



NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

DATABASE MANAGEMENT SYSTEM

REPORT
PROJECT REPORT

Submitted To:

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NADRA ADMINISTRATION SYSTEM

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.INTRODUCTION:

To establish a website of NADRA ADMINISTRATION SYSTEM, we use our knowledge and basis of DBMS to provide an online solution for identification, securing documents and facilitating the public. It may also deliver the purpose of mitigating identity theft and safe-guarding the interests of people. Now the Government of Pakistan is trying to shift all the existing record of National Identity card(NIC) using central computerized database.



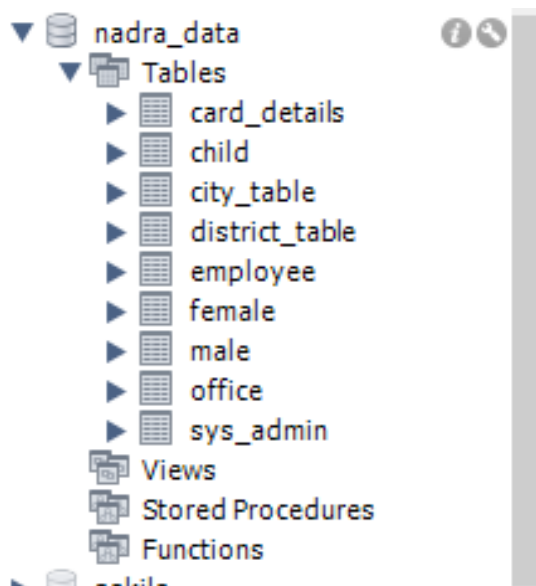
.RELATIONAL SCHEMA:

In our relational schema,our database is nadra_data and following tables that are related to each other.

Our database is named as nadra_data.

The following relational schemas are made:

- card_details
- Child
- City_table
- District_table
- Employee
- Female
- Male
- Office
- Sys_admin



DATA ENTRY:

i)card_details:

	card_no	issue_date	expiry_date	barcode_number
▶	3120450312832	04-09-2016	04-09-2026	893347927374
	3120472075231	12-06-2015	12-06-2025	893437928474
	3310250475258	28-04-2013	28-04-2023	233437927374
	3310422417271	10-04-2015	10-04-2025	893437927374
	3410149280615	20-02-2014	20-02-2024	823437927374
	3410487365297	13-04-2018	13-04-2028	893437927389
	3620223838962	12-02-2015	12-02-2025	293437927373
	3710117083942	26-02-2013	26-02-2013	293437927371
	4220184323484	21-01-2016	21-01-2026	893437911374
	4240140532270	12-07-2014	12-07-2024	193437927874
✱	NULL	NULL	NULL	NULL

ii)Child:

	child_name	child_id	cnic	cnic_no
▶	LARAIB	1620107001975	4220184323484	4220184323486
	SHAHZAIB	3650118200049	4240140532279	4240140532270
	OWAIS	3740306626817	3410149280615	3410149280612
	RASHID	3740504598849	3310250475255	3310250475258
	WAQAS	3740529827357	3120450312831	3120450312832
	ROHAAN	3740580019297	3410487365297	3410487365290
	ZAIN	3740593976143	3710117083943	3710117083942
	RAYAN	6110139348779	3310422417271	3310422417274
	RIDWAN	6110160630827	3120472075231	3120472075238
	USAMA	6110179351509	3620223838961	3620223838962
*	NULL	NULL	NULL	NULL

iii)city_table:

	city	district
▶	alpuri	shangla
	Bhalwal	Sargodha
	Bhera	Sargodha
	chak_jhumra	Faislabad
	charbagh	Swat
	chaubara	Layyah
	chikkar	Hattian
	chiniot	Jhung
	daska	Sialkot
	isakhel	Mianwali
	jalalpur	Multan
	kakakhel	Peshawar
	Kamoke	Gujranwala
	karor	Layyah
	Kotmomin	Sargodha

iv) District_table:

	district	province
►	Dera ismail khan	kpk
	Faislabad	Punjab
	Gujranwala	Punjab
	Hattian	Kashmir
	Hyderabad	Sindh
	Jhung	Punjab
	Karachi	sindh
	Lahore	Punjab
	Layyah	Punjab
	Mianwali	Punjab
	Multan	Punjab
	Muzafarrabad	Kashmir
	Peshawar	kpk
	Quetta	Balochis...
	Rawalakot	Kashmir
	Sargodha	Punjab

v) employee:

