Project Report

CS 203
DATABASE SYSTEMS

NAIKI

Members

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1) DESIGN PHASE:

a) Proposal:

i) Introduction and brief description.

As per the latest poverty estimates, 24% of Pakistan's population lives below the national poverty line; which includes 31% in rural areas and 13% in urban areas. Hence, there is a desperate need for an automated efficient system for Pakistan which connects privileged with the underprivileged people of Pakistan.

This project will provide a platform for people to donate whatever they are fortunate with (blood, money, clothes, time, knowledge), for the betterment of the lower and underprivileged class people who are living hand to mouth conditions or have lost their home due to natural disasters or any reason and for the betterment of the environment of the country. Moreover, it also encourages people to donate more and more as the user will also receive points after each donation depending upon the amount and type of donation made which can later be redeemed for free or discounted items at the selected store (or these points can be donated again in the form of cash).

Therefore, NAIKI is a system which takes Donors and the Help seekers on board in order to support those in need.

ii) What functions should the system perform? That is, inventory control, billing, ordering, etc.

A needy person will call on the NGO's customer care or visit them in person with their request of the need. The staff at NGO will lodge their needs into the system and then search it in the donation database whether any of the donors is donating what is required by the needy. This will lead to 2 outcomes; (1) The request is matched with the donation and the donor is sent a message that their donation has been accepted, (2) The request is not matched as none of the donors is donating what is needed. In this case the request will be uploaded in the database and when any match is available, the needy person will be contacted by the NGO staff.

A donor will login into their account and then publish the ad/status of their donation. After it's published, the database will automatically search for matching needs as per the donation. (1) If it is matched the donor will be prompted and asked if he wants to donate to the person prompted. If he chooses yes, the NGO staff will be notified that the request for the need has been accepted by the donor. If he chooses no, then the ad/status of donation will be published. (2) If it is not matched then the ad/status will automatically be published and whenever the matching requests will be made, the donor will be notified if he wants to donate to this person or not.

(A donor will login and search for the available requests on the database and then he can choose to donate to any kind of request that is being posted)

iii) Front-End and Back-End Technologies

Front-End Technologies

- HTML
- CSS
- JavaScript

Back-End Technologies

- Node Js
- Express Js
- MySQL

b) Normalization:

FIRST NORMAL FORM:
USER:-
Userid name cnic contact email password city donorid scenerid admin id don id regid ngo name donation type amount 100-loc FD4 [request type]
SECOND NORMAL FORM USER:
userid name cric contact email password city
DONOR:- SEEKER [userid donorid donation type amount]
SEENER:- Tuser id seeker id requid request type amount
NGO ADMIN:
user id adminid I ngo name I ngo loc

	Date
DONATION:	
don id donat type id donating amount	donat_id
Help Request.	
registerid reg type id regismon	<i>t</i>
Type:	
· HE:	
tuos il tuos	
type id type name:	
0- 1	
Donation Match:	
matchid donid seckerid donatament re	maining amont
1 7 7	30

c) Entity Relationship Design:

i) Describe your entities. You must have enough entities to insure your project is not a "toy" system. GENERAL RULE: you should have about 5 entities and 7 or 8 tables.

Entities

- Donor (Person who donates on our portal)
- Help Seeker (Person who receives donation from our portal)
- o NGO (Registered NGO's on our portal, in order to place donation request or help out us if we are short of resources)
- Sys_User (General users of the portal, it covers all of them donors, help seekers and NGO admins)
- o Location (To keep track of the location of stakeholders, in order to carry out further proceedings)
- o NGO Employee/Admin (Representative from registered NGO's on our portal which manages all the donation requests and donations accumulated)
- o Donation Request (Donation request being placed are tracked to fulfill our help seekers necessity)
- o Donation Type (Specified types of donations which our portal deals in)

