



**North South University**  
**Department**  
**of**  
**Electrical and Computer Engineering**

**Project: Bangladesh National Management Portal**

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# **Bangladesh National Portal Management System**

The **Bangladesh National Portal Management System (BNPMS)** is designed to consolidate public services and resources, providing citizens with an efficient way to request services and interact with government entities. The system will also empower government officials to manage requests and monitor service delivery, thereby improving transparency, efficiency, and accountability.

## **1. Project Overview**

The BNPMS aims to serve as a centralized digital platform where:

- Citizens can request government services, track request statuses, and provide feedback.
- Government departments can manage service requests, monitor feedback, and oversee departmental operations.
- Government officials can access department-specific data, track performance metrics, and oversee service delivery.

## **2. Database Scope**

The database is structured to support complex interactions between users, service requests, and government departments. It includes multiple types of entities and relationships to reflect real-world processes accurately.

### **Entities and Attributes**

#### **1. User Types:**

- **User:** A generalized entity containing basic attributes such as *User ID*, *Full Name*, *Username*, *Password*, *Email*, and *Notification Preferences*.
- **Specialized User Types:**
  - **Citizen:** Specific attributes include *Citizen ID*, *Name*, *Date of Birth*, *Nationality*, *Marital Status*, *Occupation*, *Address* (present and permanent), and *Contact Information*. Derived attributes like *Age* are calculated from the date of birth.
  - **Expat:** Contains attributes relevant to foreign workers, such as *Visa Type*, *Work Permit Status*, *Expected Departure Date*, *Entry Date*, *Bank Account*, and *Origin*.

#### **2. NID\_Card:**

- Related to *Citizen*, it represents details from the national ID card, including *NID*, *Father's Name*, *Mother's Name*, *Date of Issue*, *Expiry Date*, *Blood Type*, *Place of Birth*, and *Signature*.

### 3. **Government Department:**

- Government Official: Includes Official ID, Employment Type, Date of Appointment, Rank, Work Location, Supervisor, and Training Records. Officials manage or oversee services within departments.
- Represents government departments with attributes such as *Department ID*, *Department Name*, *Founding Date*, *Location*, *Budget*, *Number of Employees*, *Contact Information*, and *Key Policies*.
- Relationships like *Under* and *Department\_Head* reflect hierarchical structures and management within government entities.

### 4. **Government Official:**

- Includes *Official ID*, *Employment Type*, *Date of Appointment*, *Rank*, *Work Location*, *Supervisor*, and *Training Records*. Officials manage or oversee services within departments. There will be another specified field which will be called *role* and it will be Government official itself. A selected few persons will be elected as department head for certain period of time and this is implemented via *role* which we call *Department\_Head*

### 5. **Services:**

- Represents services provided by government departments. Attributes include *Service ID*, *Service Type*, *Service Description*, *Application Process*, *Priority Level*, *Documents Required*, and *Service History*.

### 6. **Service Request:**

- Represents individual requests made by citizens for government services. Attributes include *Request ID*, *Request Status*, *Request Description*, *Supporting Evidence*, and the department responsible for handling the request.
- Specialization into *Pending* and *Completed* allows for managing requests based on their current status:
  - **Pending Requests:** Includes attributes like *Submission Date*, *Last Updated Date*, *Department in Charge*, and *Follow-up Requirement*.
  - **Completed Requests:** Contains *Completion Date*, *Approval Status*, *Resolution Summary*, and *Final Processing*.

### 7. **Service Feedback:**

- Allows citizens to provide feedback on services received. Attributes include *Feedback ID*, *Feedback Date*, *Comments*, *Rating*, and *Final Document Issued*.

## 8. Notifications:

- Represents messages sent to users about service updates and important alerts, containing attributes like *Notification ID*, *Message*, *Notification Type*, and *Date Sent*.

## Relationships and Constraints

### 1. Hierarchies:

- The ISA relationship between *User* and specialized types (*Citizen*, *Government Official*, *Expat*) allows for role-based access and tailored functionality for different user types.

### 2. Ternary Relationships:

- For example, the relationship among *Citizen*, *Expat* and *Service* enables detailed tracking of which service request is necessary for the user.

### 3. Access Control:

- Roles and relationships (e.g., *Citizen's* Can request for *Services*) define access permissions, ensuring that citizens can access their requests and government officials can oversee department-specific data.

### 4. Cascading Actions:

- The database will enforce cascading updates and deletions. For example, if a department is removed, all associated service requests will be automatically deleted to maintain data integrity.

## 3. Implementation Scope

### Database Design

#### 1. Keys and Constraints:

- Primary keys (e.g., *Citizen ID*, *Department ID*) and foreign keys will enforce data integrity.
- Constraints will ensure valid data entry, such as mandatory fields for *Request Status* and *Service Type*.

#### 2. Composite and Multivalued Attributes:

- Attributes like *Name* composite.
- Some attributes, like *Contact Information* for *Citizen* for example email, phone are multivalued to allow multiple entries.

#### 3. Derived Attributes:

- Certain attributes, like *Age*, will be derived from other data points, such as date of birth.

## Stored Procedures and Functions

### 1. Functions:

- Functions will calculate metrics like the total number of requests by a citizen or the average processing time for requests in each department.

### 2. Procedures:

- Stored procedures will automate key tasks:
  - Assigning requests to government officials.
  - Updating request statuses based on progress.
  - Generating periodic reports for tracking department performance and citizen satisfaction.

## Front-End Functionality

### 1. User Interface and Interactions:

- The interface will support CRUD (Create, Read, Update, Delete) operations on major entities:
  - **Service Requests:** Citizens can submit new requests, view request statuses, update details, and delete outdated requests.
  - **Service Feedback:** Citizens can leave feedback on completed services, providing insights for improvement.
  - **Department Management:** Officials can manage department details, ensuring records are up-to-date.

### 2. Notifications and Alerts:

- A notification system will keep citizens informed about the status of their requests and send important updates or alerts.

### 3. Role-Based Access Control:

- Role-based views and permissions will allow citizens to access personal data, while officials have broader department-specific access, and administrators can oversee all data.