	employee_id	employee_name	employee_job	office_id	office_address
►	3	lala	security guard	3	nadra office main branch faizabad
	101	ahmad	sanitary worker	1	nadra office main branch faizabad
	102	mohsin	sanitary worker	2	nadra office main branch faizabad
	104	majid	call operator	4	nadra office main branch faizabad
	105	saba	naib qasid	5	nadra office main branch faizabad
	106	zainab	naib qasid	6	nadra office main branch faizabad
	107	kashaf	worker	7	nadra office main branch faizabad
	108	saleem	register executive	8	nadra office main branch faizabad
	109	huzaiifa	worker	9	nadra office main branch faizabad
	110	tehreem	cleaner	10	nadra office main branch faizabad
*	NULL	NULL	NULL	NULL	NULL

vi)female:

	cnic_no	gender	first_name	last_name	father_id	husband_id	DoB	city	district_nme	address	marital_status
▶	6110182601376	female	MARIA	MUSHTAQ	3840102176853	NULL	22-02-2001	chikkar	Hattian	satellit...	single
	3420105598656	female	MAHNOOR	MASOOD	8220375074287	NULL	08-06-2000	chak_jhumra	Faisalabad	town	single
	3660187467890	female	MAHEEN	RASHID	8220311845761	3660187467895	19-02-2000	kakakhel	Peshawar	town	Married
	3710117083942	female	LAIBA	MEERAB	3740354191389	3710117083943	02-05-2000	karor	Layyah	town	Married
	3120450312832	female	JAWARIA	MAAZ	6110155870857	3120450312831	09-09-2000	chaubara	Layyah	town	Married
	3310415277614	female	IQRA	KAMRAN	4220186754671	NULL	01-02-2000	virka	Gujranwala	town	single
	3620223838962	female	INAYA	ALI	6110118920739	3620223838961	22-01-2000	Kamoke	Gujranwala	town	Married
	1730115736138	female	FATIMA	IRFAN	6110182614185	NULL	21-02-2000	piplan	Mianwali	town	single
	4240140532270	female	FAREEHA	MUSA	6110150942867	4240140532279	31-05-2000	isakhel	Mianwali	town	Married
	3310250475258	female	FARAH	HASEEB	1120122897081	3310250475255	29-02-2000	chiniot	Jhung	town	Married
	3820184228036	female	FAIZA	SHAH	2110379891909	NULL	11-09-2000	shorkot	Jhung	town	single
	3540219864416	female	ESHAAL	HUSSAIN	6110117753067	NULL	12-01-2000	shujabad	Multan	town	single
	4220184323486	female	BUSHRA	HAIDER	6110119530235	4220184323484	09-02-2000	jalalpur	Multan	town	Married
	3410149280612	female	BISMA	FAISAL	6110174887483	3410149280615	21-07-2000	raya	Sialkot	town	Married
	3410487365290	female	AMARA	FAHAD	6110124720257	3410487365297	19-04-2000	Pasrur	Sialkot	town	Married
	3120121284480	female	ALISHBA	SUFIYAN	6110183532169	NULL	27-04-2000	daska	Sialkot	town	single

vii)male:

	cnic	gender	first_name	last_name	father_id	DoB	city_name	district_name	address	marital_status
▶	3310415277613	male	SIKANDAR	SHERWAN	4220186754671	08-02-2000	virka	Gujranwala	town	single
	3840115513167	male	SHARJEEL	RASIB	3840102176855	17-09-2001	Bhalwal	Sargodha	satellit...	single
	3840368269761	male	SHAHID	MEHMOOD	3450235902491	13-03-2000	Loralai	Lahore	town	single
	3840183402513	male	SAQIB	SHEHZAD	6110155644443	17-08-2000	Kotmomin	Sargodha	satellit...	single
	3310250475255	male	SAEED	QAISAR	1120122897089	23-02-2000	chiniot	Jhung	town	Married
	3410149280615	male	SADIQ	IBRAHIM	6110174887481	23-07-2000	raya	Sialkot	town	Married
	3120472075231	male	MUHAMMAD	JAHANGIR	3740540385345	13-03-2000	Model_town	Lahore	town	Married
	3410487365297	male	MUHAMAD	IRSHAD	6110124720253	15-04-2000	Pasrur	Sialkot	town	Married
	3620223838961	male	LIAQAT	ALI	6110118920737	28-01-2000	Kamoke	Gujranwala	town	Married
	3420105598651	male	IRFAN	MASOOD	8220375074283	06-06-2000	chak_jhumra	Faisalabad	town	single
	4240140532279	male	IJAZ	MUSA	6110150942863	30-05-2000	isakhel	Mianwali	town	Married
	4220184323484	male	HAFIZ	YASIR	6110119530233	01-02-2000	jalalpur	Multan	town	Married
	3310422417271	male	GHULAM	AKBER	6110196801999	12-01-2000	Bhera	Sargodha	town	Married
	3120450312831	male	FURRAKH	AKRAM	6110155870855	05-09-2000	chaubara	Layyah	town	Married
	3710117083943	male	EHAB	ARSHAD	3740354191385	03-05-2000	karor	Layyah	town	Married
	3540219864417	male	ASHIQ	HUSSAIN	6110117753069	19-01-2000	shujabad	Multan	town	single