❖ Tables

Column Name	Datatype	PK	NN	UQ	В	UN	ZF	ΑI	
💡 user_id	INT	~	~					~	
	BIGINT		~	~					
name	VARCHAR(45)		~						
gender	VARCHAR(1)		~						
contact	BIGINT		~	~					
email	VARCHAR(60)		~	~					
loc_id	INT		~						
password	VARCHAR(45)		~						

ocation (data of cities)						
🕴 idLoc	INT				~	
♦ LocName	VARCHAR(45)	~	~			

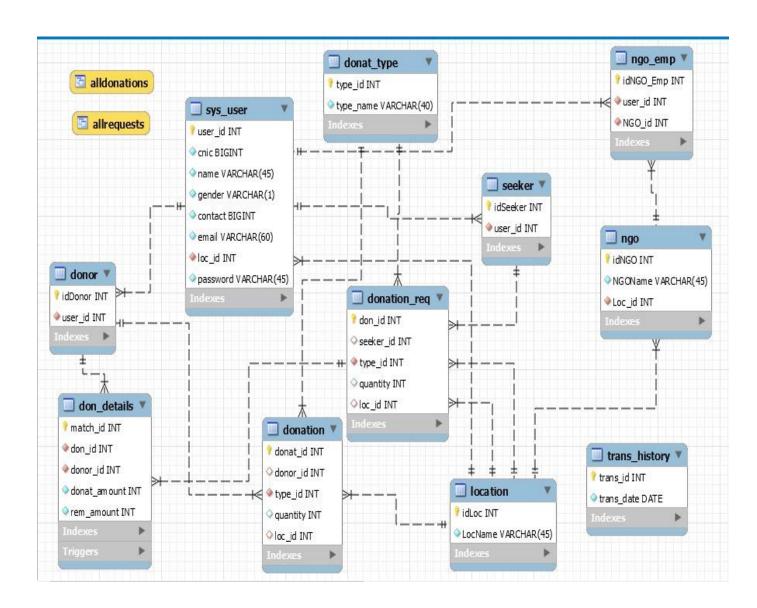
NgO (data of NGOS I idNGO NGOName Loc_id	in the system) INT VARCHAR(45) INT								
Ngo_emp (data of e idNGO_Emp • user_id	employees working in r	ngos)		- -	, 	, 	, 		,
♦ NGO_id	INT								
Donor (data of all th	ne donors)								
idDonor user_id	INT			✓					
Seeker (data of all t	he help seekers)	\square	abla					abla	
user_id	INT		\leq	~	П				
Donat_type (data o type_id type_name	f all the things donatio INT VARCHAR(40)	on can b							
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type_id type_name Donation (data of d donat_id donor_id type_id quantity loc_id Donation_req (data don_id	INT VARCHAR(40) onations made by don INT INT INT INT INT INT INT INT	or)	e ma	de)					

o Don_details (data of all donations allocated to the help seeker)

	<pre>match_id</pre>	INT		
	don_id	INT		
	donor_id	INT		
	donat_amount	INT		
	rem_amount	INT		
0	Trans_history (data of t	the time when a do	nation is allocated)	'д 'П
	↑ trans_id ◇ trans_date	DATE		ř H
	trans_date	DATE		\Box

ii) Draw the E--R Diagram for your database.

***** Extended Entity Relationship Diagram:



2) IMPLEMENTATION PHASE:

a) Joins:

```
async getDonationData() {
    try {
        const response = await new Promise((resolve, reject) => {
            const query = "select dt.type_id, type_name from donat_type dt Join donation_req dr on dt.type_id = dr.
            type_id;";
```

```
async dispSeeker(type,dcnic) {
    try {
        const response = await new Promise((resolve, reject) => {
            var typ;
            const sql = 'select type_id from donat_type where type_name = ?'
            connection.query(sql, type,(err, results)=> {
                if(err) throw err;
                typ = results[0].type_id;
                console.log(typ);
                const query = `select distinct u.cnic from sys_user u join seeker s join donation_req req where u.
                 user_id = s.user_id and s.idSeeker = req.seeker_id and req.type_id = ${typ} and u.cnic <> ${dcnic} and req.quantity>0;`;
```

```
async dispAmount(cnic) {
    try {
        const response = await new Promise((resolve, reject) => {
        const query = `select don.quantity from sys_user u join donation don join donor d
        where don.donor_id = d.idDonor and d.user_id = u.user_id and u.cnic = ${cnic} and don.quantity>0 limit 1;`;
```

```
async disp_Req_Amount(cnic) {
    try {
        // console.log(cnic);
        const response = await new Promise((resolve, reject) => {
            const query = `select req.quantity from sys_user u join donation_req req join seeker s
            where req.seeker_id = s.idSeeker and s.user_id = u.user_id and u.cnic = ${cnic} and req.quantity>0 limit 1;`;
```

