

A  
PROJECT REPORT  
ON

# **CONTACT MANAGEMENT SYSTEM**

By

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**CERTIFICATE**

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# 1. Abstract

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- ❖ The Contact Management System is a web application that provides users the platform to manage their contacts individually as well as group wise.
- ❖ Users can add new contact and can manage contacts.
- ❖ Users can also create group and can manage group by adding their existing contacts to the particular group or by removing contacts from the particular group.
- ❖ Thus “CONTACT MANAGEMENT SYSTEM” provides a number of benefits like: no need to remember all the contact number like we do in traditional approach and can also group contacts based on certain requirement like family / friends.

## 2. Introduction

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### **2.1 Brief Introduction**

- ❖ In this fast-moving world it is necessary to develop contact management system as it allows a user to manage their contacts via internet and doesn't need to remember them at all.
- ❖ The system is designed in such a way that it only works with end users.
- ❖ User can register themselves into the system and then after can login into the system.
- ❖ User can manage their contacts by adding, updating, and deleting their contacts from contact list and can also view contacts.
- ❖ User can manage their group by adding, updating, and deleting contacts from their respective groups and can also view groups.

## **2.2 Tools/Technologies Used**

### **Technologies:**

- ❖ WCF framework
- ❖ ASP .Net framework
- ❖ .Net core Web API framework
- ❖ JavaScript
- ❖ Bootstrap
- ❖ CSS
- ❖ SQL Server Database

### **Tools:**

- ❖ Visual Studio
- ❖ Git

### **Platform:**

- ❖ Local development server

## 3. Software Requirement Specifications

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### **3.1 Product Scope**

This system is designed to provide the user online contact management services.

### **3.2 System Functional Requirements**

#### **1. Account Module:**

##### **R.1.1 Register:**

- ❖ Description: User can register into the system.
- ❖ Input: User details.
- ❖ Output: User is redirected to login page with success message.

##### **R.1.2 Login:**

- ❖ Description: User can login to the system.
- ❖ Input: User details.
- ❖ Output: User is redirected to dashboard.

##### **R.1.3 Logout:**

- ❖ Description: User can logout from the system.
- ❖ Input: User selection.
- ❖ Output: User is redirected to the login page with success message.

## **2. Contact Module:**

### **R.2.1 Create contact:**

- ❖ Description: User can add contact to their contact list.
- ❖ Input: Contact details.
- ❖ Output: Success message.

### **R.2.2 View contact:**

- ❖ Description: User can view individual contact from the contacts added.
- ❖ Input: User selection.
- ❖ Output: Contact details.

### **R.2.3 Update contact:**

- ❖ Description: User can update individual contact from the contacts added.
- ❖ Input: Contact details.
- ❖ Output: Success message.

### **R.2.4 Delete contact:**

- ❖ Description: User can delete individual contact from the contacts added.
- ❖ Input: User selection.
- ❖ Output: Success message.

### **R.2.5 View recently added contacts:**

- ❖ Description: User can view last 3 recently added contacts from the contact list.
- ❖ Input: User selection.
- ❖ Output: Contacts list.



### **3. Group Module:**

#### **R.3.1 Create group:**

- ❖ Description: User can add group to their group list.
- ❖ Input: Group details.
- ❖ Output: Success message.

#### **R.3.2 View group:**

- ❖ Description: User can view individual group from the groups added.
- ❖ Input: User selection.
- ❖ Output: Group details.

#### **R.3.3 Update group:**

- ❖ Description: User can update individual group from the groups added.
- ❖ Input: Group details.
- ❖ Output: Success message.

#### **R.3.4 Delete group:**

- ❖ Description: User can delete individual group from the groups added.
- ❖ Input: User selection.
- ❖ Output: Success message.

#### **R.3.5 View recently added groups:**

- ❖ Description: User can view last 3 recently added groups from the group list.
- ❖ Input: User selection.
- ❖ Output: Groups list.