viii)office:

	office_id	office_address
▶	1	nadra office main branch faizabad
	2	nadra office main branch faizabad
	3	nadra office main branch faizabad
	4	nadra office main branch faizabad
	5	nadra office main branch faizabad
	6	nadra office main branch faizabad
	7	nadra office main branch faizabad
	8	nadra office main branch faizabad
	9	nadra office main branch faizabad
	10	nadra office main branch faizabad
*	NULL	NULL

ix)sys_admin:

	admin_id	admin_name	admin_role	admin_password	employee_id
▶	2a34f	sharjeel	vice chairman	2341	102
	34n4f	deputy manager	chairman	5844	107
	3f34f	tehreem	Accountant	9475	104
	3kn4f	asif	record manager	94837	106
	6b34f	maria mushtaq	chairman	1234	101
	6b4ff	saima	deputy manager	5344	108
	6bj34	rabia	Associate manager	9348	109
	6bjef	ubaid	record manager	8594	105
	6c32g	registrar manager	chairman	6574	3
	n45k5	hareem	staff manager	4445	110
•	NULL	NULL	NULL	NULL	NULL

.REDUNDANCY AND DEPENDENCIES:

There are certain redundancy and dependencies in our table. In order to overcome these problems we normalize our data up to several normal forms. Some redundancy and dependencies are given below:

- Male and Female tables contain attributes **city**, **district** and **province**.
- District was dependent on city and province was dependent on district.

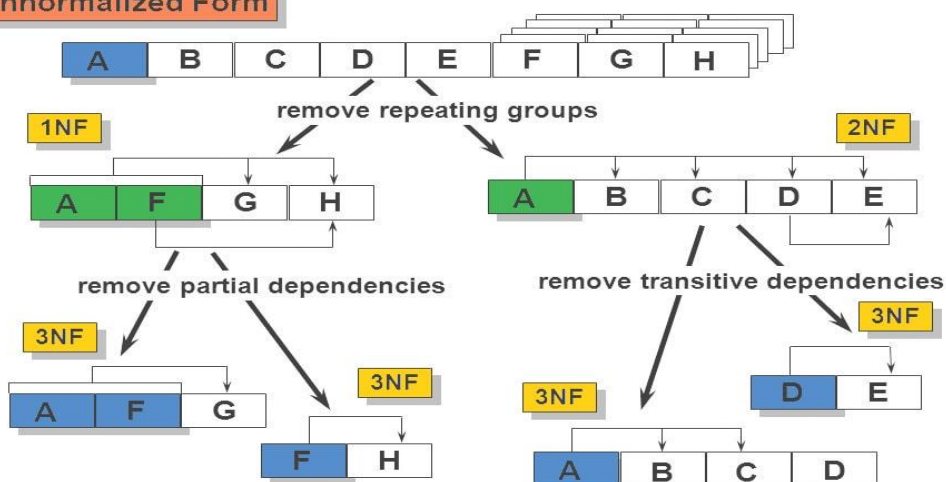
The attributes also had redundant data

- Employee table had attributes **office_id** and **office_address**
Office_address was dependent on office_id.

.DATA NORMALIZATION:

Data normalization is **the organization of data to appear similar across all records and fields**. It increases the cohesion of entry types leading to cleansing, lead generation, segmentation, and higher quality data.