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `user_donation`(IN dcnic BIGINT)

BEGIN

select don.donat_id, u.name, t.type_name, don.quantity, u.contact

from donation don join sys_user u join donat_type t join donor d

where d.idDonor = don.donor_id and t.type_id = don.type_id and d.user_id = u.user_id and u.cnic = END
```

```
async getAllUserDonatData(cnic) {
    try {
        const response = await new Promise((resolve, reject) => {
            const query = `call user_donation(?)`;
```

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `user_request`(IN scnic BIGINT)

BEGIN

select req.don_id, u.name, t.type_name, req.quantity, u.contact

from donation_req req join sys_user u join donat_type t join seeker s

where s.idSeeker = req.seeker_id and t.type_id = req.type_id and s.user_id = u.user_id and u.cnic

END
```

```
async getAllUserReqData(cnic) {
   try {
      const response = await new Promise((resolve, reject) => {
      const query = `call user_request(?)`;
```

b) Advanced SQL Queries:

❖ LIMIT

```
async dispAmount(cnic) {
   try {
      const response = await new Promise((resolve, reject) => {
      const query = `select don.quantity from sys_user u join donation don join donor d
      where don.donor_id = d.idDonor and d.user_id = u.user_id and u.cnic = ${cnic} and don.quantity>0 limit 1;`;
```

```
async disp_Req_Amount(cnic) {
    try {
        // console.log(cnic);
        const response = await new Promise((resolve, reject) => {
            const query = `select req.quantity from sys_user u join donation_req req join seeker s
            where req.seeker_id = s.idSeeker and s.user_id = u.user_id and u.cnic = ${cnic} and req.quantity>0 limit 1;`;
```

```
query = `select donor_id, donat_id from donation where type_id = (select type_id from donat_type where
type_name = "${type}") and quantity = ${don_amount} limit 1;`;
connection.query(query,(err,results)=>{
```

SUB QUERIES

```
async insertMatch(type, don_cnic, seek_cnic, don_amount, req_amount){
    try{
        const response = await new Promise((resolve, reject) => {
            var s_id;
            var d_id;
            var dona_id;
            let query = `select don_id from donation_req req where req.seeker_id in (select s.idSeeker from seeker s
            where s.user_id = ( select u.user_id from sys_user u where u.cnic = ${seek_cnic})) and req.type_id = (select
            t.type_id from donat_type t where t.type_name = "${type}") and quantity = ${req_amount};`;
            connection.query(query,(err,results)=> {
```

```
var donor = `select idDonor from donor where user_id in (select user_id from sys_user where cnic
= ?)`;
connection.query(donor,cnic, function(err,result){
```

```
var seeker = `select idSeeker from seeker where user_id in (select user_id from sys_user where
cnic = ?)`;
connection.query(seeker,cnic, function(err,result){
```

```
async checkseeker(){
    try {
        const response = await new Promise((resolve, reject) => {
            const query = "SELECT cnic from sys_user where user_id in (select user_id from seeker);";
```

DISTINCT

```
async dispSeeker(type,dcnic) {
    try {
        const response = await new Promise((resolve, reject) => {
            var typ;
            const sql = 'select type_id from donat_type where type_name = ?'
            connection.query(sql, type,(err, results)=> {
                if(err) throw err;
                typ = results[0].type_id;
                console.log(typ);
            const query = `select distinct u.cnic from sys_user u join seeker s join donation_req req where u.
                user_id = s.user_id and s.idSeeker = req.seeker_id and req.type_id = ${typ} and u.cnic <> ${dcnic} and req.quantity>0;`;
```