### **R.3.6 Add contacts to the group:**

- ❖ Description: User can add multiple contacts from the contact list to the selected group.
- ❖ Input: User selection of contacts.
- ❖ Output: Success message.

### **R.3.6 Remove contacts from the group:**

- ❖ Description: User can remove multiple contacts from the selected group.
- ❖ Input: User selection of contacts.
- ❖ Output: Success message.

### **3.3 Other Non-functional Requirements**

#### **1. Performance**

The system must be interactive and must not involve long delays. Though in case of opening the website components or loading the page the system shows the delays less than 2 seconds.

#### **2. Safety**

The user's data is highly personal. The system has authorization to avoid any unauthorized access to user's private data.

#### **3. Reliability**

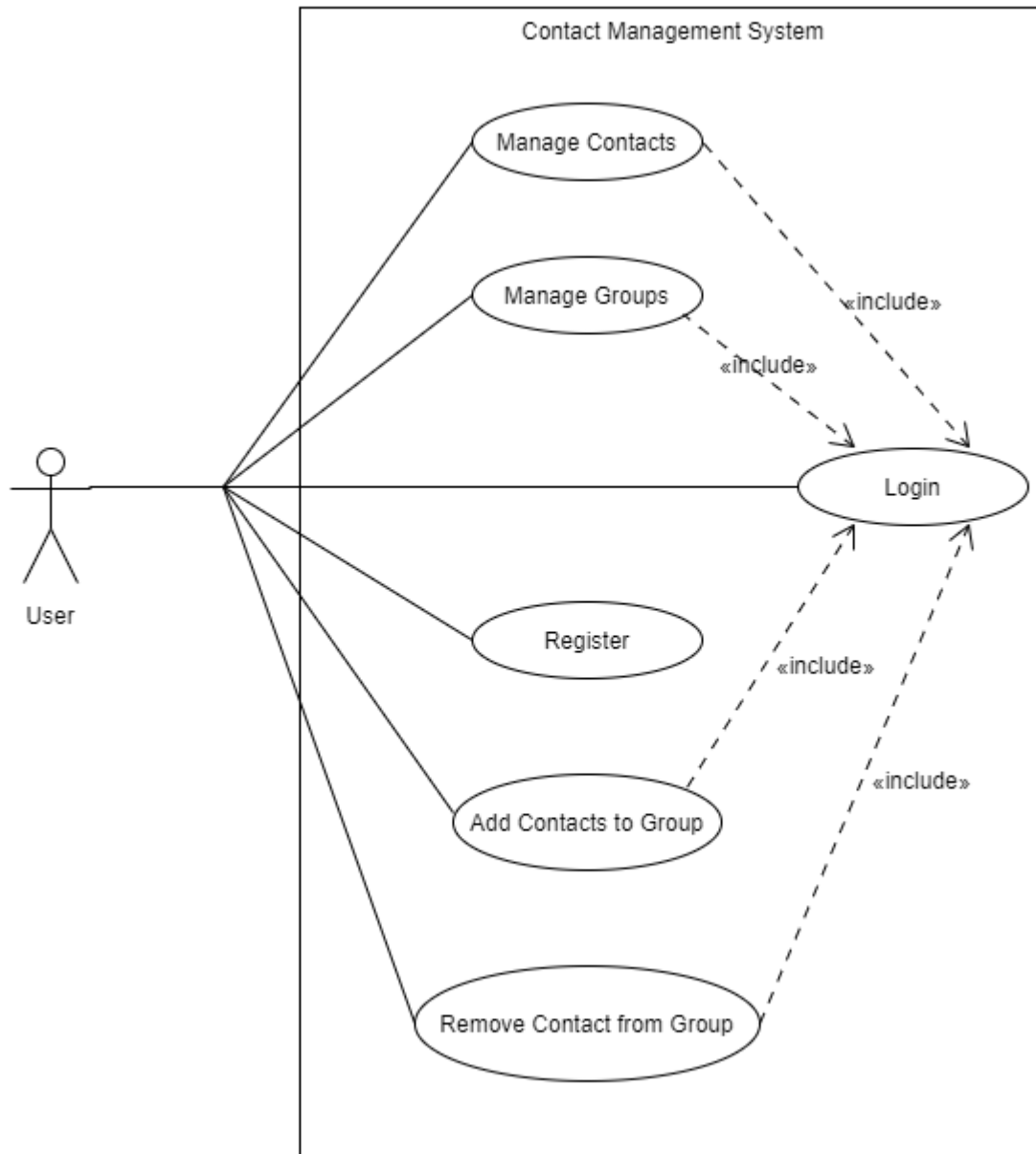
As the system has personal data, its reliability is the major factor for consideration.

