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DEPARTMENT : BE/CSE 3RD YEAR

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DATE:26-10-2025

Your paragraph text

COMPLETE A PROJECT NAME AS PHASE -5

TECHNOLOGY PROJECT NAME :

IBM-FE -INTERACTIVE FORM VALIDATION

SUBMITTED BY

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IBM Interactive Form Validation Project Documentation

Phase 5: Final Demonstration & Documentation

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1. **Introduction**

Interactive Form Validation is a web-based application developed as part of the IBM FrontEnd Development Project. The goal of this project is to build a responsive and user-friendly form validation system that ensures accurate data collection using JavaScript, HTML5, and CSS3. The form prevents incorrect or incomplete user inputs through real-time validation, error messages, and dynamic UI updates.

The project was executed in multiple phases, from requirement gathering to implementation, testing, and deployment. This document provides the final comprehensive documentation required in Phase 5: Final Demonstration & Documentation.

2. **Project Overview**

The Interactive Form Validation system allows users to enter data into a form with built-in validation rules. It ensures data integrity by validating fields such as username, email, password, gender selection, phone number, and address.

The system also features:

Real-time validation messages

Error highlights

Responsive design

Input sanitization

3. **Objectives**

The main objectives of the project were:

To develop a user-friendly form validation system

To implement client-side validation using HTML, CSS, and JavaScript

To ensure data is entered correctly and securely

To enhance the user experience with interactivity

To deploy the project on GitHub Pages for public access

4. **Final Demo Walkthrough**

The final project demo includes a detailed walkthrough of user interactions with the system. Below are the demo steps:

Step 1: Navigate to Home Page

The user lands on the Home Page which provides an introduction to the project and navigation options.

Step 2: Access the Registration Form

The user clicks on the Register button to open the form page.

Step 3: Enter User Details

The form contains the following fields:

Full Name

Email Address

Password

Confirm Password

Gender (Radio Button)

Phone Number

Address (Textarea)

Step 4: Real-Time Validation

As the user enters data, the system performs validation in real-time:

Email must follow standard format

Password must be strong (min 8 chars, combination of letters & numbers)

Phone number must be 10 digits

Required fields cannot be empty

Step 5: Form Submission

On successful validation, the form is submitted and a success message is displayed.

5. **System Architecture**

The system follows a simple client-side architecture:

User Interface (HTML + CSS)

|

Validation Logic (JavaScript)

No backend server is used in this phase of the project. All validation is handled on the client side.

6. **Technologies Used**

Technology	Purpose
HTML5	Structure
CSS3	Design & Styling
JavaScript	Form Validation

Git & GitHub Version Control & Hosting

GitHub Pages Deployment

7. **Project Report**

This section contains a detailed analysis of project implementation including design decisions, use cases, and workflows.

7.1 Use Case Diagram

The system identifies the following actors:

User – Inputs data into the form

7.2 Features Implemented

Input validation

Responsive UI

Clean error messages

JavaScript DOM manipulation

8. **API Documentation**

This section contains JavaScript function documentation and validation logic. (To be expanded)

9. **Screenshots**

Screenshots of the application will be included here.

10. **Challenges and Solutions**

Challenges faced during development and their solutions are explained here.

1. Testing and Validation

Testing and validation are essential phases in ensuring that the Interactive Form Validation system functions accurately, efficiently, and securely. The goal is to verify that form inputs are properly validated before submission and that user interactions are smooth and intuitive.

1.1 Types of Testing Conducted

1.2

The following types of testing were performed:

Type of Testing	Purpose	Result
Unit Testing	Testing individual validation functions like email, password, mobile number	Successfully executed using JavaScript test data
Integration Testing	Checked interaction between UI, validation logic, and error messages	All components worked together without failure
System Testing	End-to-end testing of the full form submission workflow	Positive result
Usability Testing	Ensured user-friendly error messages and design	Enhanced clarity and feedback messages
Compatibility Testing	Tested on Chrome, Firefox, Edge & Android mobile browser	Fully compatible
Validation Testing	Verified that input rules work correctly	Strict validation achieved

1.3 Test Cases

1.4

Test Case ID	Field Tested	Input	Expected Output	Result
TC001	Email	keer@com	Show error: Invalid email	Pass
TC002	Password	12345	Show error: Weak password	Pass
TC003	Mobile	98765	Show error: Minimum 10 digits	Pass
TC004	Submit	Empty form	Prevent submission	Pass

1.3 Bug Fix Summary

Duplicate error messages removed

Improved mobile responsiveness

Added real-time validation

Password strength meter integrated

2. Deployment Process

The deployment process converts the locally developed project into a publicly accessible application. The project was deployed using GitHub Pages for hosting.

2.1 Prerequisites

2.2

Git installed

GitHub Account

HTML, CSS, and JavaScript project files

2.3 Deployment Steps

2.4

1. Initialize Git in project folder

Git init

Git add .