PROCEDURES

```
let sql = `call new_donor_seeker(?)`;
 connection.query(sql,uid, function(err,result)
 CREATE DEFINER=`root`@`localhost` PROCEDURE `new_donor_seeker`(IN uid int)
BEGIN
     insert into seeker(user id) value(uid);
     insert into donor(user id) value(uid);
 END
async getSignInDetails() {
    try {
         const response = await new Promise((resolve, reject) => {
             const query = "call login()";
 CREATE DEFINER=`root`@`localhost` PROCEDURE `login`()
BEGIN
   select cnic, password from sys_user;
 END
async getAllUserDonatData(cnic) {
     try {
         const response = await new Promise((resolve, reject) => {
             const query = `call user_donation(?)`;
CREATE DEFINER=`root'@'localhost' PROCEDURE 'user donation'(IN dcnic BIGINT)
BEGIN
select don.donat_id, u.name, t.type_name, don.quantity, u.contact
from donation don join sys_user u join donat_type t join donor d
where d.idDonor = don.donor_id and t.type_id = don.type_id and d.user_id = u.user_id and u.cnic =
END
```

```
async getAllUserReqData(cnic) {
    try {
        const response = await new Promise((resolve, reject) => {
            const query = `call user_request(?)`;
```

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `user_request`(IN scnic BIGINT)

BEGIN

select req.don_id, u.name, t.type_name, req.quantity, u.contact

from donation_req req join sys_user u join donat_type t join seeker s

where s.idSeeker = req.seeker_id and t.type_id = req.type_id and s.user_id = u.user_id and u.cnic

END
```

```
    CREATE DEFINER=`root`@`localhost` PROCEDURE `commit_trans`()
    BEGIN
    commit;
    END
```

❖ VIEWS

```
async getAllDonatData() {
    try {
        const response = await new Promise((resolve, reject) => {
            const query = "select * from alldonations; ";
            You, 21 minutes ago * Uncommitted changes
```

```
CREATE
    ALGORITHM = UNDEFINED
    DEFINER = `root`@`localhost`
    SQL SECURITY DEFINER
VIEW `alldonations` AS
    SELECT
        `don`.`donat_id` AS `donat_id`,
        `u`.`name` AS `name`,
        `t`.`type_name` AS `type_name`,
        `don`.`quantity` AS `quantity`,
       `u`.`contact` AS `contact`
    FROM
        ((('donation' 'don'
        JOIN `sys_user` `u`)
        JOIN `donat_type` `t`)
        JOIN 'donor' 'd')
    WHERE
        ((`d`.`idDonor` = `don`.`donor_id`)
            AND ('t'.'type_id' = 'don'.'type_id')
            AND ('d'.'user_id' = 'u'.'user_id'))
```

```
CREATE
    ALGORITHM = UNDEFINED
    DEFINER = `root`@`localhost`
    SQL SECURITY DEFINER
VIEW 'allrequests' AS
    SELECT
        `req`.`don_id` AS `don_id`,
        `u`.`name` AS `name`,
        `t`.`type_name` AS `type_name`,
        `req`.`quantity` AS `quantity`,
        `u`.`contact` AS `contact`
    FROM
        ((('donation_req' 'req'
        JOIN `sys_user` `u`)
        JOIN `donat_type` `t`)
        JOIN `seeker` `s`)
    WHERE
        ((`s`.`idSeeker` = `req`.`seeker_id`)
            AND ('t'.'type_id' = 'req'.'type_id')
            AND (`s`.`user_id` = `u`.`user_id`))
```

TRIGGER

