



CHRIST
UNIVERSITY
B E N G A L U R U , I N D I A

Declared as Deemed to be University under Section 3 of UGC Act 1956

Altruists

Design Document

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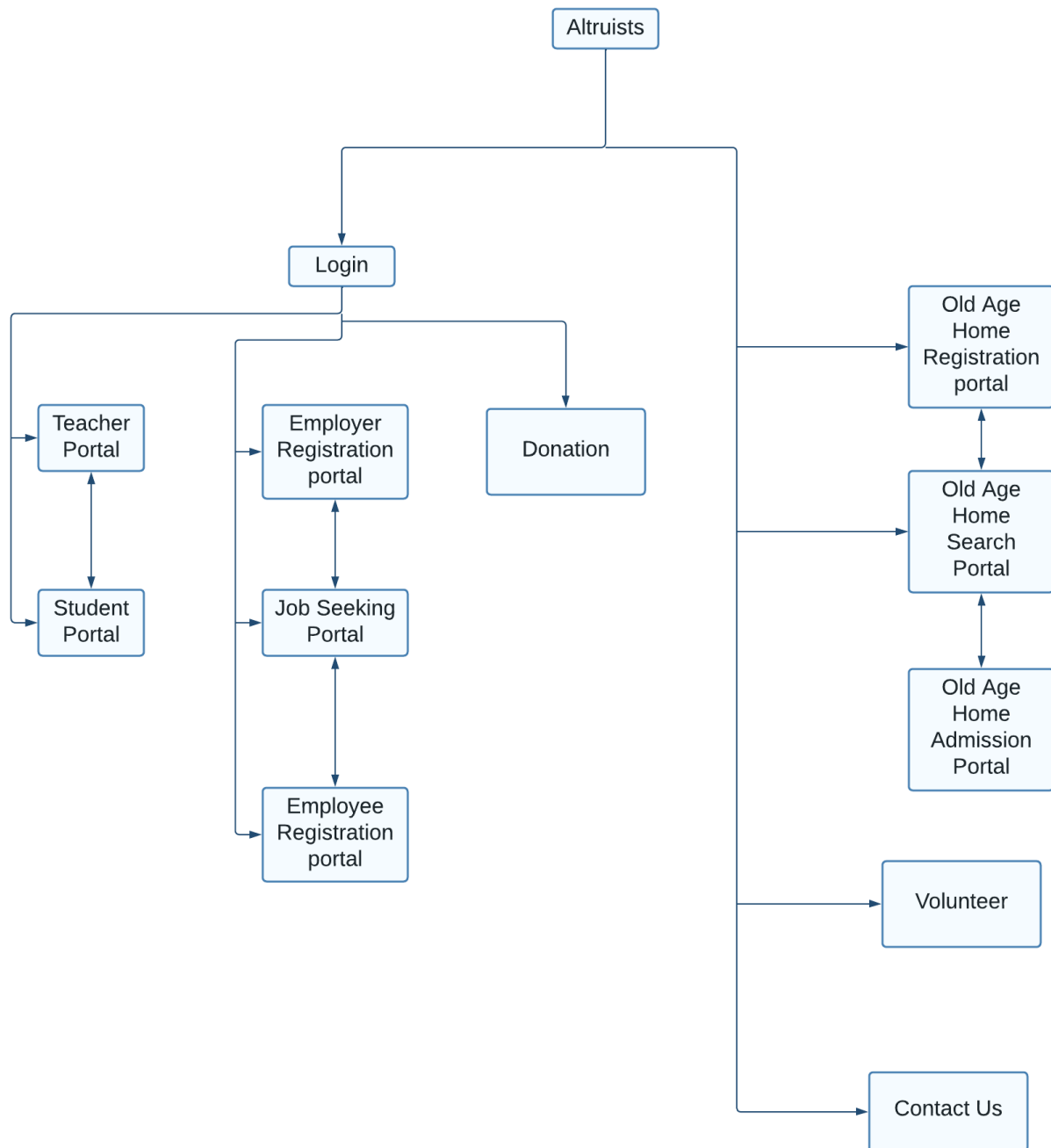
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TABLE OF CONTENTS

1. Block Diagram
2. Data Model
 - a. Data Flow Design
 - b. ER Diagram
3. Normalisation
4. Data Description
5. Interface Between Modules
6. Interface Between User and System

1. Block Diagram

A block diagram is a visual representation of a database in which the database connectivity and its functions are represented by blocks connected by lines that show the relationships of the blocks.