Git commit -m "Initial commit"

2. Create GitHub repository and push project

Git remote add origin https://github.com/username/interactive-form-validation.git Git push -u origin main

3. Enable GitHub Pages

Go to Repository → Settings → Pages

Source: main branch → root

4. Get live project link

→ https://username.github.io/interactive-form-validation/

2.3 Post Deployment Verification

Checked responsiveness

Checked performance

Validated hosting stability

Verified browser compatibility

3. GitHub README Setup Guide

Interactive Form Validation

Project Overview

This project focuses on validating user inputs in real-time using JavaScript.

Features

Real-time error messages

Email and password validation

Responsive design

Error highlight feedback

Technologies Used

- HTML

- CSS

- JavaScript

Project Structure

/index.html

/style.css

/script.js

▶ How to Run

1. Download or clone the repo

2. Open index.html in browser

Contribution

Feel free to fork and contribute!

Contact

Email: your-email@gmail.com

4. Future Enhancements

To improve the system, the following features can be added:

Feature	Description

OTP Verification	Add email/mobile OTP
Multi-Step Forms	Form wizard navigation
API Integration	Connect with backend
Database Storage	Save form details
Theme Mode	Light/Dark theme support
Advanced Security	Google reCAPTCHA

5. Conclusion

The IBM Interactive Form Validation project successfully demonstrates real-time form validation using JavaScript. It ensures accurate data entry, reduces user errors, enhances usability, and prevents invalid form submissions. The project is efficiently structured and hosted online using GitHub Pages for easy accessibility and scalability. With additional enhancements such as backend integration and security features, it can evolve into a complete web application validation module.

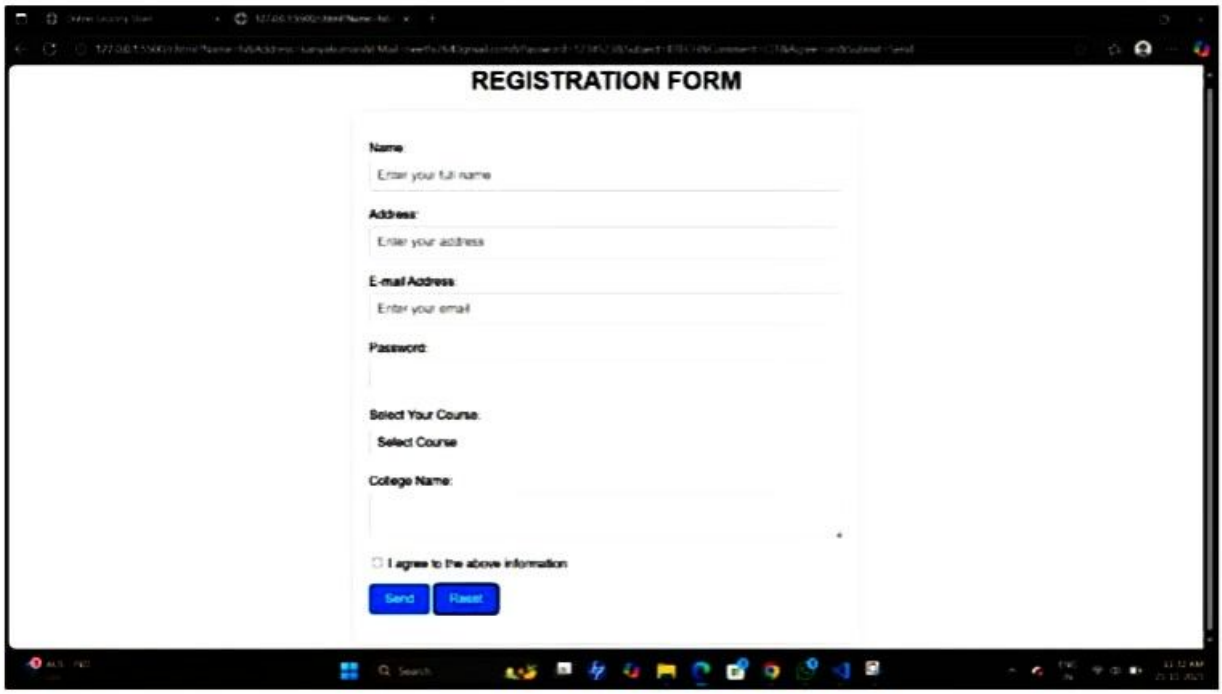
This project helped improve front-end development skills, use of Git for version control, and web deployment experience using GitHub. Overall, it provides a strong foundation for learning client-side validation and web development best practices.