```
DELIMITER $$

CREATE TRIGGER commit_trans
    AFTER INSERT
    ON don_details FOR EACH ROW

BEGIN
    insert into trans_history(trans_date) value(CURDATE());
END$$

DELIMITER;
```

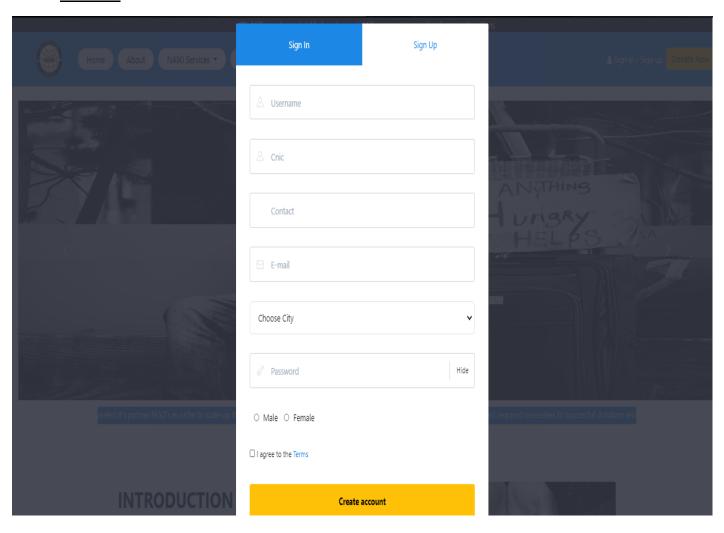
c) Built-in Functions:

```
async countRequest() {
   try {
      const response = await new Promise((resolve, reject) => {
      const query = `select count(don_id) from donation_req;`;
```

```
async countMatch() {
    try {
        const response = await new Promise((resolve, reject) => {
            const query = `select count(match_id) from don_details;`;
        }
}
```

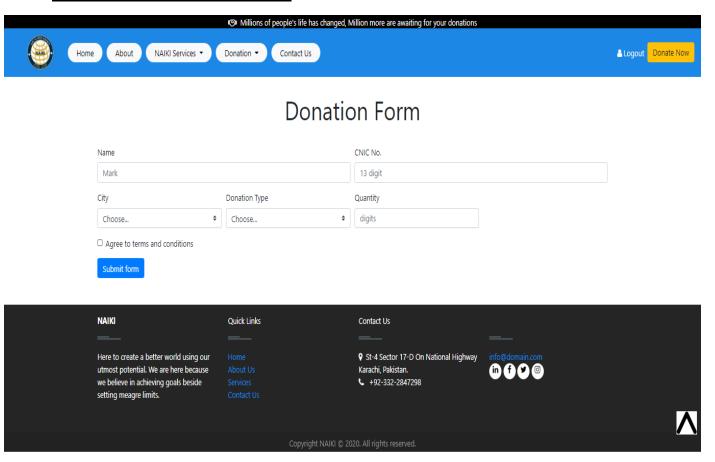
d) User Input:

❖ SIGNUP



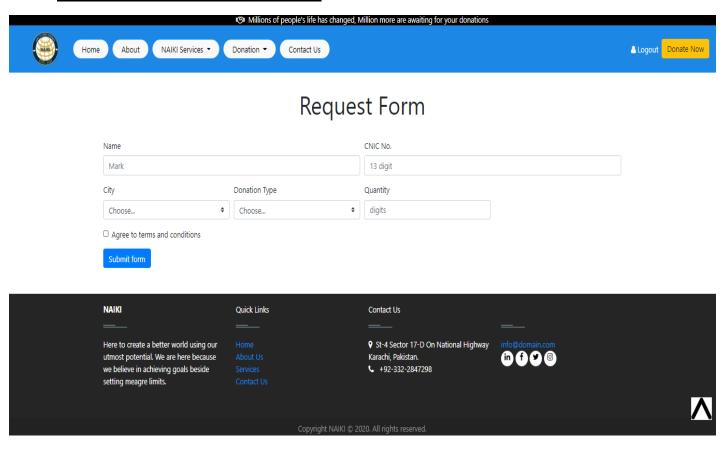
```
async insertUser(name,cnic,gender,contact,email,city,password){
    try{
        const response = await new Promise((resolve, reject)=>{
```

DONATION FORM FOR DONOR



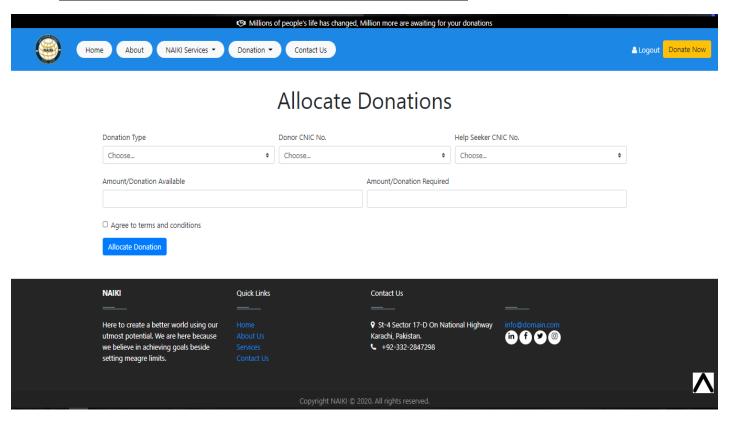
async setDonation(Name, cnic, city, type, quantity) {
 try {

REQUEST FORM FOR HELP SEEKER





DONATION ALLOCATION FORM FOR NGO EMPLOYEE