Unnormalized Form



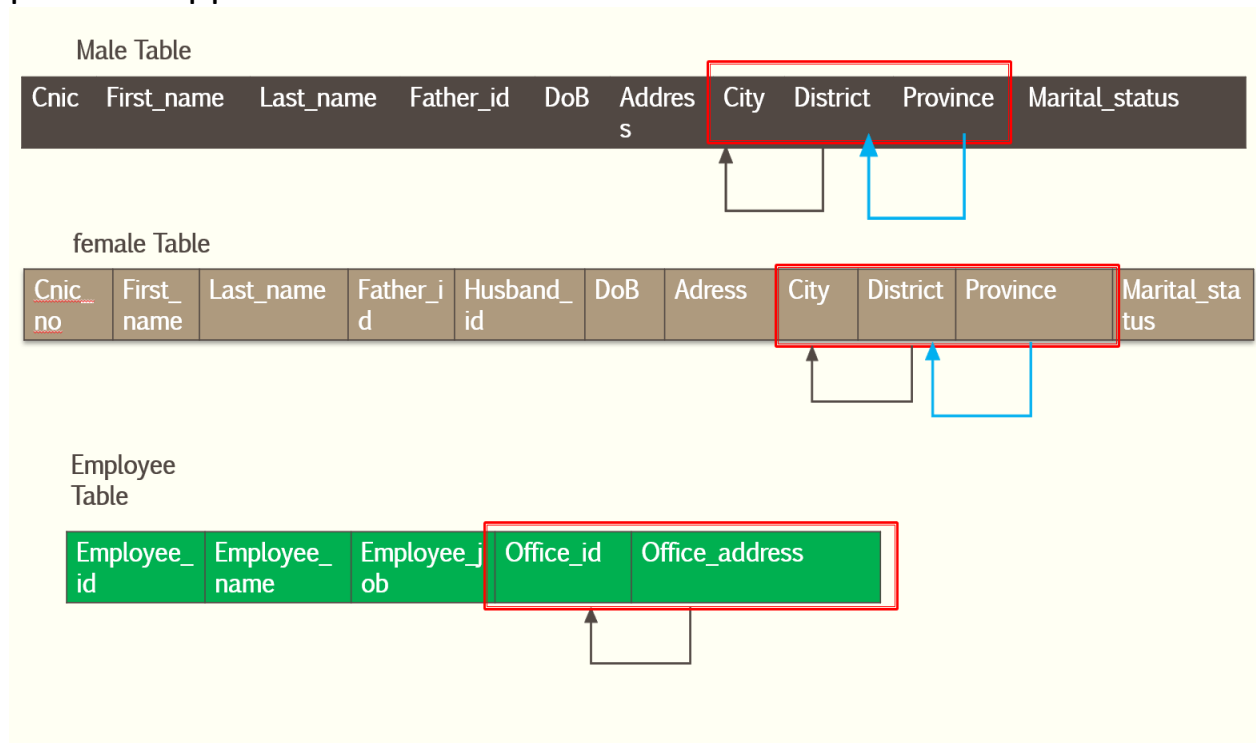
To remove any redundancy, we added three new tables

City_table

District_table

Office

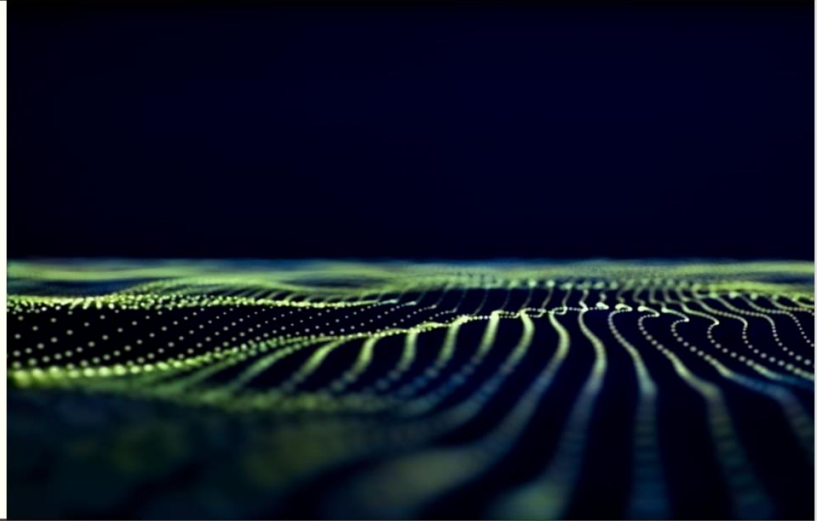
This resulted in removal of functional and partial dependencies, adding more practical approach to add someone in the database.