#### **4. Database**

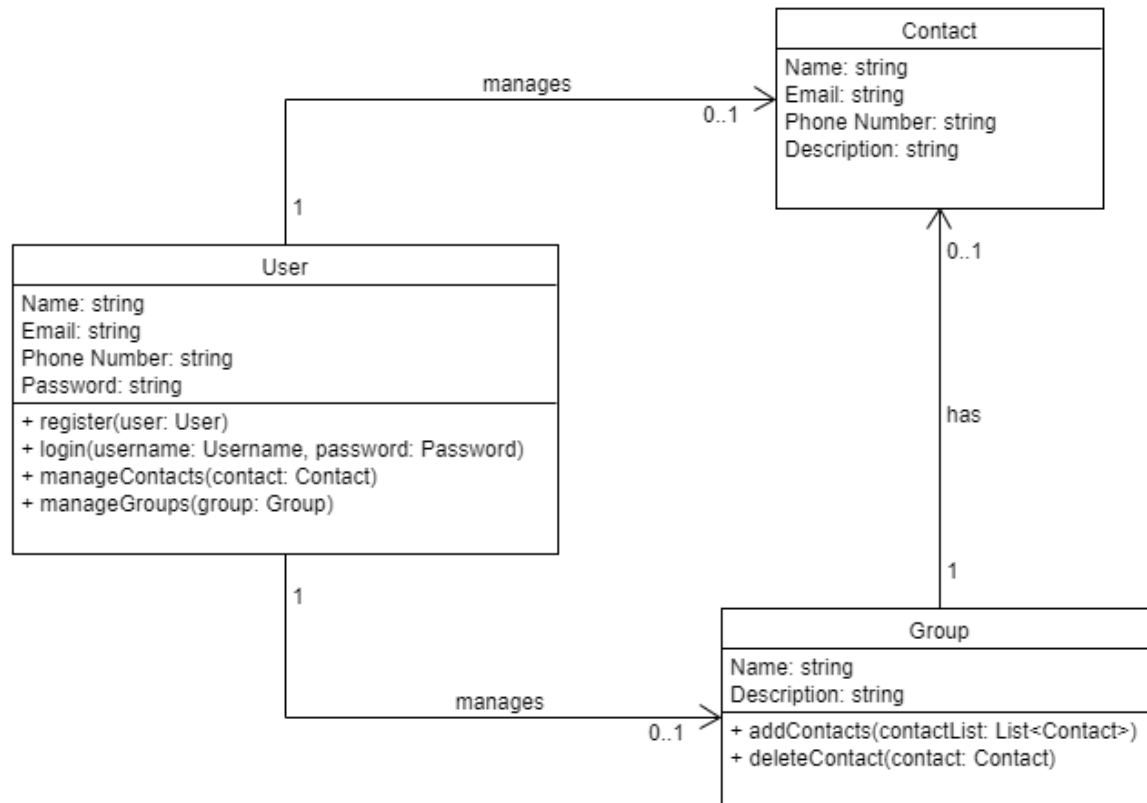
System requires to access user profile data fast to maintain the performance.