```
async insertMatch(type, don_cnic, seek_cnic, don_amount, req_amount){
   try{
```

e) Insert:

❖ NEW USER

```
let sql = `insert into sys_user (name,cnic,gender,contact,email,loc_id,password) values ("${name}",$
{cnic},"${gender}",${contact},"${email}",${l},"${password}")`;
connection.query(sql, function(err,result)
```

❖ NEW DONOR AND SEEKER

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `new_donor_seeker`(IN uid int)

BEGIN

insert into seeker(user_id) value(uid);
insert into donor(user_id) value(uid);

END
```

❖ NEW DONATION

```
let sql = `insert into donation (donor_id,type_id,quantity,loc_id) values (${d},${t},"$
{quantity}",${l})`;
connection.query(sql, function(err,result)
```

❖ NEW HELP REQUEST

```
let sql = `insert into donation_req (seeker_id,type_id,quantity,loc_id) values (${s},${t},"$
{quantity}",${1})`;
connection.query(sql, function(err,result)
{
```

❖ NEW DONATION ALLOCATION

```
let sql = `insert into don_details(don_id, donor_id, donat_amount, rem_amount) values(${s_id}, ${d_id}
, ${don_amount}, ${rem_s});`;
connection.query(sql, (err,results)=>{
```

❖ ALLOCATION TIME

```
CREATE TRIGGER commit_trans

AFTER INSERT

ON don_details FOR EACH ROW

BEGIN

insert into trans_history(trans_date) value(CURDATE());

END$$
```

f) Update:

```
in function insertMatch
```

```
sql = `update donation set quantity = ${rem_d} where donat_id = ${dona_id};`;
connection.query(sql, function(err,result)
```

```
sql = `update donation_req set quantity = ${rem_s} where don_id = ${s_id};`;
connection.query(sql, function(err,result)
```

g) Delete

```
async deleteDonation(dcnic) {
    try {
        const response = await new Promise((resolve, reject) => {
            const query = `delete from donation where donor_id = (select donor_id from donor where user_id = (select user_id from sys_user where cnic = ${dcnic}))`;
```

h) Transaction:

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `commit_trans`()

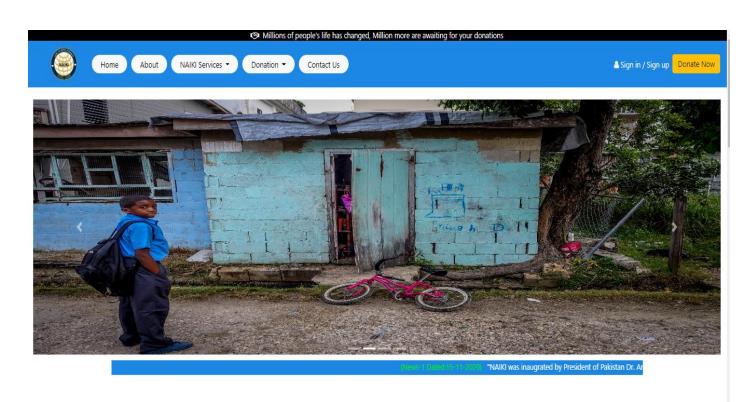
BEGIN

commit;