KEY POINTS :

- A user will access the modules using a login page in which User ID and Password will be common for all the modules.
- Connected modules-



Teachers will be assigned a Teacher ID upon registration with our NGO. Students will also be assigned a Student ID once they have successfully filled up the admission form.



When a person enters his/her qualifications in the Employer Registration Portal, the system will not only check if the employer is eligible for the company, but the data will be passed on to the Job Seeking Portal.

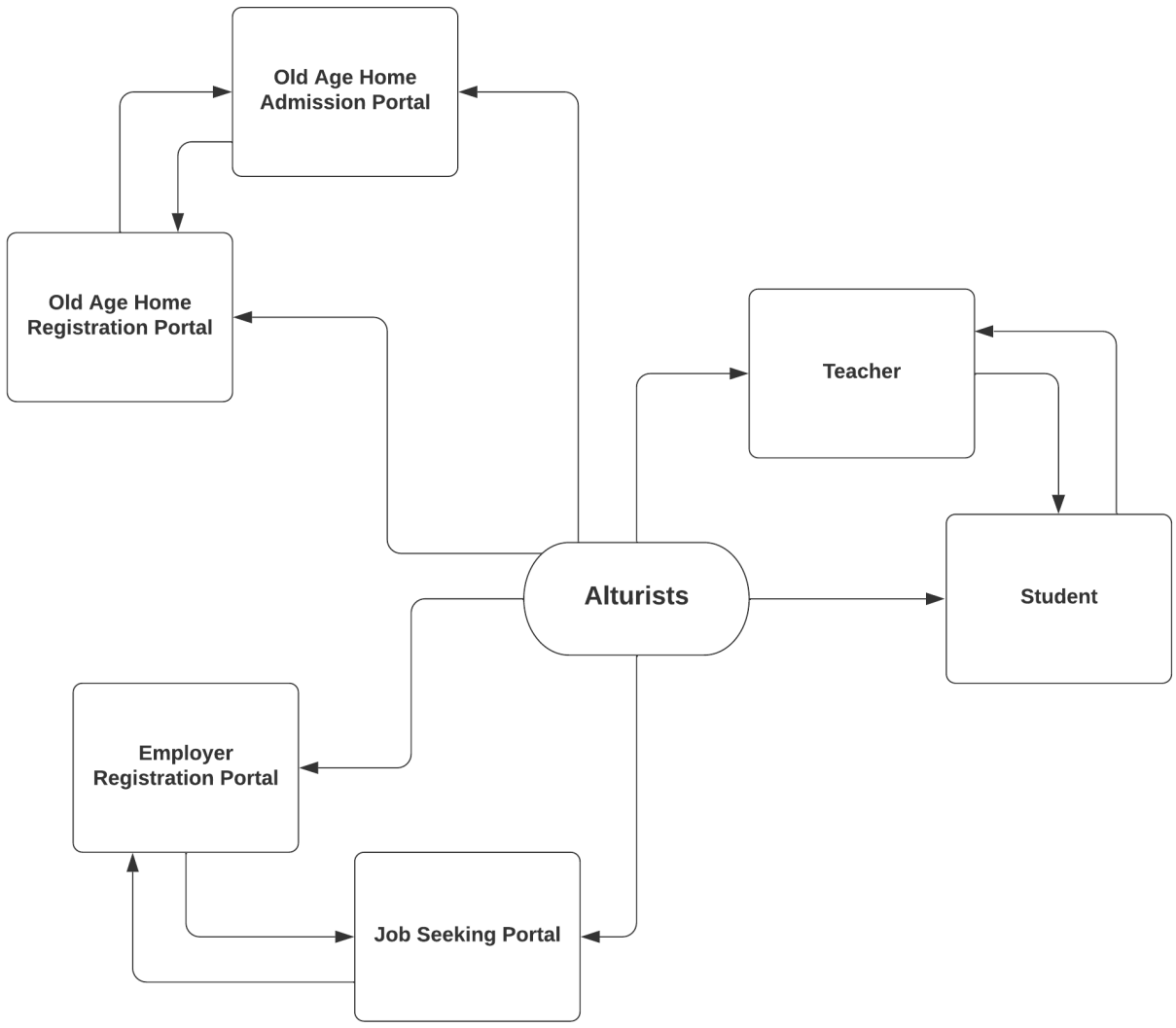


The data of Old Age Home Admission Portal will be Passed on to Old Age Home Registration portal and according to their matching speciality and the users wants, an Old Age Home will be assigned to them.