## 4. Design

### 4.1 Use Case Diagram



## 4.2 Class Diagram



## **4.3 Data Dictionary**

### **Users Model**

Users									
Sr no.	Field Name	Data Type	Width	Unique	Null	Default	Primary Key / Foreign Key	Referred Table	Description
1	UserId	int	4	Yes	No	None	Primary Key	-	AUTO_INCREMENT
2	Email	nvarchar	50	Yes	No	None	-	-	-
3	Name	nvarchar	50	No	No	None	-	-	-
4	Password	nvarchar	50	No	No	None	-	-	-
5	PhoneNumber	nvarchar	15	No	No	None	-	-	-

### **Contacts Model**

Contacts									
Sr no.	Field Name	Data Type	Width	Unique	Null	Default	Primary Key / Foreign Key	Referred Table	Description
1	ContactId	int	4	Yes	No	None	Primary Key	-	AUTO_INCREMENT
2	UserId	int	4	No	No	None	Foreign Key	Users	-
3	Name	nvarchar	50	No	No	None	-	-	-
4	Email	nvarchar	50	No	Yes	None	-	-	-
5	PhoneNumber	nvarchar	15	Yes	No	None	-	-	-
6	Description	nvarchar	50	No	Yes	None	-	-	-
7	PhotoPath	nvarchar	MAX	No	Yes	None	-	-	-

## Groups Model

Groups									
Sr no.	Field Name	Data Type	Width	Unique	Null	Default	Primary Key / Foreign Key	Referred Table	Description
1	GroupId	int	4	Yes	No	None	Primary Key	-	AUTO_INCREMENT
2	UserId	int	4	Yes	No	None	Foreign Keys	Users	-
3	Name	nvarchar	50	Yes	No	None	-	-	-
4	Description	nvarchar	MAX	No	Yes	None	-	-	-

## Group\_Contacts Model

Group_Contacts									
Sr no.	Field Name	Data Type	Width	Unique	Null	Default	Primary Key / Foreign Key	Referred Table	Description
2	Id	int	4	Yes	No	None	Primary Key	-	AUTO_INCREMENT
1	GroupId	int	4	Yes	No	None	Foreign Keys	Groups	-
3	ContactId	Int	4	Yes	No	None	Foreign Keys	Contacts	-

## 5. Implementation Details

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The system consists of 6 basic modules namely

1. Account Module
2. Contact Module
3. Group Module

Each module consists of several methods to implement the required functionality. Implementation is done using WCF framework, ASP .Net framework, .Net core Web API framework. Database used in these modules is SQL Server Database.

### **5.1 Account Module**

This module handles the functions related to user's accounts like: register, login, and logout. New users can create their account by providing the required details. Existing users can login to the system by providing their email-id and password.

### **5.2 Contact Module**

This module handle the functions related to contacts like: create new contact, view contact, update contact, delete contact, and view recently added contacts. User can also view the list of all his contacts added.

### **5.3 Group Module**

This module handles the functions related to groups like: create group, view group, update group, delete group, view recently added groups, add contacts to the group, and remove contacts from the group. User can also view the list of all his groups added.



## **5.4 Function Prototypes**

### **Function prototypes of Account Module:**

- ❖ User Register(User user)
- ❖ User Login(User user)
- ❖ void Logout(User user)

### **Function prototypes of Contact Module:**

- ❖ List<Contact> GetContacts(int userId)
- ❖ Contact AddContact(Contact contact)
- ❖ Contact GetContact(Contact contact)
- ❖ Contact UpdateContact(Contact contact)
- ❖ Contact DeleteContact(Contact contact)

### **Function prototypes of Group Module:**

- ❖ List<Group> GetGroups(int userId)
- ❖ Group AddGroup(Group group)
- ❖ Group GetGroup(Group group)
- ❖ Group UpdateGroup(Group group)
- ❖ Group DeleteGroup(Group group)
- ❖ GroupContact AddGroupContact(GroupContact groupContract)
- ❖ List<GroupContact> GetGroupContacts(int groupId)
- ❖ GroupContact DeleteGroupContact(GroupContact groupContract)

- ❖ GroupContact DeleteGroupContactById(GroupContact groupContact)
- ❖ GroupContact DeleteGroupContactByGroupId(GroupContact groupContact)

## 6. Testing

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Manual unit testing of each module was done after successfully completing the module.