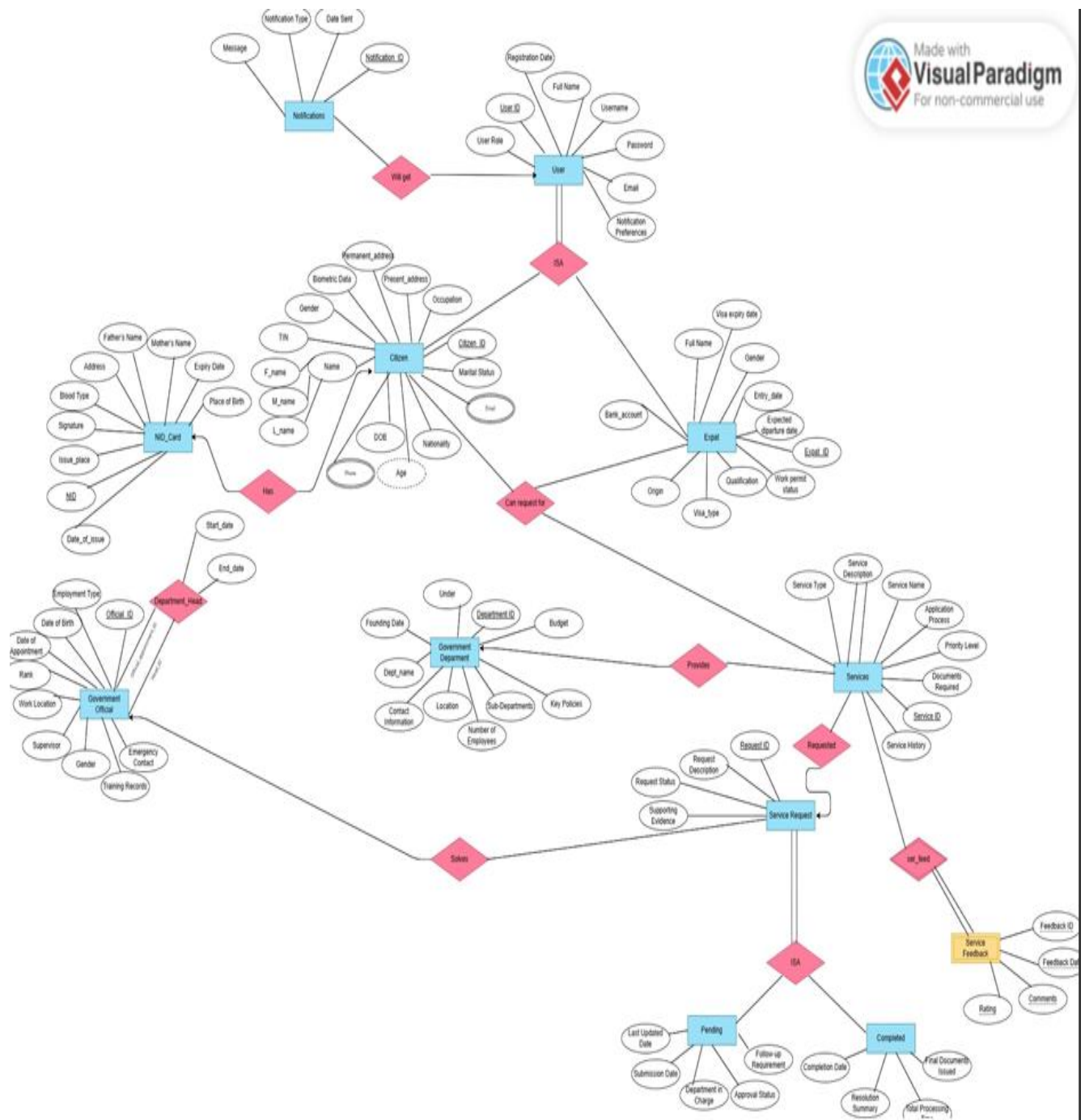
## 4. Expected Outcomes

This scope defines a robust and scalable BNPMs that will support:

- **Enhanced Citizen Engagement:** Through service request tracking, feedback collection, and notifications, citizens will feel more connected and empowered.
- **Improved Efficiency for Government Officials:** With streamlined data and automated tasks, officials can manage service requests more effectively.

- **Increased Transparency:** By enabling citizens to view request statuses and provide feedback, the system will promote government accountability.

## ERD Diagram:



## **Relational schema-**

Citizen (**Citizen\_ID**, F\_name, M\_name, L\_name, Gender, DOB, Nationality, Marital\_Status, Occupation, Present\_address, Permanent\_address, Biometric\_Data, TIN)

Expat (**Expat\_ID**, Full\_Name, Gender, Origin, Visa\_type, Visa\_expiry\_date, Qualification, Entry\_date, Expected\_departure\_date, Work\_permit\_status, Bank\_account)

NID\_Card (**NID**, Citizen\_ID, Fathers\_Name, Mothers\_Name, Address, Blood\_Type, Signature, Place\_of\_Birth, Issue\_place, Expiry\_date, Date\_of\_issue)

User (**User\_ID**, Full\_Name, Username, Password, Email, User\_Role, Notification\_Preferences, Registration\_Date)

Government\_Official (**Official\_ID**, Full\_Name, Date\_of\_Birth, Employment\_Type, Date\_of\_Appointment, Rank, Work\_Location, Supervisor, Gender, Emergency\_Contact, Training\_Records)

Government\_Department (**Department\_ID**, Dept\_name, Founding\_Date, Location, Contact\_Information, Budget, Key\_Policies, Number\_of\_Employees, Sub\_Department)

Services (**Service\_ID**, Department\_ID, Request\_ID, Service\_Name, Service\_Type, Service\_Description, Application\_Process, Priority\_Level, Documents\_Required, Service\_History)

Notifications (**Notification\_ID**, User\_ID, Message, Notification\_Type, Date\_Sent)

Service Request (**Request\_ID**, Official\_ID, Request\_Status, Request\_Description, Supporting\_Evidence)

Pending (**Request\_ID**, Last\_Updated\_Date, Submission\_Date, Department\_in\_Charge, Approval\_Status, Follow\_up\_Requirement)

Completed (**Request\_ID**, Completion\_Date, Resolution\_Summary, Final\_Documents\_Issued, Total\_Processing\_Time)



Service Feedback (**Service\_ID, Feedback\_ID, Rating, Comments, Feedback\_Date**)

Department\_Head (**Head\_ID, Official\_appointment\_ID, Start\_date, End\_date**)

Can request for (**Service\_ID, Citizen\_ID, Expat\_ID**)

Citizen\_email(**Citizen\_ID, citizen\_email**)

Citizen\_phone (**Citizen\_ID, citizen\_phone**)

## SQL DDL for the Relation Schema:

```
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
```

```
START TRANSACTION;
```

```
SET time_zone = "+00:00";
```

```
-- Database: `bdportal`
```

```
-- Table structure for table `citizen`
```

```
CREATE TABLE `citizen` (
```

```
  `CitizenID` int(12) NOT NULL AUTO_INCREMENT PRIMARY KEY,
```

```
  `UserID` int(12) NOT NULL,
```

```
  `FullName` varchar(100) DEFAULT NULL,
```

```
  `DateOfBirth` date DEFAULT NULL,
```

```
  `Nationality` varchar(50) DEFAULT NULL,
```

```
  `MaritalStatus` varchar(20) DEFAULT NULL,
```

```
  `Occupation` varchar(50) DEFAULT NULL,
```

```
  `addressPresent` varchar(255) DEFAULT NULL,
```

```
  `addressPermanent` varchar(255) DEFAULT NULL,
```

```
  `ContactInfo` varchar(100) DEFAULT NULL,
```

```
  `Age` int(10) DEFAULT NULL,
```

```
  `TIN` int(20) DEFAULT NULL,
```

```
  FOREIGN KEY (`UserID`) REFERENCES `users` (`UserID`) ON DELETE CASCADE  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```

--
-- Triggers `citizen`
--

DELIMITER $$

CREATE TRIGGER `set_age_before_insert` BEFORE INSERT ON `citizen` FOR EACH ROW
BEGIN

    SET NEW.Age = TIMESTAMPDIFF(YEAR, NEW.DateOfBirth, CURDATE());

END

$$

DELIMITER ;

DELIMITER $$

CREATE TRIGGER `set_age_before_update` BEFORE UPDATE ON `citizen` FOR EACH ROW
BEGIN

    SET NEW.Age = TIMESTAMPDIFF(YEAR, NEW.DateOfBirth, CURDATE());

END

$$

DELIMITER ;

-----

--

-- Table structure for table `completedrequest`
--

CREATE TABLE `completedrequest` (
  `RequestID` int(11) NOT NULL,
  `CompletionDate` date DEFAULT NULL,
  `ApprovalStatus` varchar(50) DEFAULT NULL,
  `ResolutionSummary` text DEFAULT NULL,

```

```
`FinalProcessing` text DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-- -----
```

```
--
```

```
-- Table structure for table `expat`
```

```
--
```

```
CREATE TABLE `expat` (
  `ExpatID` int(11) NOT NULL AUTO_INCREMENT PRIMARY KEY,
  `UserID` int(12) NOT NULL,
  `VisaType` varchar(50) DEFAULT NULL,
  `WorkPermitStatus` varchar(50) DEFAULT NULL,
  `ExpectedDepartureDate` date DEFAULT NULL,
  `EntryDate` date DEFAULT NULL,
  `BankAccount` varchar(50) DEFAULT NULL,
  `Origin` varchar(50) DEFAULT NULL,
  `PassportNumber` varchar(50) DEFAULT NULL,

  FOREIGN KEY (`UserID`) REFERENCES `users` (`UserID`) ON DELETE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-- -----
```

```
-- Table structure for table `users`
```

```
--
```

```
CREATE TABLE `users` (
  `UserID` int(12) NOT NULL AUTO_INCREMENT PRIMARY KEY,
```

```

`Username` varchar(50) NOT NULL,
`Password` varchar(255) NOT NULL,
`Email` varchar(100) DEFAULT NULL,
`NotificationPreferences` varchar(50) DEFAULT NULL,
`type` varchar(50) DEFAULT NULL,
`date_registered` DATETIME DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

--

-- Dumping data for table `users`

--

INSERT INTO `users` (`UserID`, `FullName`, `Username`, `Password`, `Email`,
`NotificationPreferences`) VALUES

(1, 'John Doe', 'johndoe', 'johndoe', 'johndoe@mail.com', NULL),
(2, 'Jane Doe', 'janedoe', 'janedoe', 'janedoe@mail.com', NULL),
(3, 'Alice', 'alice', 'alice', 'alice@mail.com', NULL),
(4, 'Bob', 'bob', 'bob', 'bob@mail.com', NULL),
(5, 'Charlie', 'charlie', 'charlie', 'charlie@mail.com', NULL),
(6, 'David', 'david', 'david', 'david@mail.com', NULL);

--

--

-- Table structure for table `governmentdepartment`

--

CREATE TABLE `governmentofficial` (
`OfficialID` int(11) NOT NULL AUTO_INCREMENT PRIMARY KEY,
`Username` varchar(50) NOT NULL UNIQUE,