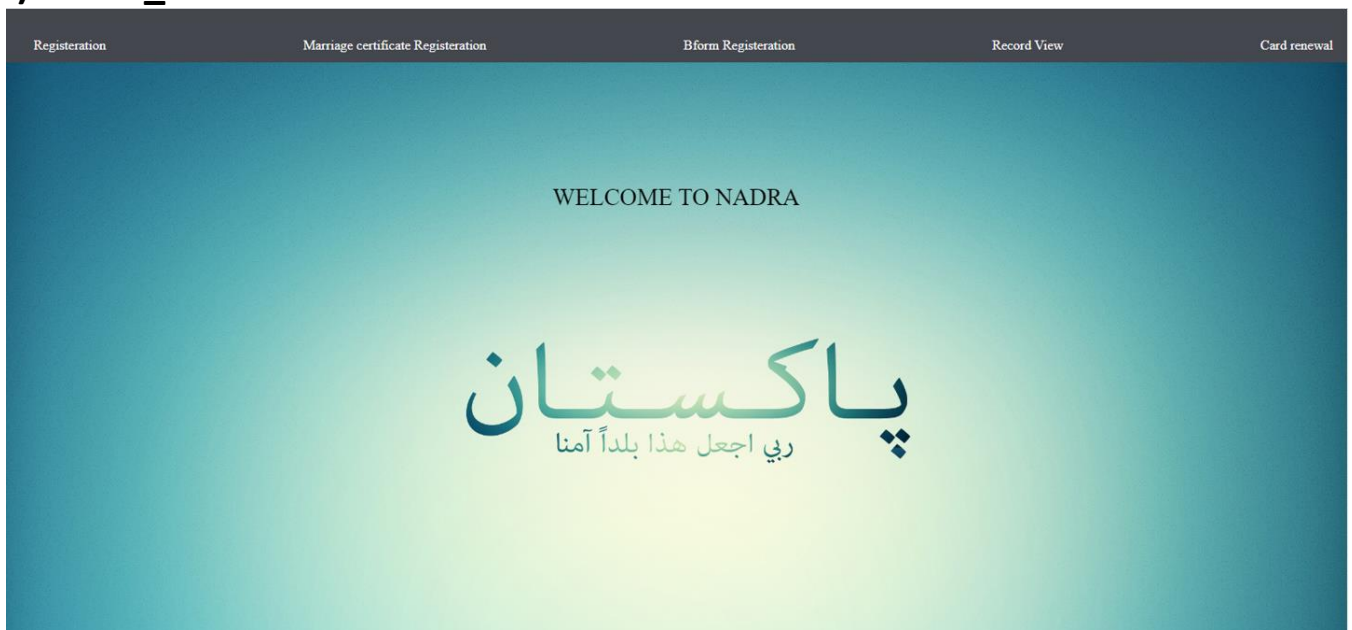
.FRONT END WEBSITE:

In our front end, we mainly use html for our structure and css for styling purpose and some libraries of javascript to increase the visual discrimination in our project.

FRONT-END WBSITE



i)HOME_PAGE:



CODE:

```

1 <!DOCTYPE HTML>
2 <html>
3
4 <head>
5     <title>Welcome to our site</title>
6     <link rel="stylesheet" href="css/main.css">
7 </head>
8
9 <body>
10     <div class="main_container">
11         <div class="navbar">
12             <a href="/regform">Registration</a>
13             <a href="/marriage">Marriage certificate Registration</a>
14             <a href="/bform">Bform Registration</a>
15             <a href="/searchRec">Record View</a>
16             <a href="/cardRenewal">Card renewal</a>
17         </div>
18         <div class="main_body">
19             <h1>WELCOME TO NADRA</h1>
20         </div>
21         <div class="onediv">
22             <h2>About</h2>
23             <p>National Database and Registration Authority (NADRA) was established as National Database Organization (NDO), an attached department under the Ministry of Interior Government of Pakistan. It has been entrusted with the responsibility of maintaining a reliable and secure database for identification purposes, ensuring the accuracy and integrity of the information stored. NADRA's primary role is to provide a centralized platform for storing and managing personal data, facilitating various government services and ensuring the security of citizens' information. The organization works closely with other departments to streamline processes and improve service delivery, contributing to the overall efficiency of the government. Its commitment to transparency and accountability ensures that the public can trust the system and their data is protected at all times.</p>
24             <p>National Database & Registration Authority (NADRA) has gained international recognition for its success in providing solutions for identity management, ensuring the safety and security of citizens' information. In-depth Research and Development efforts have enabled NADRA to develop innovative technologies and systems that enhance the efficiency of government operations and provide seamless access to services for citizens. The organization's dedication to innovation and excellence has positioned it as a leader in the field of digital governance, setting benchmarks for other countries looking to modernize their administrative systems. By leveraging cutting-edge technology and fostering a culture of continuous improvement, NADRA continues to evolve and meet the changing needs of the nation, ensuring a secure and efficient future for all.</p>
25             <p>National Identity Card (NIC) is issued to the citizens of Pakistan. It is a blend of state-of-the-art technology and well-defined business processes that ensure the cardholder's information is accurate and up-to-date. The NIC is a mandatory document for all citizens, used for various official transactions and services across the country. It serves as a key identifier for individuals, enabling them to access essential services like voting, banking, and employment. The issuance process involves rigorous verification to ensure the authenticity of the holder's details, maintaining the integrity of the national database. This comprehensive approach to identity management strengthens the fabric of society by providing a unified and secure means of identification for every citizen.</p>
26             <p></p>
27         </div>
28     </div>
29 </body>
30 </html>