Each module was tested individually before integrating them with the whole system.

After integrating each module with the system, manual integrating testing was done in order to check if all modules are working properly together.

After completing all integrations, black-box testing of the whole system was carried out to ensure that the system works in a correct manner.

### **Testing Method:** Manual Testing

<b>Sr. No.</b>	<b>Test Scenario</b>	<b>Expected Result</b>	<b>Actual Result</b>	<b>Status</b>
1	Login with incorrect credentials	User should not be able to log-in and shown an error message	The system shows the message 'Invalid Credentials' and redirected to login page	Success
2	Login with correct credentials	User should be able to log-in and redirected to dashboard page	User is logged in and redirected to dashboard page	Success

3	Register with Email which is already used	User should not be able register and shown an error message	The system shows the message 'Email is already registered' and user is redirected to register page	Success
4	Edit contact number to an existing number in the contact list	User should not be able to edit the contact and shown an error message	The system shows the message 'Contact is already added' and doesn't update the contact	Success
5	Edit contact by entering all correct details	User should be able to edit the contact and redirected to view contact page	The system successfully edits the contact and redirected to view contact page	Success
6	User tries to access any unauthorized page without login	User should not be able to access it and redirected to login page with an error message	The system doesn't allow to access any page without authorization and user is redirected to login page with the message 'Access Denied! Please Login'	Success
7	User tries to access any page that doesn't exists	User should be redirected to error 404 page	The system redirects the user to error 404 page	Success

## 7. Screenshots

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### Register

Register

Name  
Rikin Dipakkumar Chauhan

Email  
rikin@gmail.com

Contact Number  
1122330000

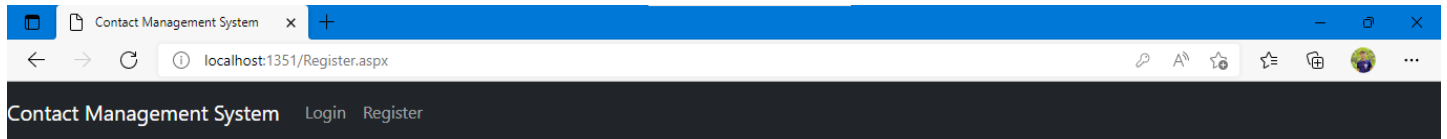
Password  
\*\*\*\*\*

Confirm Password  
\*\*\*\*\*

Register

Already a member ? [Login](#)

# Login



Login

Registered Successfully..! Please Login

Email

Password

Login

Not a member ? Create new account

# Dashboard

Contact Management System

localhost:1351/Dashboard.aspx

Contact Management System Dashboard Contacts Groups Logout

MY CONTACTS  
4

MY GROUPS  
1

Recently Added Contacts

#	Contact Name	Contact Number	
1	Raj Manoj Mishra	0102031230	<a href="#">View</a>
2	Ved Patel	1232545685	<a href="#">View</a>
3	Rita Dipakkumar Chauhan	6655447890	<a href="#">View</a>

Recently Created Groups

#	Group Name	
1	Family	<a href="#">View</a>

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## Create New Contact

Contact Management System

+

localhost:1351/NewContact.aspx

A

Contact Management System   Dashboard   Contacts   Groups   Logout

New Contact

Name

Raj Manoj Mishra

Contact Number

0102031230

Email

raj@gmail.com

Description

Friend

Create

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# Contact List

Contact Management System

localhost:1351/ContactList.aspx

Contact Management System Dashboard Contacts Groups Logout

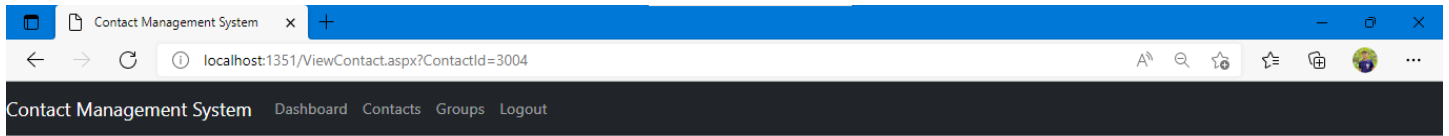
Add new Contact

My Contacts

#	Contact Name	Contact Number		
1	Raj Manoj Mishra	0102031230	View	Edit
2	Ved Patel	1232545685	View	Edit
3	Rita Dipakkumar Chauhan	6655447890	View	Edit
4	Dipak Chauhan	3030101022	View	Edit