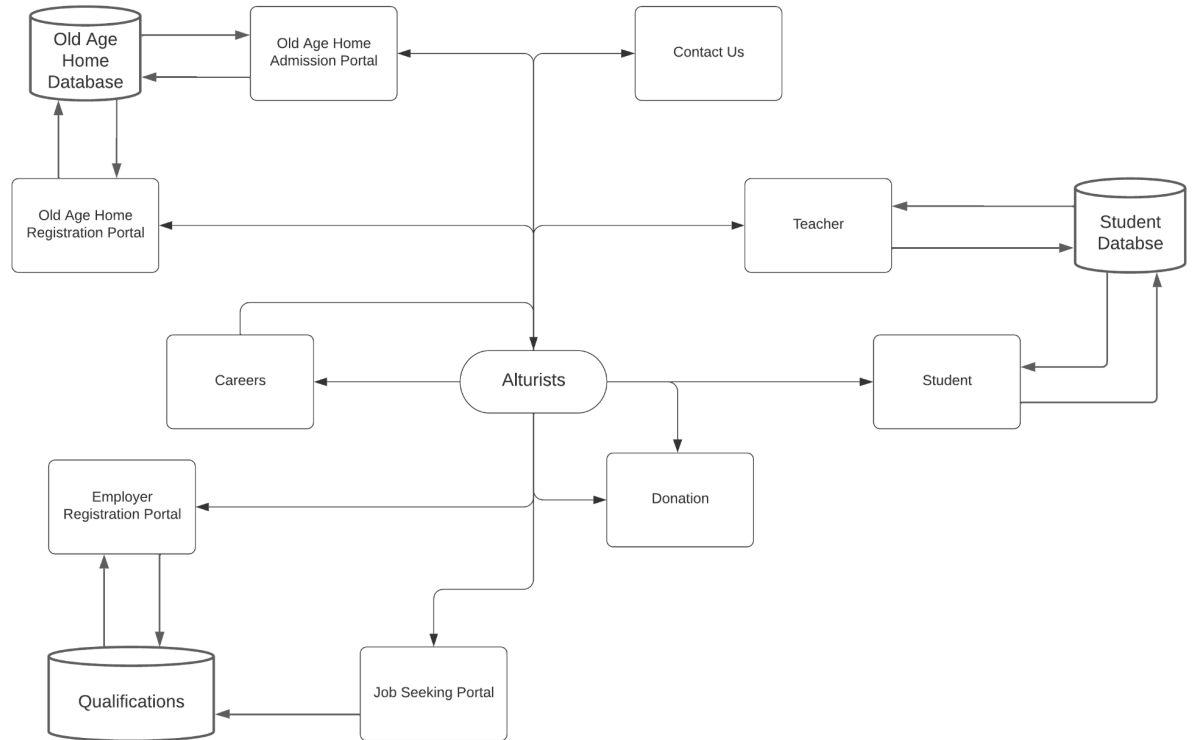
2. Data Models

a. Data Flow Diagram

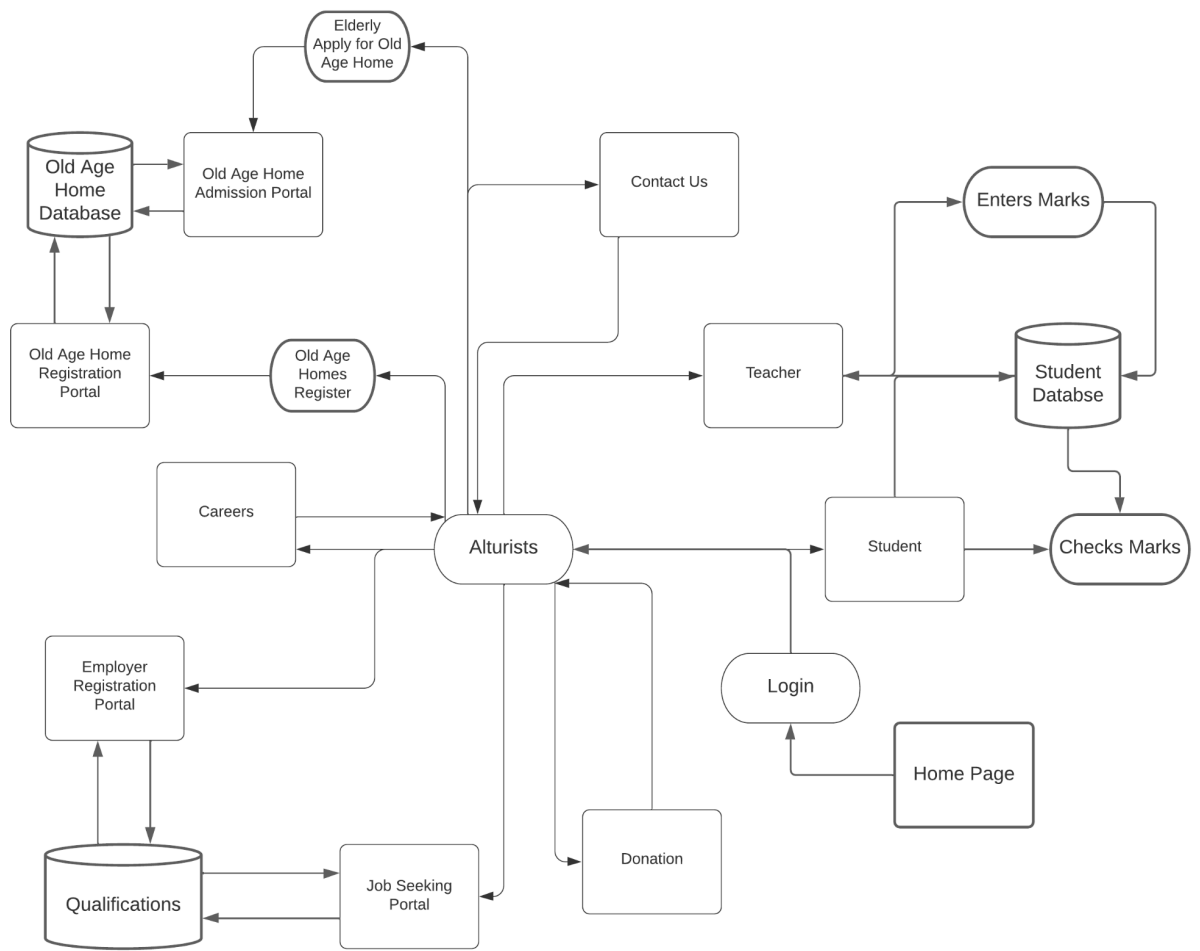
Level 0



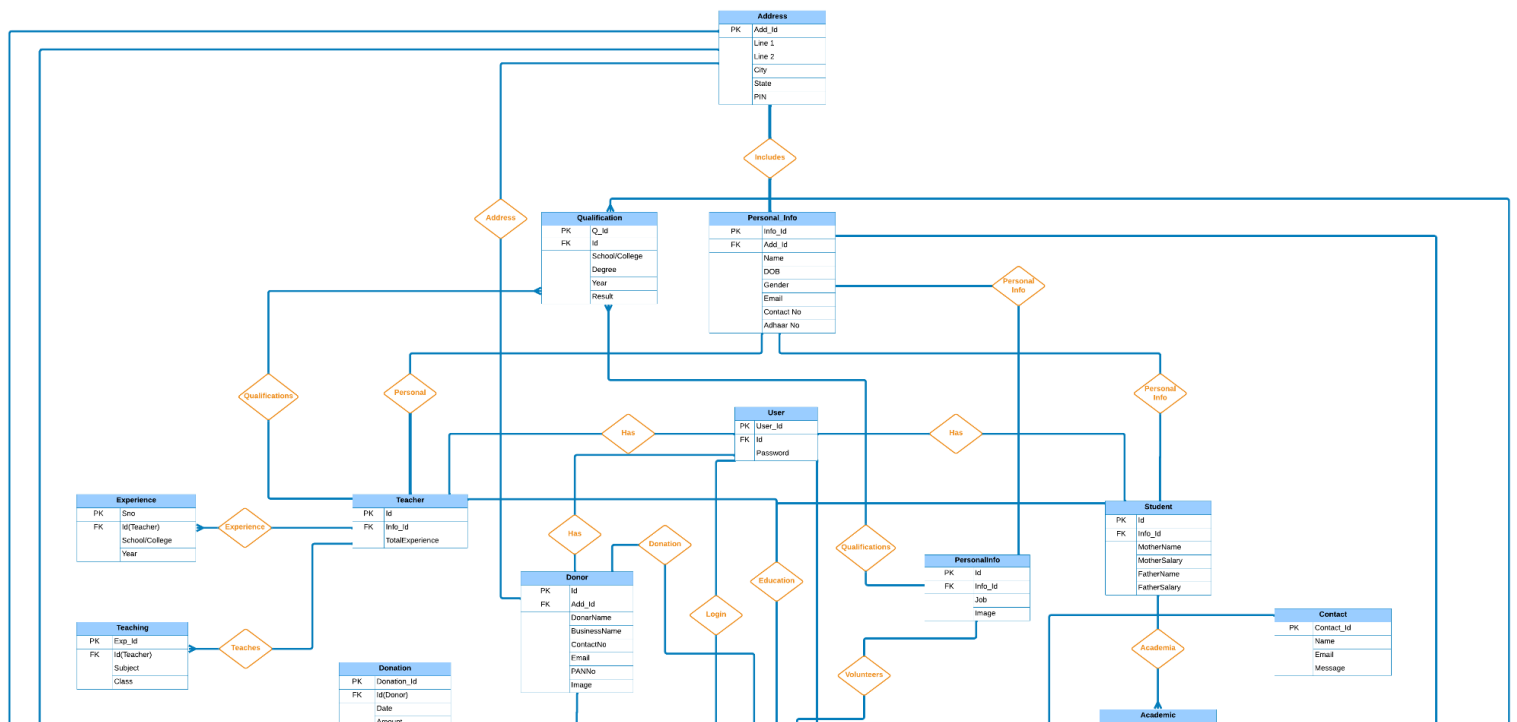
Level 1



Level 2



b.ER Diagram



3. Normalisation

Tables	Coulmn1	Coulmn2	Coulmn3	Coulmn4	Coulmn5	Coulmn6	Coulmn7	Coulmn8	Coulmn9	Coulmn10	Coulmn11
User	User_Id	Id	Password								
Address	Add_Id	Line 1	Line2	City	State	PIN					
Personal_Info	Info_Id	Name	DOB	Gender	Email	ContactNo	AdhaarNo	Add_Id			
Qualification	Q_Id	Id	School/College	Degree	Year	Result					