```

```
`FullName` varchar(100) NOT NULL,  
`Password` varchar(255) NOT NULL,  
`EmploymentType` varchar(50) DEFAULT NULL,  
`DateOfAppointment` date DEFAULT NULL,  
`WorkLocation` varchar(100) DEFAULT NULL,  
`Supervisor` int(11) DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

-----

```
CREATE TABLE `admin` (  
  `Username` varchar(50) NOT NULL UNIQUE,  
  `FullName` varchar(100) NOT NULL,  
  `Password` varchar(255) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
CREATE TABLE `department` (  
  `DepartmentID` int(11) NOT NULL AUTO_INCREMENT PRIMARY KEY,  
  `DepartmentName` varchar(100) NOT NULL,  
  `FoundingDate` date DEFAULT NULL,  
  `Location` varchar(100) DEFAULT NULL,  
  `Budget` decimal(15,2) DEFAULT NULL,  
  `NumberOfEmployees` int(11) DEFAULT NULL,  
  `ContactInfo` varchar(100) DEFAULT NULL,  
  `KeyPolicies` text DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

-----

--

--

-- Table structure for table `nid\_card`

--

```
CREATE TABLE `nid_card` (  
  `NID` int(11) NOT NULL,  
  `CitizenID` int(12) NOT NULL,  
  `FathersName` varchar(100) DEFAULT NULL,  
  `MothersName` varchar(100) DEFAULT NULL,  
  `DateOfIssue` date DEFAULT NULL,  
  `ExpiryDate` date DEFAULT NULL,  
  `BloodType` char(3) DEFAULT NULL,  
  `PlaceOfBirth` varchar(100) DEFAULT NULL,  
  `Signature` blob DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

-- -----

--

-- Table structure for table `notifications`

--

```
CREATE TABLE `notifications` (  
  `NotificationID` int(11) NOT NULL,  
  `UserID` int(12) NOT NULL,  
  `Message` text DEFAULT NULL,  
  `NotificationType` varchar(50) DEFAULT NULL,  
  `DateSent` date DEFAULT NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-- -----
```

```
--
```

```
-- Table structure for table `pendingrequest`
```

```
--
```

```
CREATE TABLE `pendingrequest` (  
  `RequestID` int(11) NOT NULL,  
  `SubmissionDate` date DEFAULT NULL,  
  `LastUpdatedDate` date DEFAULT NULL,  
  `DepartmentInCharge` int(11) DEFAULT NULL,  
  `FollowUpRequirement` tinyint(1) DEFAULT NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-- -----
```

```
--
```

```
-- Table structure for table `servicefeedback`
```

```
--
```

```
CREATE TABLE `servicefeedback` (  
  `FeedbackID` int(11) NOT NULL,  
  `RequestID` int(11) NOT NULL,  
  `FeedbackDate` date DEFAULT NULL,  
  `Comments` text DEFAULT NULL,  
  `Rating` int(11) DEFAULT NULL CHECK (`Rating` between 1 and 5),  
  `FinalDocumentIssued` text DEFAULT NULL
```



```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-----
```

```
--
```

```
-- Table structure for table `servicerequest`
```

```
--
```

```
CREATE TABLE `servicerequest` (
```

```
  `RequestID` int(11) NOT NULL AUTO_INCREMENT PRIMARY KEY,
```

```
  `CitizenID` int(12) NOT NULL,
```

```
  `ServiceID` int(11) DEFAULT NULL,
```

```
  `RequestStatus` varchar(50) NOT NULL DEFAULT 'Pending',
```

```
  `RequestDescription` text DEFAULT NULL,
```

```
  `SupportingEvidence` text DEFAULT NULL,
```

```
  FOREIGN KEY (`CitizenID`) REFERENCES `citizen` (`CitizenID`) ON DELETE CASCADE,
```

```
  FOREIGN KEY (`ServiceID`) REFERENCES `services` (`ServiceID`) ON DELETE SET NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-----
```

```
--
```

```
-- Table structure for table `services`
```

```
--
```

```
CREATE TABLE `services` (
```

```
  `ServiceID` int(11) AUTO_INCREMENT PRIMARY KEY,
```

```
  `ServiceType` varchar(100) DEFAULT NULL,
```

```
`ServiceDescription` text DEFAULT NULL,  
`ApplicationProcess` text DEFAULT NULL,  
`PriorityLevel` varchar(20) DEFAULT NULL,  
`DocumentsRequired` text DEFAULT NULL,  
`ServiceHistory` text DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
-- -----
```

```
--
```

```
-- Indexes for dumped tables
```

```
--
```

```
--
```

```
-- Indexes for table `citizen`
```

```
--
```

```
ALTER TABLE `citizen`  
  ADD PRIMARY KEY (`CitizenID`),  
  ADD UNIQUE KEY `UserID` (`UserID`);
```

```
--
```

```
-- Indexes for table `completedrequest`
```

```
--
```

```
ALTER TABLE `completedrequest`  
  ADD PRIMARY KEY (`RequestID`);
```

```
--
```

```
-- Indexes for table `expat`
```

--

ALTER TABLE `expat`

ADD PRIMARY KEY (`ExpatID`),

ADD UNIQUE KEY `UserID` (`UserID`);

--

-- Indexes for table `governmentdepartment`

--

ALTER TABLE `governmentdepartment`

ADD PRIMARY KEY (`DepartmentID`);

--

-- Indexes for table `governmentofficial`

--

ALTER TABLE `governmentofficial`

ADD PRIMARY KEY (`OfficialID`),

ADD UNIQUE KEY `UserID` (`UserID`),

ADD KEY `Supervisor` (`Supervisor`);

--

-- Indexes for table `nid\_card`

--

ALTER TABLE `nid\_card`

ADD PRIMARY KEY (`NID`),

ADD UNIQUE KEY `CitizenID` (`CitizenID`);

--

-- Indexes for table `notifications`

--

**ALTER TABLE `notifications`**

**ADD PRIMARY KEY (`NotificationID`),**

**ADD KEY `UserID` (`UserID`);**

--

-- Indexes for table `pendingrequest`

--

**ALTER TABLE `pendingrequest`**

**ADD PRIMARY KEY (`RequestID`),**

**ADD KEY `DepartmentInCharge` (`DepartmentInCharge`);**

--

-- Indexes for table `servicefeedback`

--

**ALTER TABLE `servicefeedback`**

**ADD PRIMARY KEY (`FeedbackID`),**

**ADD KEY `RequestID` (`RequestID`);**

--

-- Indexes for table `servicerequest`

--

**ALTER TABLE `servicerequest`**

**ADD PRIMARY KEY (`RequestID`),**

**ADD KEY `CitizenID` (`CitizenID`),**

**ADD KEY `ServiceID` (`ServiceID`);**

--

-- Indexes for table `services`

--

**ALTER TABLE `services`**

**ADD PRIMARY KEY (`ServiceID`);**

**--**

**-- Indexes for table `users`**

**--**

**ALTER TABLE `users`**

**ADD PRIMARY KEY (`UserID`),**

**ADD UNIQUE KEY `Username` (`Username`),**

**ADD UNIQUE KEY `Email` (`Email`);**

**--**

**-- AUTO\_INCREMENT for dumped tables**

**--**

**--**

**-- AUTO\_INCREMENT for table `users`**

**--**

**ALTER TABLE `users`**

**MODIFY `UserID` int(11) NOT NULL AUTO\_INCREMENT, AUTO\_INCREMENT=7;**

**--**

**-- Constraints for dumped tables**

**--**

**--**

**-- Constraints for table `citizen`**

**--**

**ALTER TABLE `citizen`**

```
ADD CONSTRAINT `citizen_ibfk_1` FOREIGN KEY (`UserID`) REFERENCES `users`  
(`UserID`);
```

```
--
```

```
-- Constraints for table `completedrequest`
```

```
--
```

```
ALTER TABLE `completedrequest`
```

```
ADD CONSTRAINT `completedrequest_ibfk_1` FOREIGN KEY (`RequestID`) REFERENCES  
`servicerequest` (`RequestID`);
```

```
--
```

```
-- Constraints for table `expat`
```

```
--
```

```
ALTER TABLE `expat`
```

```
ADD CONSTRAINT `expat_ibfk_1` FOREIGN KEY (`UserID`) REFERENCES `users`  
(`UserID`);
```

```
--
```

```
-- Constraints for table `governmentofficial`
```

```
--
```

```
ALTER TABLE `governmentofficial`
```

```
ADD CONSTRAINT `governmentofficial_ibfk_1` FOREIGN KEY (`UserID`) REFERENCES  
`users` (`UserID`),
```

```
ADD CONSTRAINT `governmentofficial_ibfk_2` FOREIGN KEY (`Supervisor`) REFERENCES  
`governmentofficial` (`OfficialID`);
```