END
```

SCREENSHOTS OF PROJECT

♦HOME PAGE



INTRODUCTION

NAIKI is a platform which connects potential Donors and deserving Donation Seekers in order to achieve our organisation's foremost goal of poverty alleviation from developing countries.

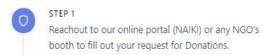
Hence, we are working as an independent, non-governmental, non-profit and charitable organization. It works under its own Memorandum of Articles of Association and leadership.



WHAT ARE WE DOING?

NAIKI proudly presents the streams of services offered within it's platform to the Donors and Donation Seekers within few clicks.





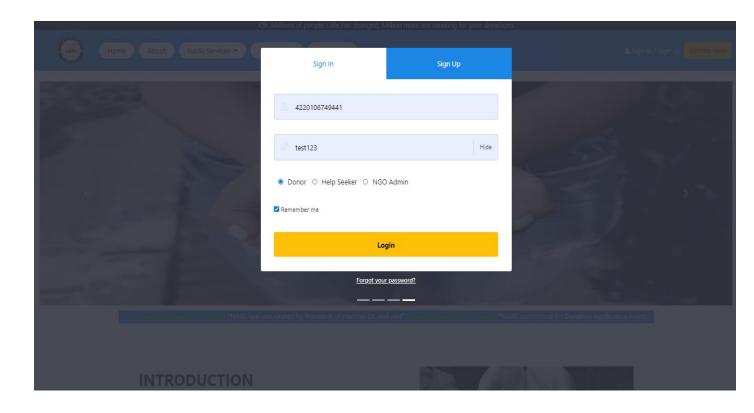
- After filling out request or forms your requirements would be made visible as an anonymous to the Donors and vice versa.
- As soon as the deserved candidate for the placed request in either cases is available their credentials are sent to the stakeholders.
- FINISH

 After the confirmation and verification all existing means are used to fulfill the needs of Donation seekers.

