</li> </ul>

<b>Class Name:</b> Listing	
<b>Parent Class (If any):</b> <b>Subclassess (if any):</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>- Knows what items are in the order with respective expiry dates</li> <li>- Knows the weight of each item/total weight of donation</li> <li>- Knows the expiry date of each item</li> <li>- Knows the container type of each item</li> <li>- Knows the location of the overall listing</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>- Charitable Organisation</li> <li>- Donor</li> </ul>

<b>Class Name:</b> Pickup	
<b>Parent Class (If any):</b> <b>Subclassess (if any):</b>	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>- Knows where the location for pick up is</li> <li>- Knows the pick up time</li> <li>- Knows the weight of the items</li> <li>- Knows what vehicles are required to pick up</li> <li>- Knows whos picking it up</li> <li>- Knows if the transaction already occurred</li> <li>- Knows whos picking it up and who is giving the item</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>- Charitable Organisation</li> <li>- Donor</li> </ul>

<b>Class Name:</b> Item	
<b>Parent Class (If any):</b> <b>Subclassess (if any):</b> ItemGroup	
<b>Responsibilities:</b> <ul style="list-style-type: none"> <li>- Knows it name</li> <li>- Knows its food group</li> </ul>	<b>Collaborators:</b> <ul style="list-style-type: none"> <li>- Donor</li> <li>- Charitable Organisation</li> </ul>

## Software Architecture:



## **Database Design:**

### **PROFILE TABLES**

<b>Account</b>				
<b>Tuple</b>	<b><u>AccID</u></b>	Username	Password	Type
<b>Type</b>	Int	String	String	Int
<b>Extra</b>	UNIQUE	UNIQUE	HASHED	(0-2) (0 = Admin, 1 = Donor, 2= Charitable Organization)

<b>Users</b>							
<b>Tuple</b>	<b><u>AccID</u></b>	Name	Location	HoO	Phone	Email	Desc
<b>Type</b>	Int	String	String	String	String[9]	String	String
<b>Extra</b>	KEY + FOREIGN KEY	"	UNIQUE	(Hours of operation)			(About the users whatever)

<b>SocialMedia</b>					
<b>Tuple</b>	<b><u>AccID</u></b>	Website	Twitter	Instagram	Facebook
<b>Type</b>	Int	String	String	String	String
<b>Extra</b>	KEY + FOREIGN KEY				

## ITEM TABLES

Items			
<b>Tuple</b>	<u><b>ItemID</b></u>	Name	ItemGroupID
<b>Type</b>	Int	String	Integer
<b>Extra</b>	KEY	UNIQUE	FOREIGN KEY

WantedItems		
<b>Tuple</b>	<u><b>AccID</b></u>	Items
<b>Type</b>	Int	[ItemID]
<b>Extra</b>	KEY + FOREIGN KEY	FOREIGN KEY

ItemGroup			
<b>Tuple</b>	<u><b>ItemGroupID</b></u>	Desc	Name
<b>Type</b>	Int	STRING	STRING
<b>Extra</b>	KEY		

## LISTING TABLES

Listings								
Tuple	<u>ListingID</u>	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	<u>PickupID</u>	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		
<b>Tuple</b>	<b><u>AccID</u></b>	BlackListedID
<b>Type</b>	Int	Int
<b>Extra</b>	KEY + FOREIGN KEY	UNIQUE + FOREIGN KEY

WhiteList		
<b>Tuple</b>	<b><u>AccID</u></b>	WhiteListedID
<b>Type</b>	Int	Int
<b>Extra</b>	KEY + FOREIGN KEY	UNIQUE + FOREIGN KEY

### Referential Constraints:

#### PROFILE TABLES:

- DonorData(AccID)  $\subseteq$  Account(AccID)
- SocialMedia(AccID)  $\subseteq$  Account(AccID)
- WantedItems(AccID)  $\subseteq$  Account(AccID)
- Listings(AccID)  $\subseteq$  Account(AccID)
- Pickups(CharID)  $\subseteq$  Account(AccID)
- Pickups(DonID)  $\subseteq$  Account(AccID)
- BlackList(AccID)  $\subseteq$  Account(AccID)
- BlackList(BlackListedID)  $\subseteq$  Account(AccID)
- WhiteList(AccID)  $\subseteq$  Account(AccID)
- WhiteList(WhiteListedID)  $\subseteq$  Account(AccID)
- Listings(Location)  $\subseteq$  DonorData(Location)
- Pickups(Location)  $\subseteq$  DonorData(Location)

#### ITEM TABLES:

- WantedItems(Items)  $\subseteq$  Items(ItemID)
- Listings(Items)  $\subseteq$  Items(ItemID)
- Items(ItemGroupID)  $\subseteq$  ItemGroup(ItemGroupID)

#### LISTING TABLES:

- Pickups(ListingID)  $\subseteq$  Listings(ListID)