```
--
```

```
-- Constraints for table `nid_card`
```

```
--
```

```
ALTER TABLE `nid_card`
```

```
ADD CONSTRAINT `nid_card_ibfk_1` FOREIGN KEY (`CitizenID`) REFERENCES `citizen`
(`CitizenID`);
```

```
--
```

```
-- Constraints for table `notifications`
```

```
--
```

```
ALTER TABLE `notifications`
```

```
ADD CONSTRAINT `notifications_ibfk_1` FOREIGN KEY (`UserID`) REFERENCES `users`
(`UserID`);
```

```
--
```

```
-- Constraints for table `pendingrequest`
```

```
--
```

```
ALTER TABLE `pendingrequest`
```

```
ADD CONSTRAINT `pendingrequest_ibfk_1` FOREIGN KEY (`RequestID`) REFERENCES
`servicerequest` (`RequestID`),
```

```
ADD CONSTRAINT `pendingrequest_ibfk_2` FOREIGN KEY (`DepartmentInCharge`)
REFERENCES `governmentdepartment` (`DepartmentID`);
```

```
--
```

```
-- Constraints for table `servicefeedback`
```

```
--
```

```
ALTER TABLE `servicefeedback`
```

```
ADD CONSTRAINT `servicefeedback_ibfk_1` FOREIGN KEY (`RequestID`) REFERENCES
`servicerequest` (`RequestID`);
```

```
--
```

```
-- Constraints for table `servicerequest`
```

```
--
```

```
ALTER TABLE `servicerequest`
```

```
ADD CONSTRAINT `servicerequest_ibfk_1` FOREIGN KEY (`CitizenID`) REFERENCES  
`citizen` (`CitizenID`),
```

```
ADD CONSTRAINT `servicerequest_ibfk_2` FOREIGN KEY (`ServiceID`) REFERENCES  
`services` (`ServiceID`);
```