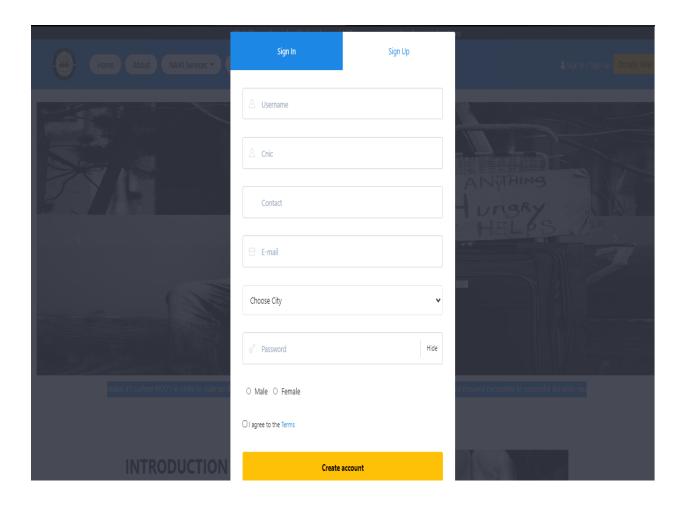




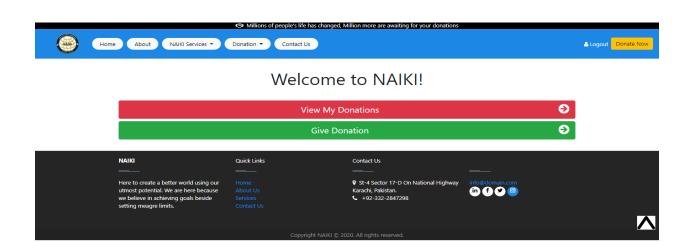
❖LOGIN

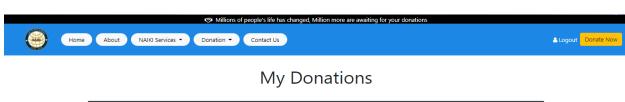


❖SIGN UP



* DONOR



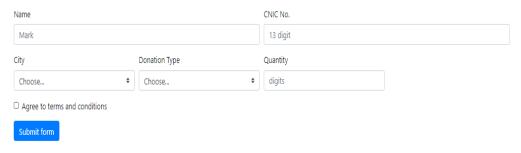






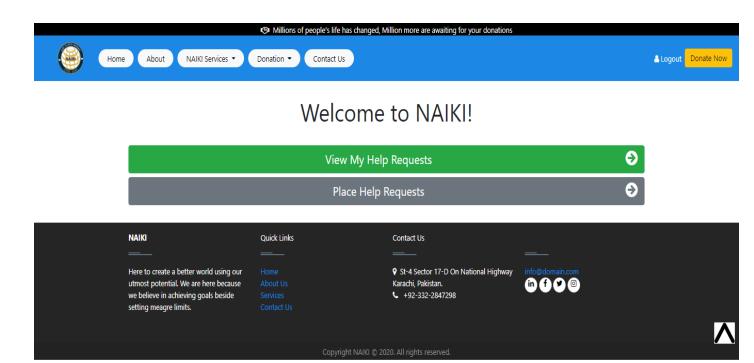


Donation Form





❖SEEKER

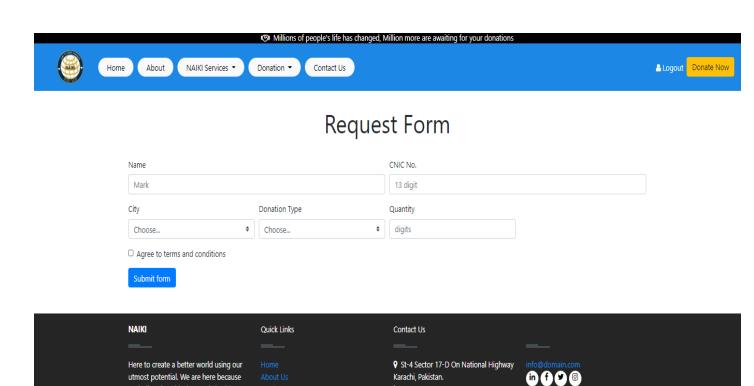




My Help Requests

ID	Name	Donation Type	Amount/Quantity	Contact no.
2	Ovaiz Ali	ration	0	3234532567
3	Ovaiz Ali	clothes (male)	2	3234532567



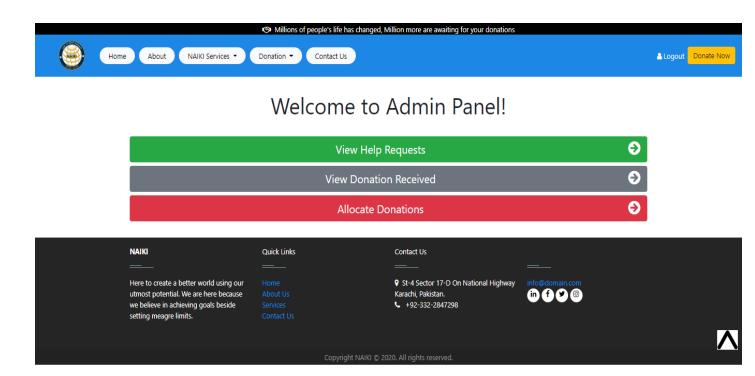


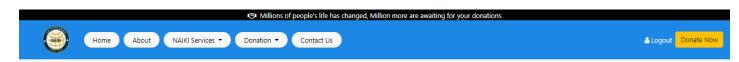
we believe in achieving goals beside setting meagre limits.

L +92-332-2847298

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❖NGO ADMIN





Help Requests Received

ID	Name	Donation Type	Amount/Quantity	Contact no.
1	Zaeem Ahmed	money	10000	3311355294
2	Ovaiz Ali	ration	0	3234532567
3	Ovaiz Ali	clothes (male)	2	3234532567
4	Sarah	money	45000	3321456842





Donations Received

ID	Name	Donation Type	Amount/Quantity	Contact no.
1	Zaeem Ahmed	money	0	3311355294
2	Sarah	ration	0	3321456842
3	Zaeem Ahmed	money	3000	3311355294