Teacher	Id	Info_Id	TotalExperience	<Qualification>							
Teaching	Sno	Id(Teacher)	Subject	Class							
Experience	Exp_Id	Id(Teacher)	School/College	Years							
Student	Id	Info_Id	MotherName	MotherSalary	FatherName	FatherSalary					
Academic	Sno	Id(Student)	Class	Subject1	Subject2	Subject3	Subject4	Subject5	StrongestSubject	WeakestSubject	
Employer	Id	Name	BusinessName	Email	ContactNo						
Job	Desig_Id	Id(Employer)	Designation	Availability	WorkingHours	Salary	Required_Qual	Job description			
Employee	Id	Id(Employer)	Info_Id	<Qualification>							
OldAgeHome	Home_Id	Name	Email	ContactNo	Add_Id	Availability	Speciality				KEY
Patient	Patient_Id	Home_Id	Name	AdhaarNo	DOB	M_Id					Primary Key
PatientFamily	Member_Id	Patient_Id	Name	ContactNo	Email	Add_Id					Foreign Key
Medical	M_Id	Height	Weight	BMI	SugarLevel	CholestrolLevel	BloodGroup	Haemoglobin			
Donor	Id	BusinessName	DonorName	Email	ContactNo	PANNo	Add_Id	Image			
Donation	Donation_Id	Id(donor)	Date	Amount	Payment_type	UPI	AccountNo	Bank_Name	IFSC		
Volunteer	Id	Info_Id	Job	Image	<Qualification>						
Contact Us	Contact_Id	Name	Email	Message							