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## View Contact



Rita Dipakkumar Chauhan

Contact Number : 6655447890

Email : rita@gmail.com

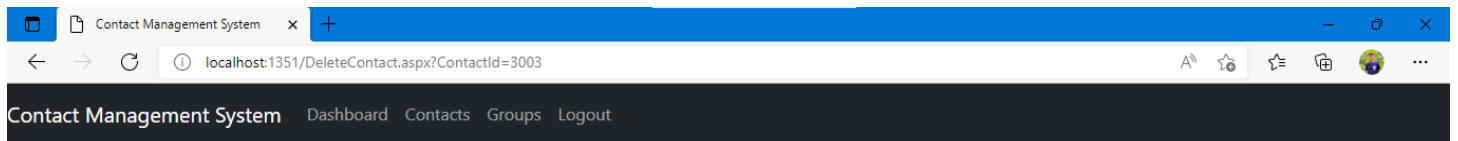
Description : Mummy

Edit

Delete

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## Delete Contact



Are you sure you want to delete this contact ?

Name :- Ved Patel

Phone number :- 1232545685

Email :- ved@gmail.com

Description :- Son of father's friend

Delete

Cancel

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## Create New Group

Contact Management System

localhost:1351/NewGroup.aspx

Contact Management System Dashboard Contacts Groups Logout

New Group

Name

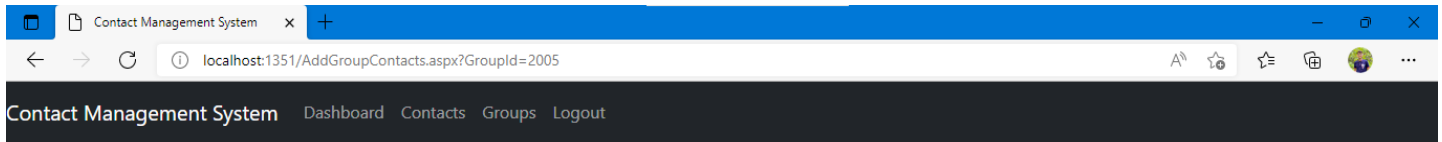
Family

Description

Parents

Create

## Add Contacts to Group



### Family

#### Add Contacts

Raj Manoj Mishra

Ved Patel

Rita Dipakkumar Chauhan

Dipak Chauhan

Add

## View Group

Contact Management System

localhost:1351/ViewGroup.aspx?GroupId=2005

⌵

Contact Management System Dashboard Contacts Groups Logout

[Add New Contacts](#)[Delete This Group](#)

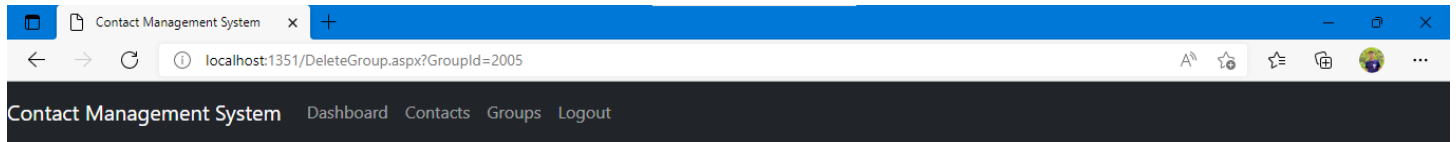
### Family

#### Parents

#	Name	Contact Number		
1	Rita Dipakkumar Chauhan	6655447890	<a href="#">View Contact</a>	<a href="#">Remove From Group</a>
2	Dipak Chauhan	3030101022	<a href="#">View Contact</a>	<a href="#">Remove From Group</a>

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## Delete Group



Are you sure you want to delete this group ?