```

ii)REGISTRATION_FORM:

Register

first name _____

Last name _____

Father CNIC (e.g. 123456789012) _____

☒ Male ☐ Female

NEXT

CODE:

```

<html>

<head>
  <link rel="stylesheet" href="css/main.css">
  <title>Regiteration</title>
</head>

<body>
  <div class="login_container">
    <div class="con-con">

      <h1>Register</h1>
      <form action="http://localhost:3000/adding" method="post">
        <input type="text" name="first_name" placeholder="first name">
        <input type="text" name="last_name" placeholder="Last name">
        <input type="text" name="father_CNIC" placeholder="Father CNIC(e.g.1234567890123)">
        <input type="radio" name="gender" value="Male" id="M" checked="checked">
        <label for="Male">Male</label>
        <input type="radio" name="gender" value="Female" id="F">
        <label for="Female">Female</label>
        <input type="submit" name="next_btn" value="NEXT">
      </form>
    </div>
  </div>
</body>

</html>

```

iii)MARRIAGE CERTIFICATE®ISTRATION FORM:

MARRIAGE CERTIFICATE & REGISTRATION FORM

Register

Husband CNIC(e.g.1234567890)

Wife CNIC(e.g.1234567890123)

REGISTER MARRIAGE

CODE:

```

1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <link rel="stylesheet" href="css/main.css">
6      <title>Marriage certificate</title>
7  </head>
8
9  <body>
10     <div class="marr_con">
11         <div class="centered_marr">
12
13             <h1>Register</h1>
14             <form action="http://localhost:3000/marraigeAdding" method="post">
15                 <input type="text" name="hCNIC" placeholder="Husband CNIC(e.g.1234567890123)">
16                 <input type="text" name="wCNIC" placeholder="Wife CNIC(e.g.1234567890123)">
17                 <input type="submit" name="reg_btn" value="Register Marriage">
18             </form>
19
20         </div>
21     </div>
22 </body>
23 </html>

```

iv)RECORD_FORM:

CNIC(e.g.1234567890123)

SEARCH

CNIC	Gender	First name	Last name	Father CNIC	DoB	Address	City	Marital status
------	--------	------------	-----------	-------------	-----	---------	------	----------------

CODE:

```

1  <html>
2
3  <head>
4      <link rel="stylesheet" href="css/main.css">
5
6      <title>Search for person</title>
7  </head>
8
9  <body>
10     <div class=searchRec_con>
11         <div class="search_results">
12             <div class="search-container">
13                 <form action="http://localhost:3000/search" method="post">
14                     <input type="text" name="CNIC" placeholder="CNIC(e.g.1234567890123)">
15                     <input type="submit" name="search_btn" value="Search">
16                 </form>
17             </div>
18             <div class="table_con">
19                 <table>
20                     <tr>
21                         <th>CNIC</th>
22                         <th>Gender</th>
23                         <th>First name</th>
24                         <th>Last name</th>
25                         <th>Father CNIC</th>
26                         <th>DoB</th>
27                         <th>Address</th>
28                         <th>City</th>
29
30                         <th>Marital status</th>
31                     </tr>
32                     <tr>
33                         <td>
34
35                         <%= typeof data!= 'undefined' ? data.cnic : '' %>
36                     </td>
37
38                     <td>
39
40                         <%= typeof data!= 'undefined' ? data.gender : '' %>
41                     </td>
42
43                     <td id="sfname">
44                         <%= typeof data!= 'undefined' ? data.first_name : '' %>
45                     </td>
46                     <td id="slname">
47                         <%= typeof data!= 'undefined' ? data.last_name : '' %>
48                     </td>
49                     <td id="sfcnic">
50                         <%= typeof data!= 'undefined' ? data.father_id : '' %>
51                     </td>
52                     <td id="sdob">
53                         <%= typeof data!= 'undefined' ? data.DoB : '' %>
54                     </td>
55                     <td id="saddress">
56                         <%= typeof data!= 'undefined' ? data.address : '' %>
57                     </td>
58                     <td id="scity">
59                         <%= typeof data!= 'undefined' ? data.city_name : '' %>
60                     </td>
61
62                     <td id="ssstatus">
63                         <%= typeof data!= 'undefined' ? data.marital_status : '' %>
64                     </td>
65                 </tr>
66             </table>
67         </div>
68     </div>
69 </div>
70
71 </body>
72
73 </html>