The database given is in the third normal form (3NF) as per our analysis of it because of the following reasons:

1. There are only single valued attributes and if there are multi valued then we are not allowing users to enter (1NF).
2. The relation is in first normal form and it's non-prime attributes are fully functional dependent on the primary key.(2NF)
3. The relation is in second normal form and no attribute is transitively dependent on the primary key.(3NF)

4. Data Description

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Common Tables	User	User_Id	Varchar(10)	Primary	Not Null,Unique	~	~
		Password	Varchar(5)	~	Not Null	~	~
	Address	Add_Id	Int	Primary	Auto Increment	~	~
		Line1	Varchar(50)	~	Not Null	~	~
		Line2	Varchar(50)	~	Not Null	~	~
		City	Varchar(20)	~	Not Null	~	~
		State	Varchar(20)	~	Not Null	~	~
		PIN	Int	~	Not Null	check(PIN regexp('[0-9]{6}'))	~
	PersonalInfo	Info_Id	Int	Primary	Auto Increment	~	~
		Names	Varchar(30)	~	Not Null	~	~
		DOB	Date	~	Not Null	~	~
		Gender	Enum('Male','Female','Other')	~	Not Null	~	~
		Email	Varchar(30)	~	Not Null	Check(Email like '%_@_%_%.%')	~
		ContactNo	BigInt	~	Not Null	Check(ContactNo regexp('[0-9]{10}'))	~
		AdhaarNo	BigInt	~	Not Null	Check(AdhaarNo regexp('[0-9]{12}'))	~
		Add_Id	Int	Foreign	Not Null	~	~
	Qualification	Q_Id	Int	Primary	Auto Increment	~	~
		Id	Varchar(10)	Foreign	Not Null	~	~
		School_College	Varchar(30)	~	Not Null	~	~
		Degree	Varchar(30)	~	Not Null	~	~
		Year	Int	~	Not Null	~	~
		Result	Double	~	Not Null	~	~

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Teacher Module	Teacher	Id	Varchar(10)	Primary	Not Null, Unique	~	~
		User_Id	Varchar(10)	Foreign	Not Null, Unique	~	~
		Info_Id	Int	Foreign	Not Null	~	~
		TotalExp	Int	~	Not Null	check(TotalExp > 0)	~
	Teaching	Sno	Int	Primary	Auto Increment	~	~
		Id(Teacher)	Varchar(10)	Foreign	Not Null	~	~
		Subject	Varchar(20)	~	Not Null	~	~
		Class	Int	~	Not Null	Check(Class>=1 AND Class<=12)	~
	Experience	Exp_Id	Int	Primary	Auto Increment	~	~
		Id(Teacher)	Varchar(10)	Foreign	Not Null	~	~
		School_College	Varchar(50)	~	Not Null	~	~
		Years	Int	~	Not Null	Check(Year>=1),	~

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Student Module	Student	Id	Varchar(10)	Primary	Not Null, Unique	~	~
		User_Id	Varchar(10)	Foreign	Not Null	~	~
		Info_Id	Int	Foreign	Not Null	~	~
		MotherName	Varchar(20)	~	Not Null	~	~
		MotherSalary	Int	~	Not Null	~	~
		FatherName	Varchar(20)	~	Not Null	~	~
		FatherSalary	Int	~	Not Null	~	~
	Academic	Sno	Int	Primary	Auto Increment	~	~
		Id(Student)	Varchar(10)	Foreign	Not Null	~	~
		Class	Int	~	Not Null	Check(Class>=1 AND Class<=12)	~
		Subject1	Int	~	Not Null	Check(Subject1<=100)	~
		Subject2	Int	~	Not Null	Check(Subject2<=100)	~
		Subject3	Int	~	Not Null	Check(Subject3<=100)	~
		Subject4	Int	~	Not Null	Check(Subject4<=100)	~
		Subject5	Int	~	Not Null	Check(Subject5<=100)	~
		StrongestSubject	Varchar(10)	~	Not Null	~	~
		WeakestSubject	Varchar(10)	~	Not Null	~	~