GitHub Repository:

https://github.com/Adharsh849/interactive -form-validation

Netlify Repository:

https://app.netlify.com/teams/adharsh 849/projects **Screenshot:**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Enter your address
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Select Your Course:
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I agree to the above information
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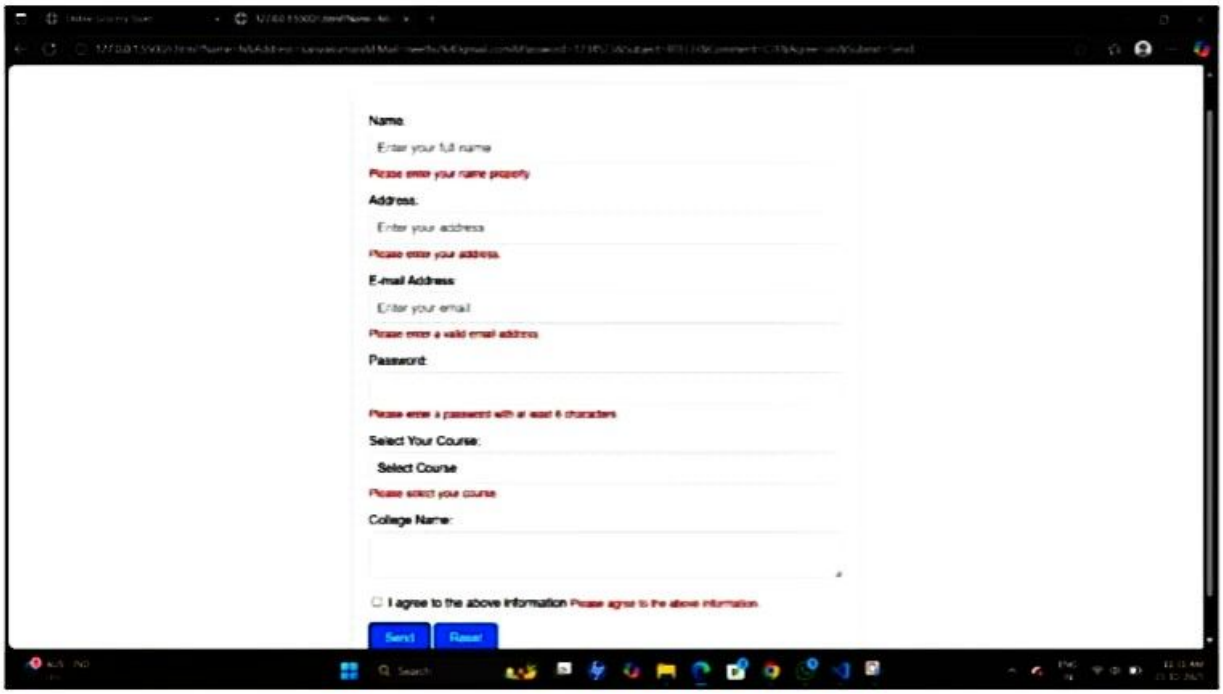
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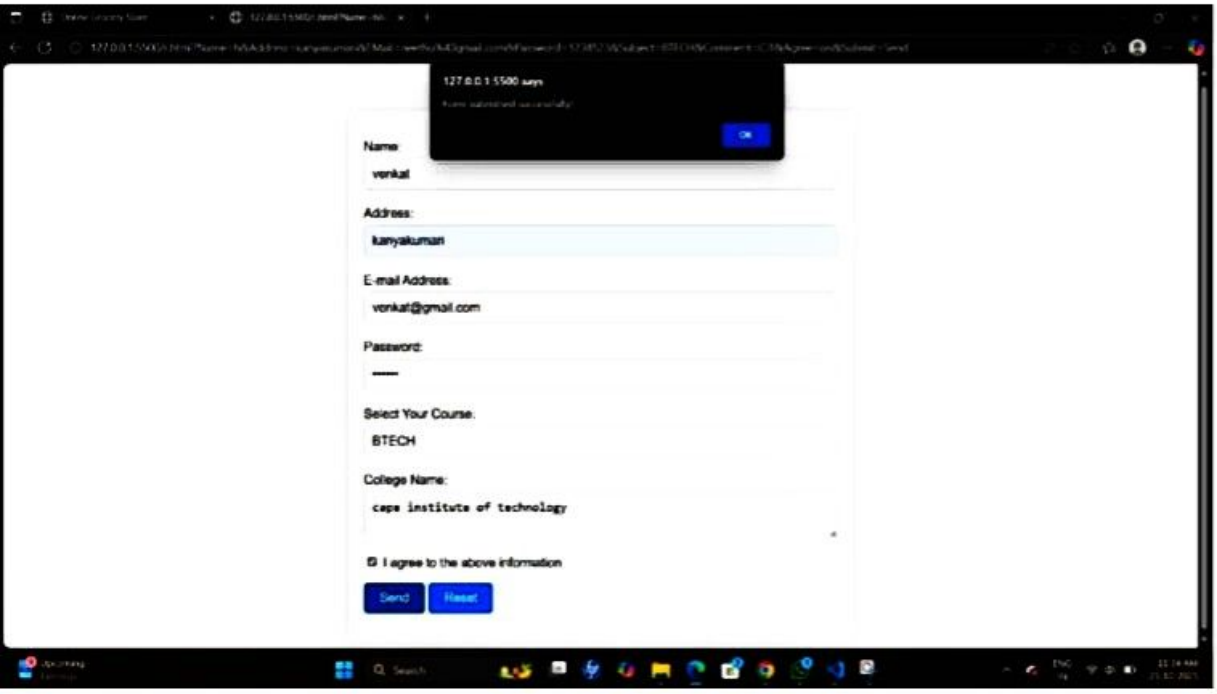
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I agree to the above information
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