```

V) CHILD REGISTRATION FORM:

Register

REGISTER CHILD

CODE:

```

1  <html>
2  <html lang="en">
3
4  <head>
5      <link rel="stylesheet" href="css/main.css">
6      <title>Birth certificate</title>
7  </head>
8
9  <body>
10     <div class="marr_con">
11         <div class="centered_marr">
12
13             <h1>Register</h1>
14             <form action="http://localhost:3000/bformAdding" method="post">
15                 <input type="text" name="fCNIC" placeholder="Father CNIC(e.g.1234567890123)">
16                 <input type="text" name="mCNIC" placeholder="Mother CNIC(e.g.1234567890123)">
17                 <input type="submit" name="reg_btn" value="Register Child">
18             </form>
19
20         </div>
21     </div>
22 </body>
23
24
25 </html>

```

VI)ID RENEWAL FORM:

Enter card CNIC

CNIC(e.g. 1234567890123)

12-Digit barcode(e.g.123456789)

APPLY

CODE:

```
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <link rel="stylesheet" href="css/main.css">
6      <title>Document</title>
7  </head>
8  <div class="marr_con">
9      <div class="centered_marr">
10
11          <h1>Enter card CNIC</h1>
12          <form action="http://localhost:3000/card" method="post">
13              <input type="text" name="CNIC" placeholder="CNIC(e.g.1234567890123)">
14              <input type="text" name="barcode" placeholder="12-Digit barcode(e.g.1234567890123)">
15              <input type="submit" name="reg_btn" value="Apply">
16          </form>
17
18      </div>
19  </div>
20 </div>
21
22 <body>
23
24 </body>
25
26 </html>
```

.MySQL CONNECTION TO WEBSITE:

WE USE NODE.JS FOR CONNECTION AND OUR SERVER IS VSCODE.



CODE:


```

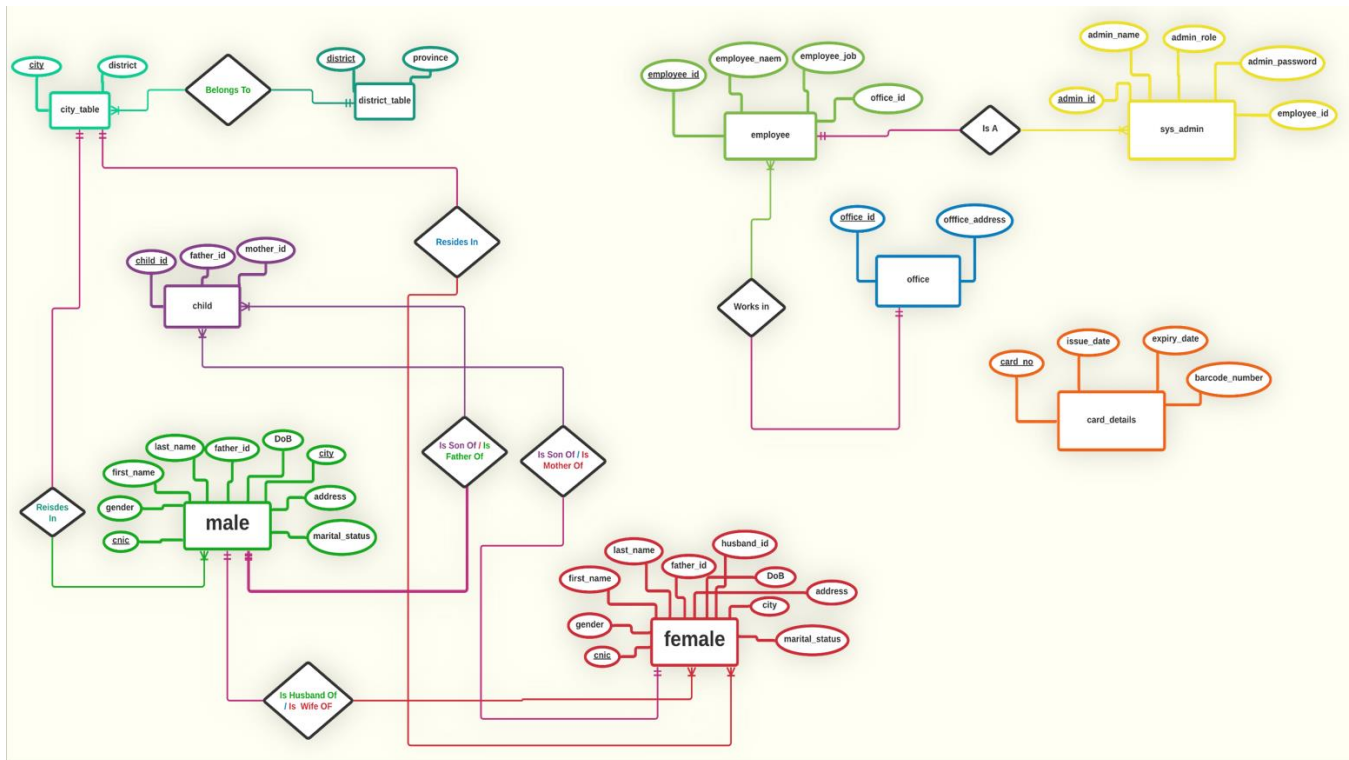
1  var mysql = require('mysql2');
2  var connection = mysql.createConnection({
3      host: 'localhost',
4      user: 'root',
5      password: 'Maria@786',
6      database: 'nadra_data'
7  });
8  });
9  connection.connect(function(err) {
10     if (!err) {
11         console.log("Database is connected");
12     } else {
13         console.log("Error while connecting with database" + err.message);
14     }
15 });
16
17 module.exports = connection;