```
COMMIT;
```



## DataBase:

phpMyAdmin 4.7.0.1 - Database: bdportal

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking Designer Central columns

Recent Favorites

New  
bdportal  
New  
admin  
citizen  
completedrequest  
department  
expat  
governmentofficial  
nid\_card  
notifications  
pendingrequest  
review  
servicefeedback  
servicesquest  
services  
users  
geeldata  
information\_schema  
library  
mysql  
notes  
performance\_schema  
pronyadmin  
test

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
admin		1	InnoDB	utf8mb4_general_ci	16.0 K	-
citizen		5	InnoDB	utf8mb4_general_ci	32.0 K	-
completedrequest		0	InnoDB	utf8mb4_general_ci	16.0 K	-
department		3	InnoDB	utf8mb4_general_ci	16.0 K	-
expat		2	InnoDB	utf8mb4_general_ci	32.0 K	-
governmentofficial		1	InnoDB	utf8mb4_general_ci	32.0 K	-
nid_card		0	InnoDB	utf8mb4_general_ci	16.0 K	-
notifications		0	InnoDB	utf8mb4_general_ci	16.0 K	-
pendingrequest		0	InnoDB	utf8mb4_general_ci	16.0 K	-
review		0	InnoDB	utf8mb4_general_ci	64.0 K	-
servicefeedback		0	InnoDB	utf8mb4_general_ci	16.0 K	-
servicesquest		0	InnoDB	utf8mb4_general_ci	48.0 K	-
services		3	InnoDB	utf8mb4_general_ci	32.0 K	-
users		0	InnoDB	utf8mb4_general_ci	16.0 K	-
<b>14 tables</b>	<b>Sum</b>	<b>113</b>	<b>InnoDB</b>	<b>utf8mb4_general_ci</b>	<b>368.0 K</b>	<b>0 B</b>

☐ Check all With selected

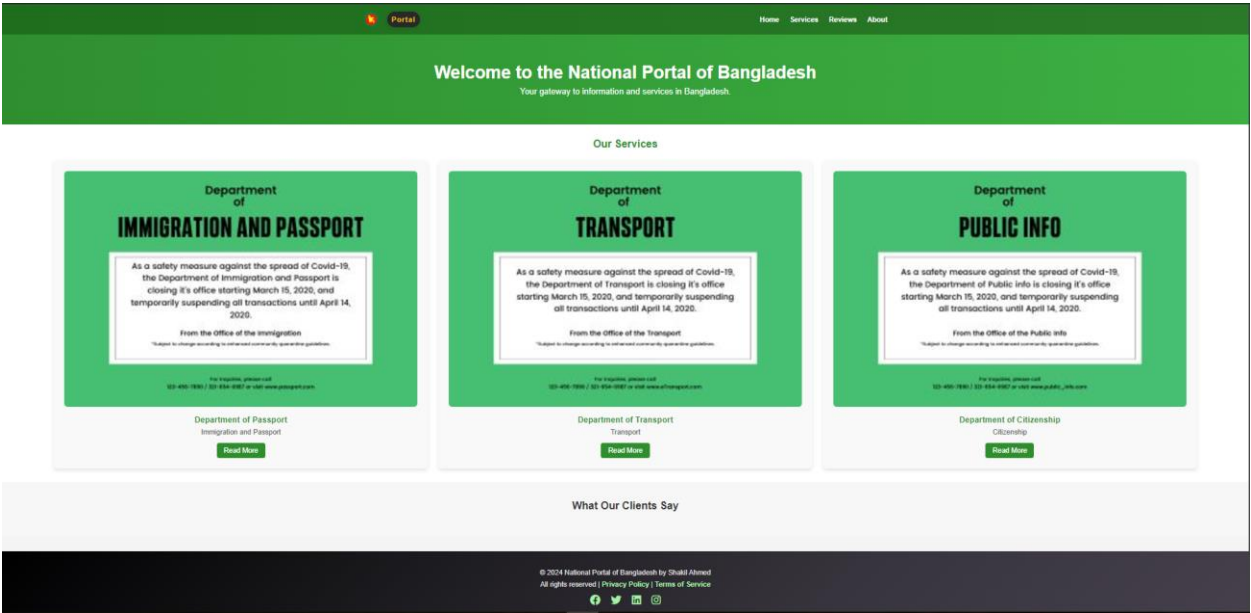
Print Data dictionary

Create new table

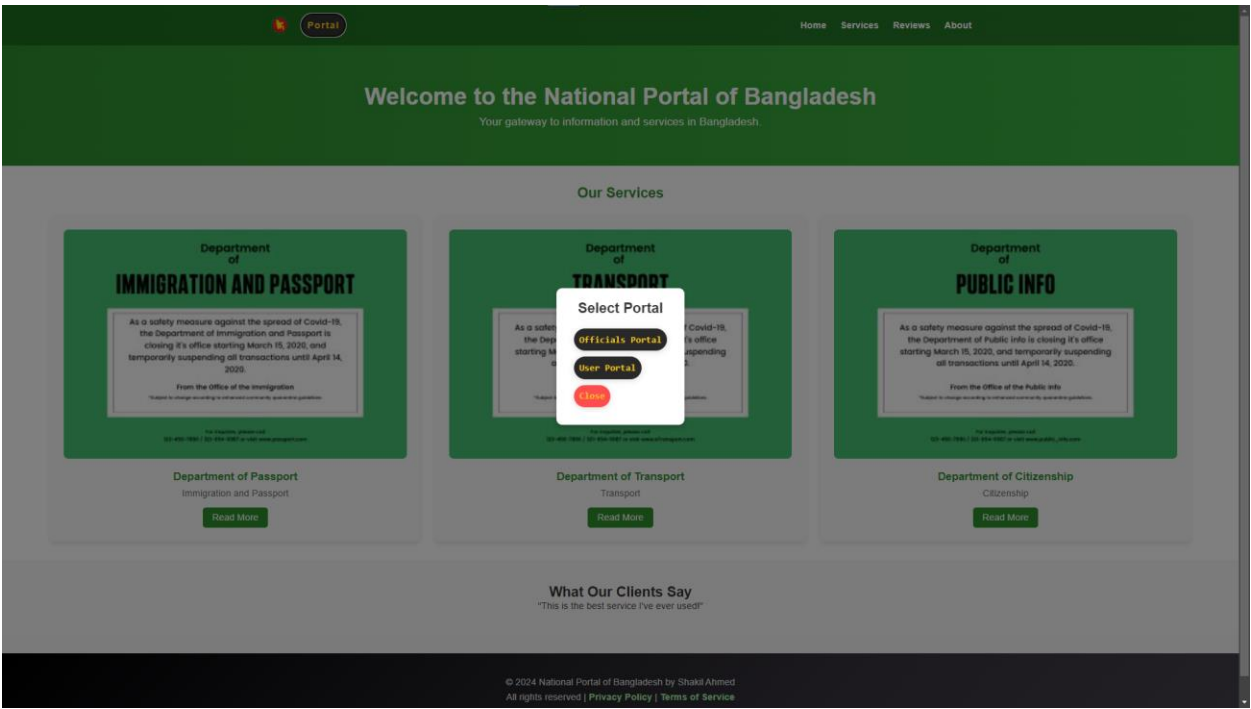
Table name: Number of columns: 4

Console

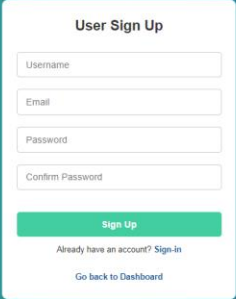
Dashboard :



Portal Modal offers different types of Users Portal:



### User Sign Up (Sign Up):



User Sign Up

Username

Email

Password

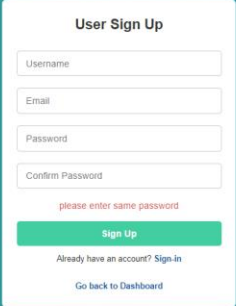
Confirm Password

Sign Up

Already have an account? [Sign in](#)

[Go back to Dashboard](#)

### Error handling (e.g. Password and Confirm Password should match):



User Sign Up

Username

Email

Password

Confirm Password

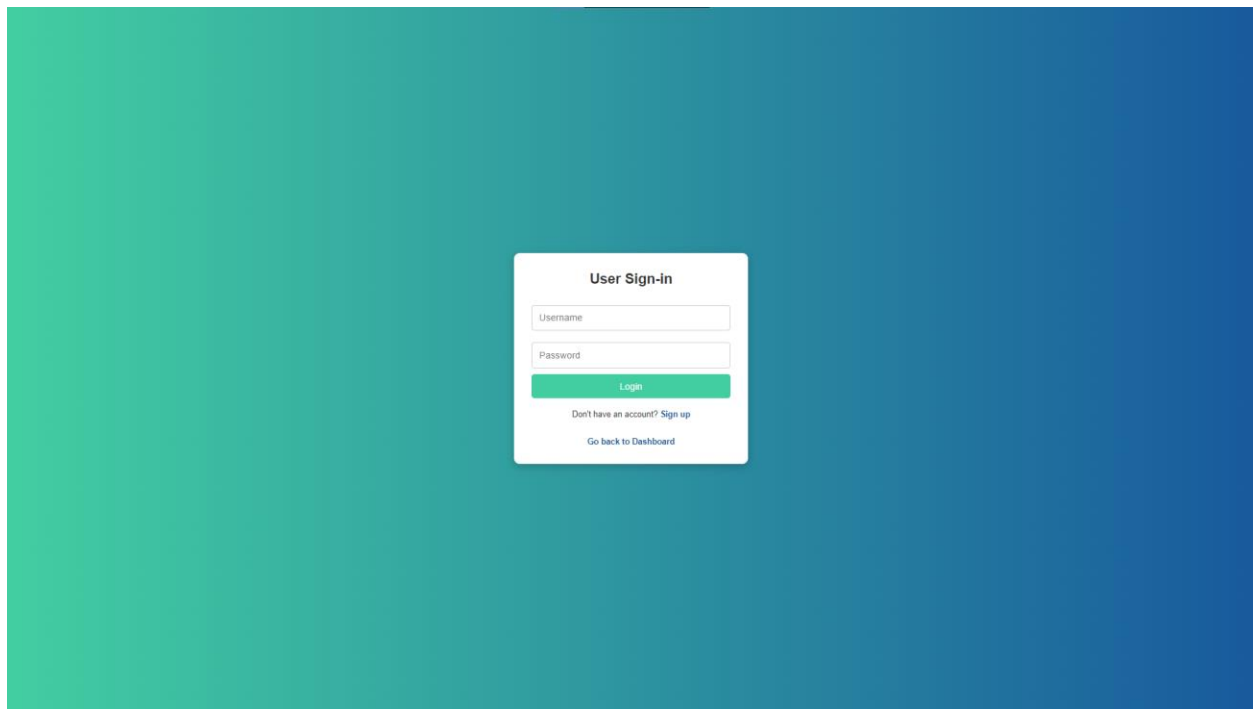
please enter same password

Sign Up

Already have an account? [Sign in](#)

[Go back to Dashboard](#)

### User Sign in(Upon Succesful Sign up):



The image shows a 'User Sign-in' form centered on a background with a teal-to-blue gradient. The form is a white card with a title 'User Sign-in'. It contains two input fields: 'Username' and 'Password'. Below these is a green 'Login' button. At the bottom of the card, there are two links: 'Don't have an account? Sign up' and 'Go back to Dashboard'.

User Sign-in

Username

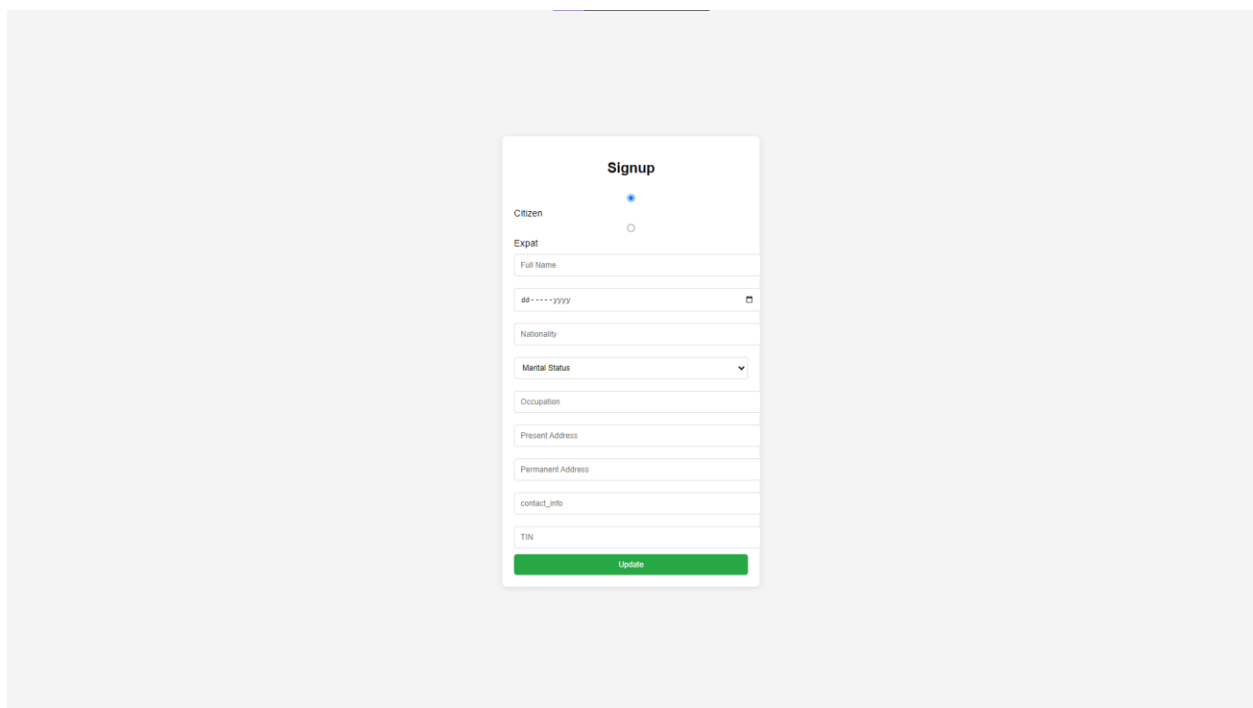
Password

Login

Don't have an account? Sign up

Go back to Dashboard

### User info Store(Distinguishes if User is a Citizen or an Expat):



The image shows a 'Signup' form centered on a light gray background. The form is a white card with a title 'Signup'. It starts with two radio buttons: 'Citizen' (selected) and 'Expat'. Below these are several input fields: 'Full Name', a date field (placeholder 'dd-yyy-yyyy'), 'Nationality', 'Marital Status' (a dropdown menu), 'Occupation', 'Present Address', 'Permanent Address', 'contact\_info', and 'TIN'. At the bottom is a green 'Update' button.

Signup

☒ Citizen ☐ Expat

Full Name

dd-yyy-yyyy

Nationality

Marital Status

Occupation

Present Address

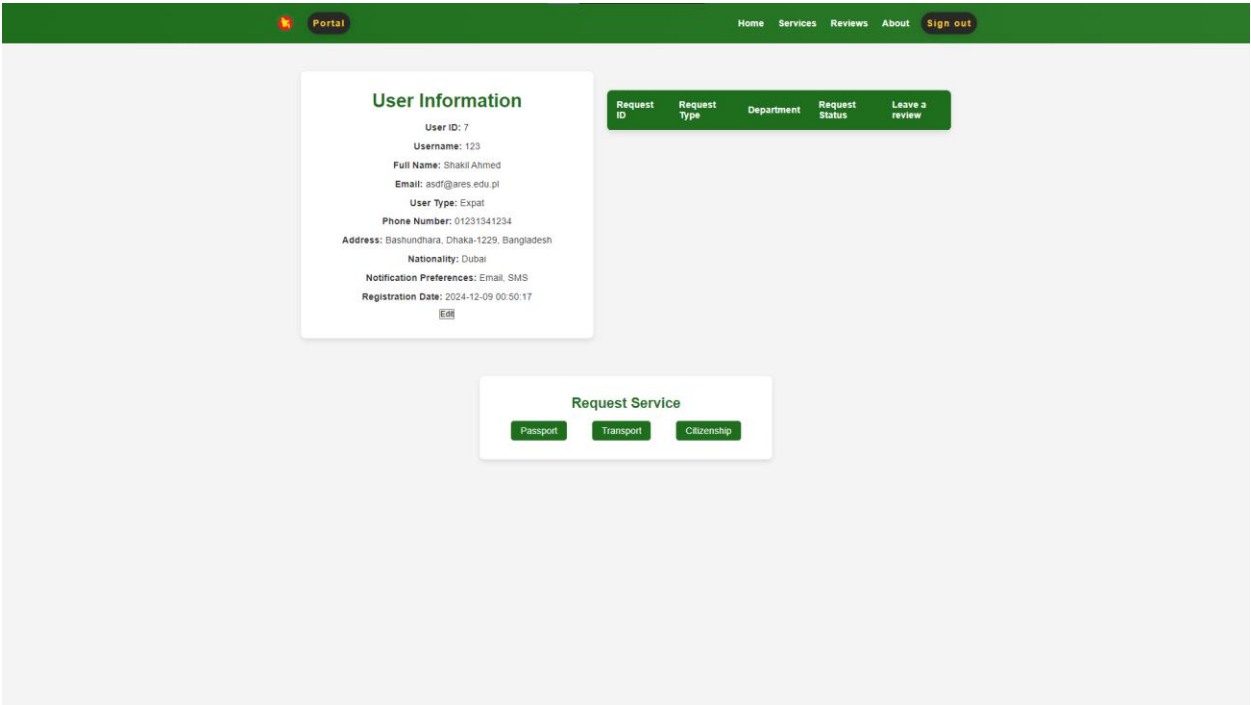
Permanent Address

contact\_info

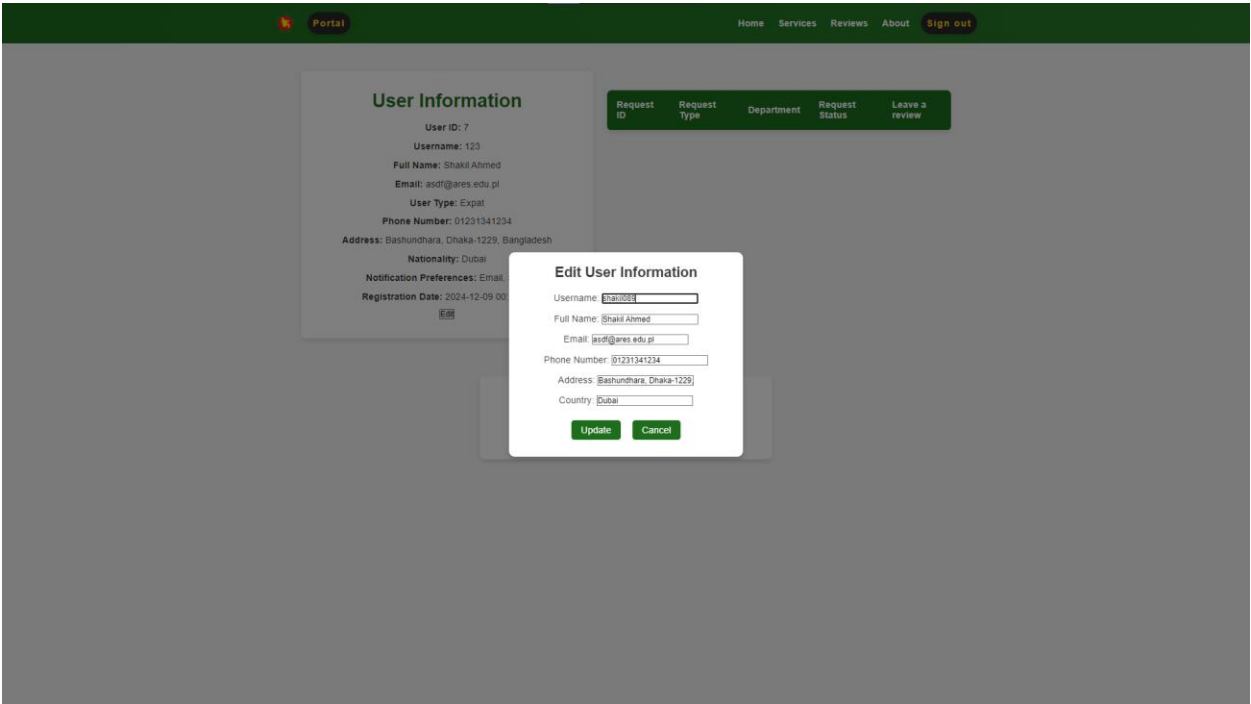
TIN

Update

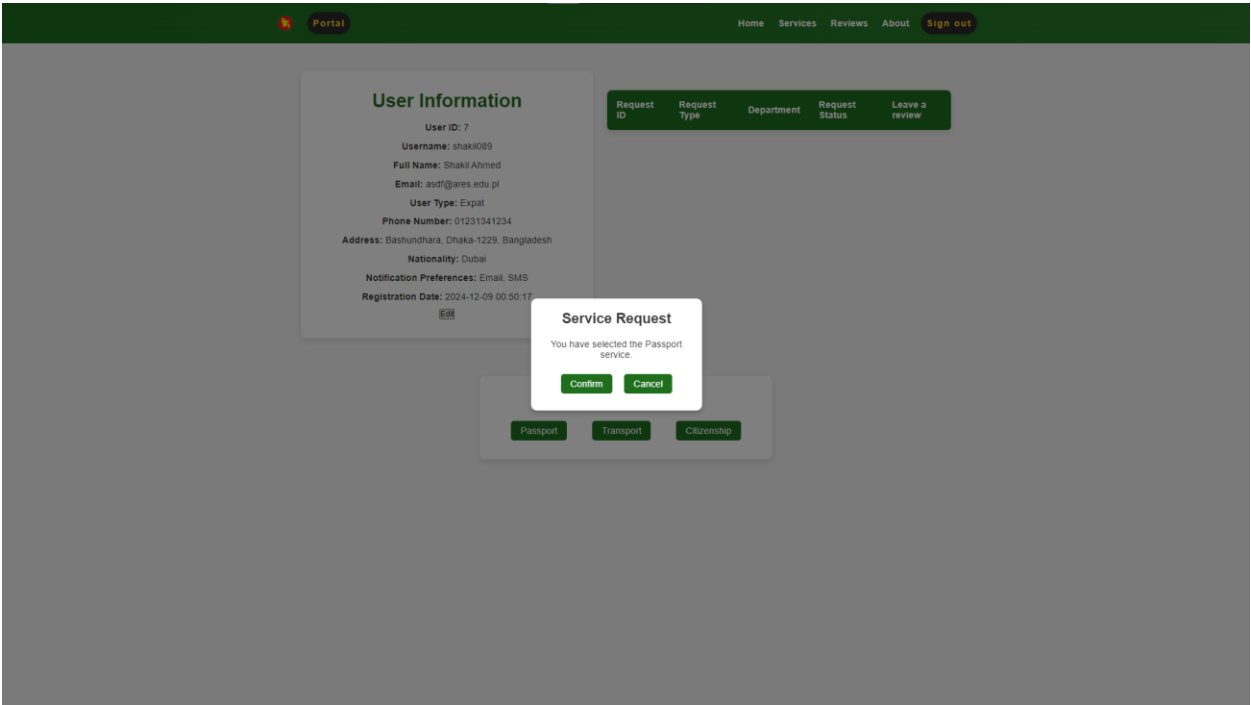
User DashBoard:



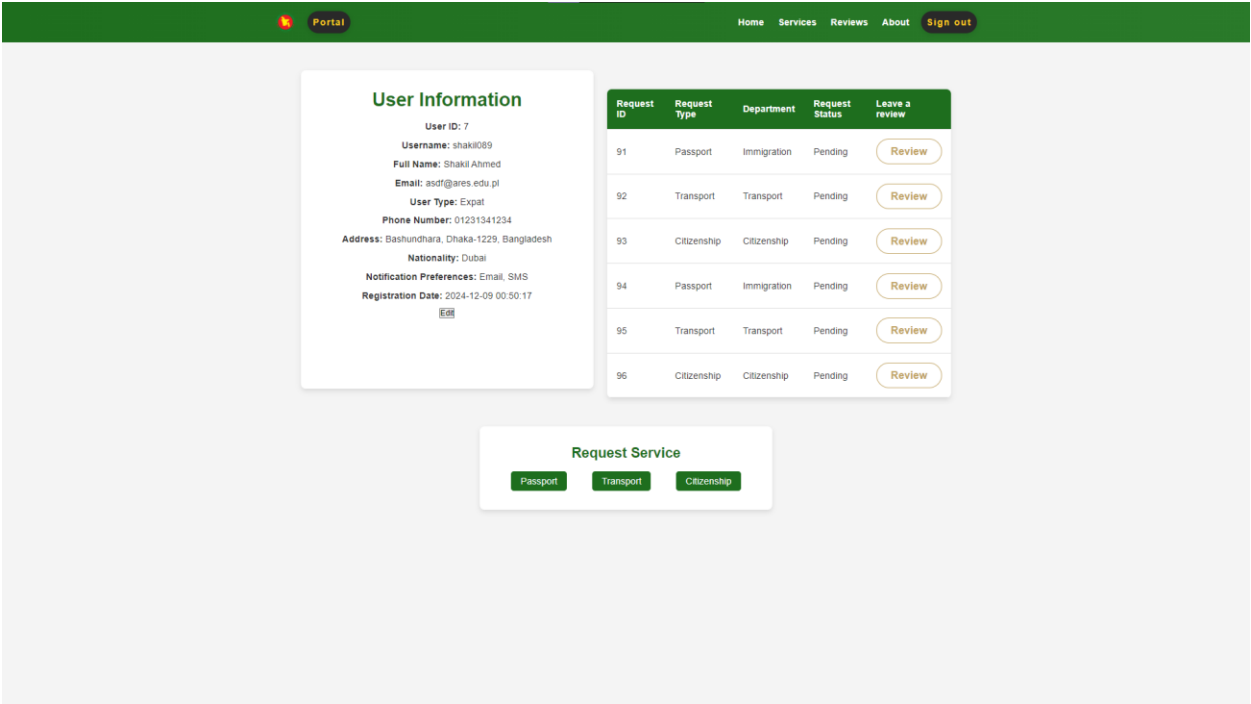
User info update Modal:



User Service Request Confirmation modal:



Requested services (with Request Status) shows up in User Dashboard:



## Official Sign in (Account will be given from authority):

Official Sign-in

Username

Password

Login

Sign in as an Admin

Go back to Dashboard

## Official Dashboard(Can left at Pending, Reject or Approve and submit for Admin Approval )

Portal

Home

Services

Reviews

About

Sign out

Official Dashboard

Search services...

Search

Request ID	Request Type	Department	User ID	Approve	Deny
13	Passport	Immigration	2	<input type="checkbox"/>	<input type="checkbox"/>
15	Passport	Immigration	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18	Passport	Immigration	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
27	Passport	Immigration	3	<input type="checkbox"/>	<input type="checkbox"/>
32	Passport	Immigration	4	<input type="checkbox"/>	<input type="checkbox"/>
36	Passport	Immigration	4	<input type="checkbox"/>	<input type="checkbox"/>
41	Passport	Immigration	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
69	Passport	Immigration	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
70	Passport	Immigration	1	<input type="checkbox"/>	<input type="checkbox"/>
72	Passport	Immigration	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
80	Passport	Immigration	5	<input type="checkbox"/>	<input type="checkbox"/>
91	Passport	Immigration	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
94	Passport	Immigration	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
19	Transport	Transport	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21	Transport	Transport	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Transport	Transport	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Transport	Transport	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
24	Transport	Transport	1	<input type="checkbox"/>	<input type="checkbox"/>
25	Transport	Transport	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>

50	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
51	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
52	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
53	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
54	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
55	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
56	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
57	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
58	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
59	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
60	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
68	Citizenship	Citizenship	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
71	Citizenship	Citizenship	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
74	Citizenship	Citizenship	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
75	Citizenship	Citizenship	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
76	Citizenship	Citizenship	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
77	Citizenship	Citizenship	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
78	Citizenship	Citizenship	3	<input type="checkbox"/>	<input type="checkbox"/>
81	Citizenship	Citizenship	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>
86	Citizenship	Citizenship	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
93	Citizenship	Citizenship	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>
96	Citizenship	Citizenship	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Submit