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Job Seeking Module	Employer	Id	Varchar(10)	Primary	Not Null	~	~
		User_Id	Varchar(10)	Foreign	Not Null	~	~
		Names	Varchar(30)	~	Not Null	~	~
		BusinessName	Varchar(30)	~	Not Null	~	~
		Email	Varchar(30)	~	Not Null	Check(Email like '%_@_%_%.%')	~
		ContactNo	Bigint	~	Not Null	Check(ContactNo regexp'[0-9]{10}')	~
	Job	Desig_Id	Int	Primary	Auto_Increment	~	~
		Id(Employer)	Varchar(10)	Foreign	Not Null	~	~
		Designation	Varchar(20)	~	Not Null	~	~
		Availability	Int	~	Not Null	~	~
		WorkingHours	Int	~	Not Null	Check(WorkingHours>0)	~
		Salary	Int	~	Not Null	check(Salary>1)	~
		Required_Qual	Varchar(50)	~	Not Null	~	~
		JobDesc	Varchar(200)	~	Not Null	~	~
	Employee	Id	Varchar(10)	Primary	Not Null, Unique	~	~
		User_Id	Varchar(10)	Foreign	Not Null	~	~
		Id(Employer)	Varchar(10)	Foreign	Not Null	~	~
		Info_Id	Varchar(10)	Foreign	Not Null	~	~

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Sheltering Module	OldAgeHome	HomeId	Int	Primary	Auto Increment	~	~
		HomeName	Varchar(30)	~	Not Null	~	~
		Email	Varchar(30)	~	Not Null	Check(Email like '%_@_%_%.%')	~
		ContactNo	Bigint	~	Not Null	Check(ContactNo regexp'[0-9]{10}')	~
		Add_Id	Int	Foreign	Not Null	~	~
		Availability	Int	~	Not Null	~	~
		Speciality	n('Differently-abled friendly','Mentally ill frien	~	Not Null	~	~
	Patient	Patient_Id	int	Primary	Auto Increment	~	~
		Home_Id	int	Foreign	Not Null	~	~
		Names	Varchar(30)	~	Not Null	~	~
		AdhaarNo	Bigint	~	Not Null	Check(AdhaarNo regexp'[0-9]{12}'),	~
		DOB	Date	~	Not Null	~	~
		M_Id	Int	Foreign	Not Null	~	~
	Medical	M_Id	Int	Primary	Auto Increment	~	~
		Height	Double	~	Not Null	~	~
		Weight	Double	~	Not Null	~	~
		BMI	Double	~	Not Null	~	~
		BloodGroup	Varchar(10)	~	Not Null	~	~
		Haemoglobin	Double	~	Not Null	~	13.2
		SugarLevel	Double	~	Not Null	~	90
		CholesterolLevel	Double	~	Not Null	~	95
	PatientFamily	Member_Id	Int	Primary	Auto Increment	~	~
		Patient_Id	Int	Foreign	Not Null	~	~
		Names	Varchar(30)	~	Not Null	~	~
		Contact	Bigint	~	Not Null	Check(ContactNo regexp'[0-9]{10}')	~
		Email	Varchar(30)	~	Not Null	Check(Email like '%_@_%_%.%')	~
		Add_Id	Int	Foreign	Not Null	~	~

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Donation Module	Donor	Id	Varchar(10)	Primary	Not Null, Unique	~	~
		User_Id	Varchar(10)	Foreign	Not Null	~	~
		BusinessName	Varchar(30)	~	Not Null	~	~
		DonorName	Varchar(30)	~	Not Null	~	~
		Email	Varchar(30)	~	Not Null	Check(Email like '%_@_%_%.%')	~
		ContactNo	Bigint	~	Not Null	Check(ContactNo regexp'[0-9]{10}')	~
		PANNo	Bigint	~	Not Null	Check(PANNo regexp'[A-Za-z0-9]{10}')	~
		Add_Id	Int	Foreign	Not Null	~	~
		Image	Blob	~	~	~	~
	Donation	Donation_Id	Int	Primary	Auto Increment	~	~
		Id(Donor)	Varchar(10)	Foreign	Not Null	~	~
		Date	Date	~	Not Null	~	Curdate()
		Amount	Double	~	~	~	0
		Payment	enum('UPI','NEFT/RTGS')	~	~	~	~
		UPI	Varchar(40)	~	~	~	~
		AccountNo	Bigint	~	~	~	~
		Bank_Name	Varchar(30)	~	~	~	~
		IFSC	Varchar(11)	~	~	Check(IFSC regexp'[A-Za-z0-9]{11}'),	~