Name :- Family

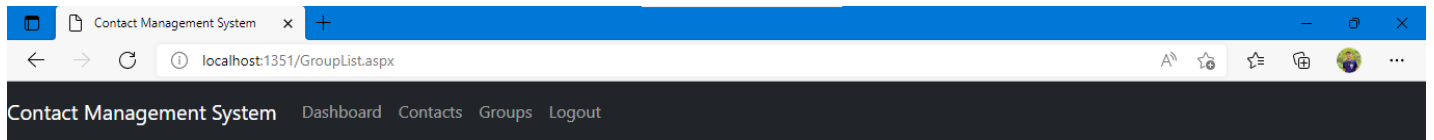
Description :- Parents

Total Contacts :- 2

Delete

Cancel

# Group List



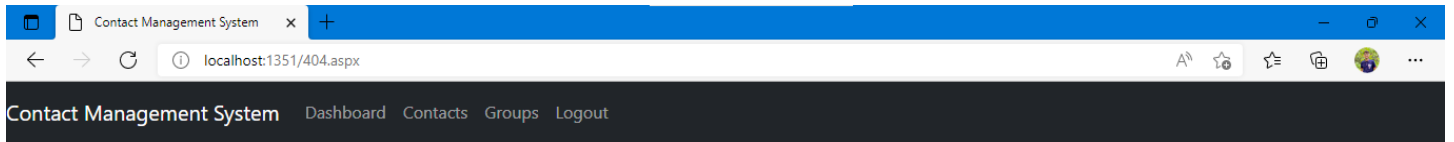
Create new Group

My Groups				
#	Group Name	Group Description		
1	Family	Parents	<a href="#">View</a>	<a href="#">Edit</a>
2	Friends	School Friends	<a href="#">View</a>	<a href="#">Edit</a>

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## Error '404'



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## 8. Conclusion

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The functionalities are implemented in system after understanding all the system modules according to the requirements. Functionalities that are successfully implemented in the system are:

- ❖ Register
- ❖ Login
- ❖ Logout
- ❖ Create Contact
- ❖ View Contact
- ❖ Update Contact
- ❖ Delete Contact
- ❖ View Recently Added Contacts
- ❖ Create Group
- ❖ View Group
- ❖ Update Group
- ❖ Delete Group
- ❖ View Recently Added Group
- ❖ Add Contacts to the Group
- ❖ Remove Contacts from the Group

After the implementation and coding of system, comprehensive testing was performed on the system to determine the errors and possible flaws in the system.

## 9. Limitations and Future Extensions

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### **9.1 Limitations**

- ❖ We are able to implement most of the functionality of all modules.
- ❖ We aim to complete all the functionality of all modules and make this product ready to be used practically in all scenarios.
- ❖ Currently, the project runs completely fine if all the inputs / selections are given within proper criteria but it doesn't cover all the corner cases.
- ❖ User can't login in case if the password is not known.

### **9.2 Future Extensions**

- ❖ User interface will be improved to provide better interaction of user with the system.
- ❖ Forget Password functionality will be implemented.
- ❖ User Photo Upload functionality will be implemented.
- ❖ Update User Profile functionality will be implemented.
- ❖ Import User Contacts using .VCF File functionality will be implemented.
- ❖ Export User Contacts using .VCF File functionality will be implemented.
- ❖ The project can be extended to run robust.

## 10. Reference / Bibliography

---

Following links and websites were referred during the development of this project:

- ❖ [Windows Communication Foundation - WCF | Microsoft Docs](#)
- ❖ [Create web APIs with ASP.NET Core | Microsoft Docs](#)
- ❖ [Bootstrap · The most popular HTML, CSS, and JS library in the world. \(getbootstrap.com\)](#)
- ❖ [Stack Overflow - Where Developers Learn, Share, & Build Careers](#)