## Admin Sign in (Account will be given from authority):

The image shows an 'Admin Sign-in' form centered on a background with a teal-to-blue gradient. The form is a white card with a title 'Admin Sign-in'. It contains two input fields: 'Username' and 'Password'. Below these is a green 'Login' button. Under the button, there are two links: 'Sign in as an Official' and 'Go back to Dashboard'.

## Admin Dashboard (Officials Approved requests show up for final Approval):

The image is a screenshot of an 'Admin Dashboard'. At the top, there is a green navigation bar with a 'Portal' button and links for 'Home', 'Services', 'Reviews', 'About', and 'Sign out'. Below the navigation bar is a dark header with 'Admin Dashboard' on the left and a search bar on the right. The main content area features a table with 6 columns: 'Request ID', 'Request Type', 'Department', 'Citizen ID', 'Request Status', and 'Confirm'. The table lists 15 requests, all with a status of 'Pending Approval'. Each row has a red 'Approve' button in the 'Confirm' column.

Request ID	Request Type	Department	Citizen ID	Request Status	Confirm
15	Passport	Immigration	1	Pending Approval	Approve
18	Passport	Immigration	1	Pending Approval	Approve
41	Passport	Immigration	1	Pending Approval	Approve
69	Passport	Immigration	1	Pending Approval	Approve
91	Passport	Immigration	6	Pending Approval	Approve
94	Passport	Immigration	6	Pending Approval	Approve
19	Transport	Transport	1	Pending Approval	Approve
23	Transport	Transport	1	Pending Approval	Approve
24	Transport	Transport	1	Pending Approval	Approve
25	Transport	Transport	1	Pending Approval	Approve
33	Transport	Transport	4	Pending Approval	Approve
35	Transport	Transport	4	Pending Approval	Approve
44	Transport	Transport	1	Pending Approval	Approve
46	Transport	Transport	1	Pending Approval	Approve

These Request are deleted upon Approval of Admin:

Portal

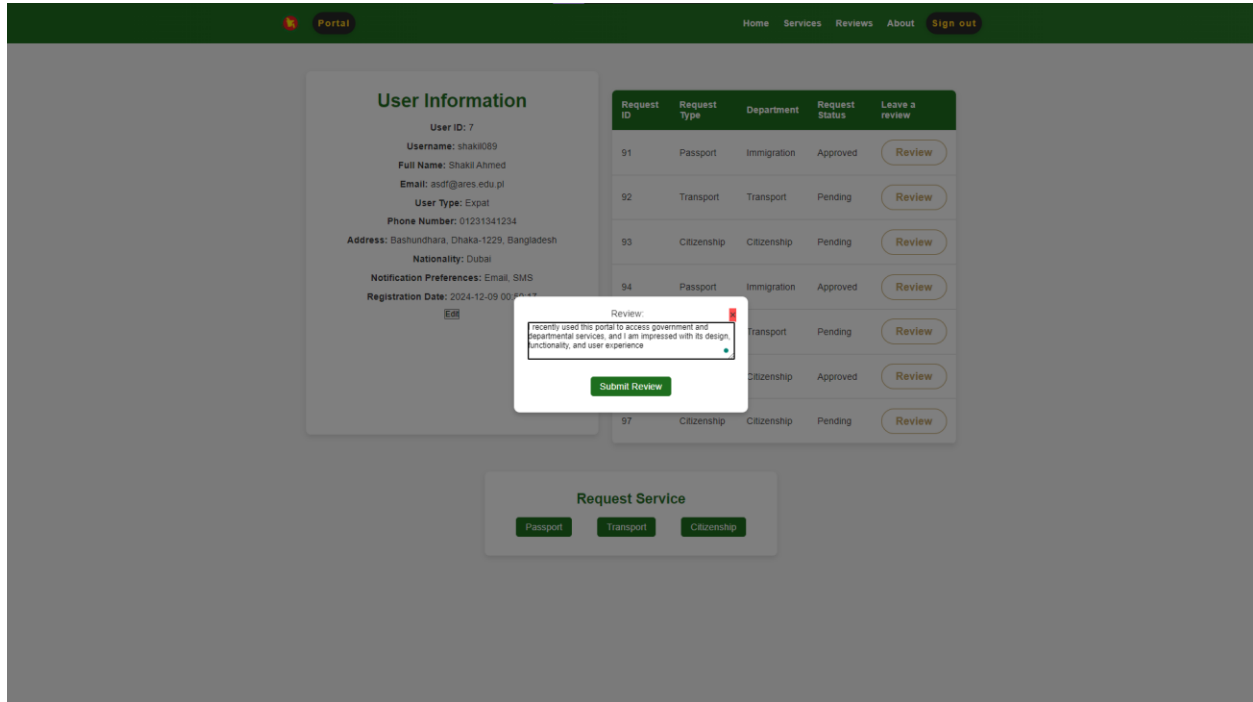
HomeServicesReviewsAboutSign out

Admin Dashboard

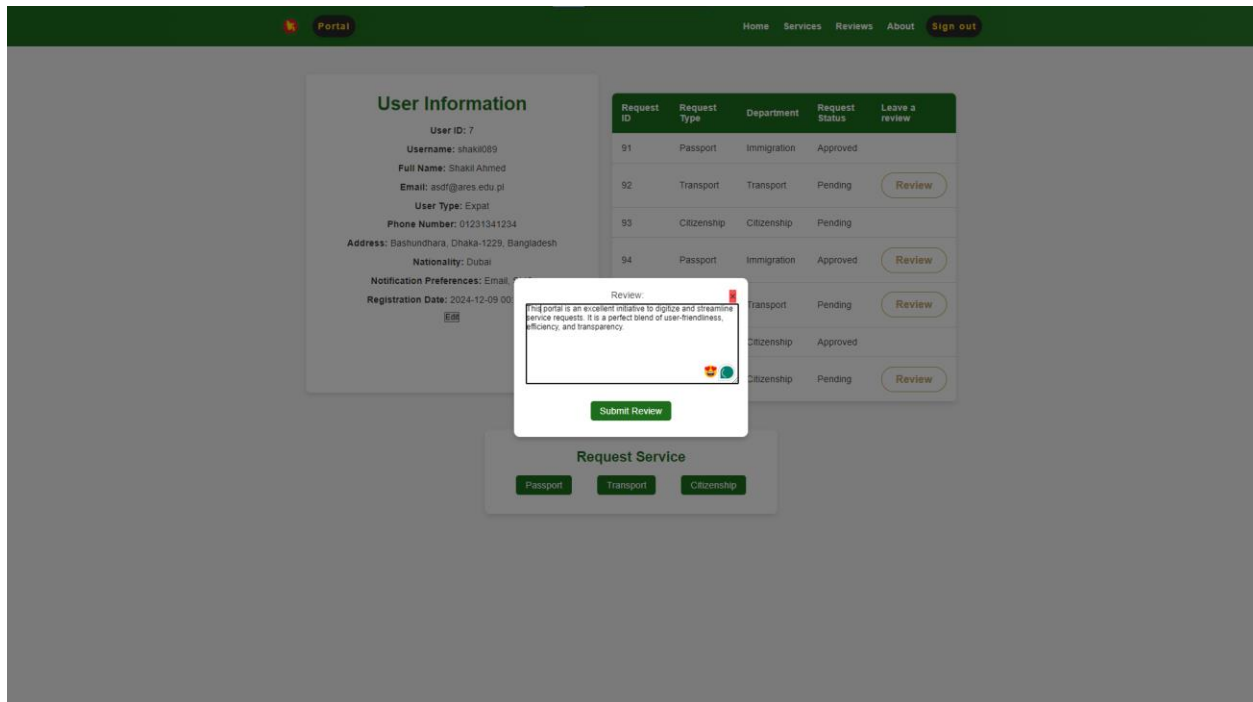
Search services...Search

Request ID	Request Type	Department	Citizen ID	Request Status	Confirm
69	Passport	Immigration	1	Pending Approval	Approve
91	Passport	Immigration	6	Pending Approval	Approve
94	Passport	Immigration	6	Pending Approval	Approve
24	Transport	Transport	1	Pending Approval	Approve
33	Transport	Transport	4	Pending Approval	Approve
35	Transport	Transport	4	Pending Approval	Approve
44	Transport	Transport	1	Pending Approval	Approve
96	Citizenship	Citizenship	6	Pending Approval	Approve


## Review Section:



## User can give review for individual Service Request:



Each Review is shown in the review page with Service info and time-date:

Portal

[Home](#)[Services](#)[Reviews](#)[About](#)

Reviews

Review ID: 12

Citizen ID: 6

Service ID: 1

Request ID: 94

This portal is an excellent initiative to digitize and streamline service requests. It is a perfect blend of user-friendliness, efficiency, and transparency.

Date Submitted: 2024-12-09 01:22:08

Review ID: 11

Citizen ID: 6

Service ID: 1

Request ID: 91

It is a perfect blend of user-friendliness, efficiency, and transparency. I highly recommend this platform for anyone needing services from multiple departments. Rating: ☆☆☆☆☆ (5/5)

Date Submitted: 2024-12-09 01:20:40

Review ID: 10

Citizen ID: 6

Service ID: 3

Request ID: 96

This portal is an excellent initiative to digitize and streamline service requests.

Date Submitted: 2024-12-09 01:20:30

Review ID: 9

Citizen ID: 6

Website Performance Test:

GTmetrix

FeaturesPricingResourcesBlogLog InGet Started for Free

Uncover full report details with a FREE GTmetrix account