Module	Table Name	Columns	Data Type	Key	Constraints	Check Condition	Default Value
Volunteer Module	Volunteer	Id	Varchar(10)	Primary	Not Null, Unique	~	~
		Info_Id	Int	Foreign	Not Null	~	~
		Job	Varchar(20)	~	~	~	~
		Image	Blob	~	~	~	~
Contact Module	ContactUs	Contact_Id	Int	Primary	Auto Increment	~	~
		Name	Varchar(30)	~	Not Null	~	~
		Email	Varchar(30)	~	Not Null	Check(Email like '%_@_%._%')	~
		Message	Varchar(200)	~	Not Null	~	~

5. INTERFACE BETWEEN MODULES

We have 9 modules in our project. Out of these 9 modules, 6 of them will be exchanging data between themselves. Teacher portal and Student Module will be interacting externally as each student will be assigned a specific teacher. Employer Registration Portal and Job Seeking Portal will also be exchanging data. Lastly, the Old Age Home Registration and Admission Portal will have data flowing between them.

- 1. Teacher Portal and Student Module** - Teacher will be assigned a Teacher ID upon registration with our NGO. Students will also be assigned a Student ID once they have successfully filled up the admission form. There will be no exchange of data inside the system, but externally, teachers will be entering marks of each

student using their ID.

2. **Employer Registration Portal and Job Seeking Portal** - When a person will enter his/her qualifications in the Employer Registration Portal, the system will not only check if the employer is eligible for the company, but the data will be passed on to the Job Seeking Portal. In case the employee wants to apply for some other job, he can use the Job Seeking Portal to do the same.
3. **Old Age Home Registration Portal and Old Age Home Admission Portal** - Whenever an Old Age Home registers with us using our Old Age Home Registration Portal, the information of their Old Age Home is recorded with us, along with their speciality. Similarly once a user registers using our Old Age Home Admission Portal, they can mention what specialty they need. The data of Old Age Home Admission Portal will be Passed on to Old Age Home Registration portal and according to their matching speciality and the users wants, an Old Age Home will be assigned to them.

6. INTERFACE BETWEEN MODULES AND USER

Out of the 9 modules in our project, User will be inputting data in modules listed below, and the user will have to go through a login page before entering any module. So we can say that User ID and Password is common for all the modules listed below.

1. **Teacher Portal** - Teachers will be entering the marks of students after passing the login page, they will be able to see the marks they have entered for current and previous students.
2. **Student Module** - Students will be able to see their marks after the login page, there won't be any extra information being entered by the student inside any module.
3. **Employer Registration Portal** - Employers, after login, will enter the business name, email, and contact number. These will later be used by Employees to contact the Employer in case the job suits their qualifications and requirements.
4. **Job Seeking Portal** - In this, the Employer will do a one time entry for Designation, Availability, Working Hours, Salary, Required Qualifications, and Job Description. This data will be later used to find Employees a suitable job.
5. **Old Age Home Registration Portal** - Old Age Homes will be able to register with our NGO using this portal. A User from the Old Age Home will be able to enter the Name, Email, Contact Number, Availability, and Speciality. These will be used by patients to find them a suitable Old Age Home for sheltering.
6. **Old Age Home Admission Portal** - Users will be able to apply for an Old Age Home using this portal, they will have to enter their Name, Aadhar ID, and Date Of Birth. After this they can search for Old Age Homes, according to their likings.
7. **Donation** - The Donor has to enter his Name, Business/Company Name, Email, Contact Number, and PAN Number. They will also be able to upload their image which will be displayed on our website.
8. **Volunteer** - Volunteers will have to enter their Job, Image, and Qualifications to volunteer with us.
9. **Contact Us** - Users will have to enter their Name, Email, Query Type, and Message in order to ask us queries and have them clarified.

Login

Password

Login

Student ID

Subject 1 marks

Subject 2 marks

Subject 3 marks

Subject 4 marks

Subject 5 marks

Submit

Name : XYZ

ID : STU0000

Subject	Passing Marks	Marks Scored	Maximum Marks
Subject 1	-	-	-
Subject 2	-	-	-
Subject 3	-	-	-
Subject 4	-	-	-
Subject 5	-	-	-

Submit