```

ERD:

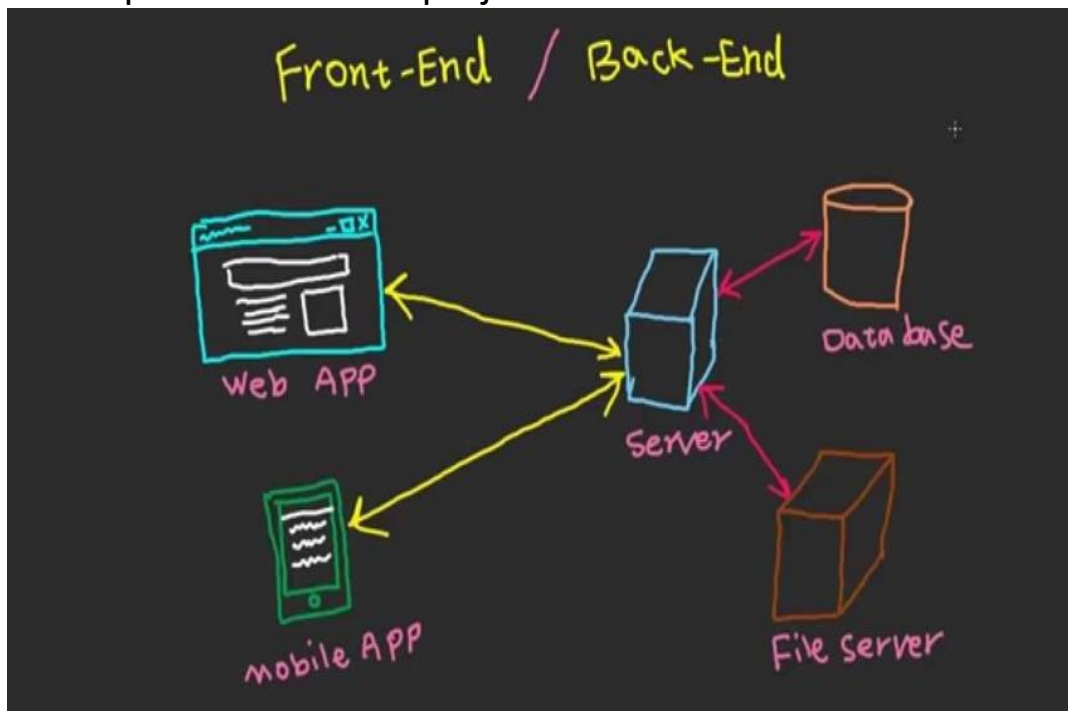
- ER Diagram is a visual representation of data that describes how data is related to each other using different ERD Symbols and Notations.
- An entity–relationship model (or ER model) describes interrelated things of interest in a specific domain of knowledge. A basic ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between entities (instances of those entity types).

DIAGRAM:



CONCLUSION:

- we conclude the whole work, we simply made a basic relational database that shows the relationship among different entities and then made a basic front end page of NADRA that consists of different views and show a connection among the front-end and database which was the requirement of this project.



This is all from our side.THANK YOU!!!!