Get full report details and more testing capacity with a FREE GTmetrix account.

Log inCreate a FREE account

Re-Test

Compare

Page Settings

Monitor

Set Up Alerts

Tags

Share

Bangladesh-National-Management-Portal

Bangladesh-National-Management-Portal

This is a website that has been tested with the GTmetrix tool. The report shows the performance of the website and provides recommendations for improvement. The report is generated by GTmetrix and is available for free. The report is generated by GTmetrix and is available for free. The report is generated by GTmetrix and is available for free.

Latest Performance Report for:

https://mrshakils.github.io/Bangladesh-National-Management...

Report generated: Sun, Dec 8, 2024 11:25 AM -0800

Test Server Location: Vancouver, Canada

Using: Chrome 117.0.0.0, Lighthouse 11.0.0

GTmetrix Grade

Web Vitals

A

Performance100%

Structure100%

Largest Contentful Paint174ms

Total Blocking Time0ms

Cumulative Layout Shift0

Summary

Performance

Structure

Waterfall

Video

History

Alerts

Log in or Sign up to see the rest of the Report

Try out GTmetrix for FREE and get full report details, more tests, monitoring, locations, and more!

## **Conclusion:**

The **Bangladesh National Portal Management System (BNPMS)** represents a significant leap forward in integrating public service delivery into a centralized digital framework. By streamlining processes for citizens, government officials, and departments, the portal addresses critical needs for efficiency, transparency, and accessibility. Citizens benefit from enhanced engagement with government services through real-time updates, feedback mechanisms, and user-friendly interfaces. Simultaneously, government officials gain tools for better resource management and accountability, fostering trust and public satisfaction.

The system's robust database structure, comprehensive user roles, and automation capabilities ensure scalability and adaptability to future needs. As digital governance continues to evolve, BNPMS sets a precedent for harnessing technology to empower citizens and optimize administrative functions. By bridging gaps between government entities and the public, this initiative marks a pivotal step toward achieving a more efficient, connected, and transparent public service ecosystem in Bangladesh.

## **Project Link: [Bangladesh National Management Portal](#)**

### **Part Distribution**

#### **1. *Nael's* Contributions:**

- **Entity-Relationship Diagram (ERD):**
  - Designing the ERD for the database structure.
- **Relation Schema:**
  - Defining the logical schema based on the ERD.
- **Dashboard Frontend:**
  - Developing the user interface for the dashboard.

#### **2. *Shakil Ahmed's* Contributions:**

- **SQL DDL:**
    - Writing SQL scripts for creating tables and defining relationships.
  - **Dashboard Backend:**
    - Implementing backend functionalities for the dashboard.
  - **User, Official, and Admin Management:**
    - Managing authentication and role-specific functionalities.
  - **Service Request System:**
    - Developing modules for:
      - Request creation.
      - Request approval and review system.
      - Review section for tracking and feedback.
  - **CRUD Operations:**
    - Ensuring all create, read, update, and delete functionalities for the portal.
  - **Project Report:**
    - Writing and compiling the final project report.
-

**Contribution Ratios**

**Contribution Overview:**

- 1. **Nael: 20%**
- 2. **Shakil Ahmed: 80%**

