Full Stack Development Lab

Lab Report

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Branch: AI-ML

Experiment Number: 1

Title: Design a Webpage for a Registration Form.

Aim: To create a basic yet visually appealing web-page for a user registration form using only HTML.

Objectives:

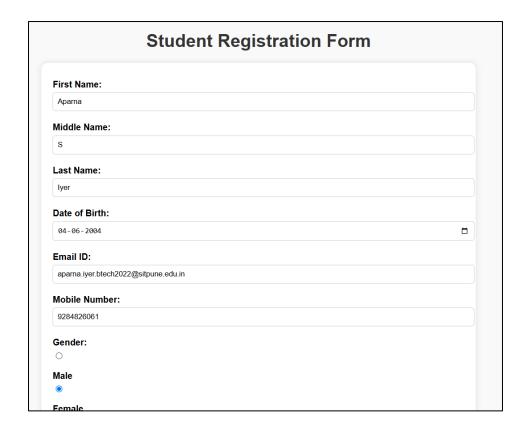
The objectives of this experiment are to:

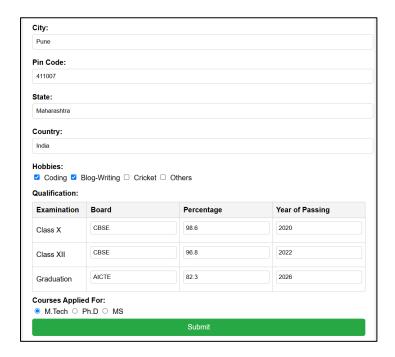
- 1. Demonstrate the ability to design responsive webpages using HTML.
- 2. Implement a registration form with proper input fields and validation.
- 3. Apply fundamental design principles such as hierarchy, alignment, and consistency.

Algorithms Used:

- The design of the registration form follows a structured layout using HTML elements.
- The form includes various input fields such as text fields, password fields, radio buttons, and dropdown menus to collect user information efficiently.
- Basic client-side validation is incorporated using HTML attributes like required, pattern, maxlength, and type to ensure data accuracy.

Implementation and Outputs:





Code Snippets:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Student Registration Form</title>
    <style>
        GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
        body {
            font-family: Arial, sans-serif;
            margin: 20px;
            background-color: ■#f9f9f9;
        GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
            text-align: center;
            color: □#333;
        form {
            width: 50%;
            margin: auto;
            padding: 20px;
            background: white;
```

```
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
label {
    font-weight: bold;
    display: block;
    margin: 10px 0 5px;
GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-ASK | GoCodeo-ASK
input, textarea, select {
    width: 100%;
    padding: 8px;
    margin-bottom: 10px;
    border: 1px solid ■#ccc;
    border-radius: 5px;
GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-ASK | GoCodeo-TEST | GoCodeo-TES
input[type="radio"], input[type="checkbox"] {
    width: auto;
    margin-right: 5px;
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
table {
    width: 100%;
```

```
table {
                        width: 100%;
                         border-collapse: collapse;
                        margin-top: 10px;
GoCodeo-BUILD | GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-ASK | GoCodeo-TEST | GoCode
th, td {
                        border: 1px solid ■#ccc;
                        text-align: left;
                         padding: 8px;
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST
th {
                       background: ■#f4f4f4;
/* Neatly align table inputs */
table input {
                        width: 95%;
                         padding: 5px;
                         border: 1px solid ■#ccc;
                        border-radius: 3px;
```

```
button {
    width: 100%;
    padding: 10px;
    background:  #28a745;
    color:  white;
    border: none;
    border-radius: 5px;
    cursor: pointer;
    font-size: 16px;
}

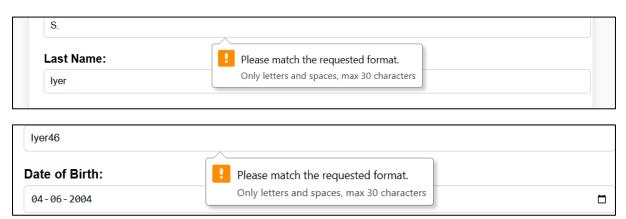
GoCodeo-BUILD | GoCodeo-ASK | GoCodeo-TEST button:hover {
    background:  #218838;
}
</style>
</head>
```

Testing:

- The webpage was tested across multiple browsers (Chrome, Firefox, Edge) to ensure compatibility. Different screen sizes were used to verify responsiveness.
- Validation checks were performed to ensure that mandatory fields could not be left empty and that user input followed the expected format (e.g., email format, password length).



 The form submission functionality was checked for proper behaviour when valid and invalid data were entered.



Results:

The registration form was successfully designed and displayed correctly across different devices and browsers. It provided a user-friendly interface with structured input fields, clear labels, and appropriate validation messages. The form elements functioned as expected.

Challenges:

- 1. Ensuring proper alignment of form elements without using CSS.
- 2. Implementing basic validation without JavaScript.
- 3. Maintaining consistency across different screen sizes.

Solutions:

- 1. Used HTML tables and field sets to maintain a structured and organized layout.
- 2. Leveraged built-in HTML attributes like required, pattern, and minlength to enforce input rules.
- 3. Utilized HTML elements such as <fieldset> and <legend> for structured grouping and ensured a fluid layout for readability.

Conclusion:

This experiment successfully demonstrated the ability to design a structured registration form using HTML. The form incorporates fundamental design principles, ensuring usability and accessibility. Basic validation techniques were implemented to enhance data accuracy. The webpage was tested for responsiveness and functionality, ensuring a seamless user experience.

This experiment highlights the importance of structured coding practices in web development.