# St Francis Institute of Technology

(Autonomous Institute)

Department of Artificial Intelligence and Machine Learning

Second Year AIML Engineering (SEM-IV A.Y. 2025-26)

**Web Programming Lab. Experiment Report**

Experiment 4: Implement Basic Interactivity & Event-Driven Logic on a Webpage Using JavaScript

## 1. AIM

To implement basic interactivity and event-driven logic on a webpage using JavaScript, enabling dynamic user interaction through events such as button clicks and form actions.

## 2. LAB OBJECTIVE

1. To understand the role of JavaScript in web development
2. To implement basic JavaScript logic on a webpage
3. To handle user interactions using events
4. To dynamically update webpage content using JavaScript
5. To improve user experience through interactive elements

## 3. LAB OUTCOME

After completing this experiment, the student will be able to:

1. Write basic JavaScript code for web pages
2. Use event handling for user interaction
3. Implement event-driven logic using JavaScript
4. Modify HTML content dynamically using JavaScript
5. Understand the importance of interactivity in modern web pages

## 4. PREREQUISITE

1. Knowledge of HTML elements and structure
2. Basic understanding of CSS styling
3. Familiarity with linking external JavaScript files

## 5. THEORY

### 5.1 JavaScript

JavaScript is a client-side scripting language used to make web pages interactive. It allows webpages to respond to user actions such as clicks, input, and mouse movements.

### 5.2 Events in JavaScript

An event is an action performed by the user or browser. Common events include:

1. click
2. Mouseover
3. submit
4. keyup

### 5.3 Event-Driven Programming

In event-driven programming, the flow of the program depends on events triggered by the user. JavaScript listens for these events and executes specific functions when they occur.

### 5.4 DOM Manipulation

The Document Object Model (DOM) allows JavaScript to:

1. Access HTML elements
2. Change content
3. Modify styles dynamically

## 6. PROCEDURE

1. Open the HTML webpage created in the previous experiment.
2. Create a JavaScript file and link it to the HTML file.
3. Add interactive elements such as buttons or input fields.
4. Write JavaScript functions to handle user events.
5. Attach event listeners to HTML elements.
6. Implement logic to change text or display messages on events.
7. Save the files and open the webpage in a browser.
8. Perform actions and observe the interactive behavior.

## 7. RESULTS / OUTCOME EXPECTED

1. Webpage responds to user actions
2. JavaScript functions execute on events
3. Content updates dynamically without page reload
4. Improved user interaction and engagement

## 8. CONCLUSION

Students should answer the following based on this experiment:

1. How did JavaScript add interactivity to the webpage?
2. What role do events play in JavaScript programming?
3. How does event-driven logic improve user experience?
4. Which JavaScript function was used to modify webpage content?
5. Why is JavaScript essential for modern web applications?

## 9. POST-EXPERIMENT QUESTIONS

1. What is the difference between HTML, CSS, and JavaScript?
2. What is an event listener?
3. Explain the purpose of onclick event.
4. What is DOM?
5. How does JavaScript execute in a browser?

## 10. REFERENCES

• MDN Web Docs – JavaScript
https://developer.mozilla.org/en-US/docs/Web/JavaScript • MDN Web Docs – Events
https://developer.mozilla.org/en-US/docs/Web/API/Event • W3Schools – JavaScript Tutorial
https://www.w3schools.com/js/

## CODE

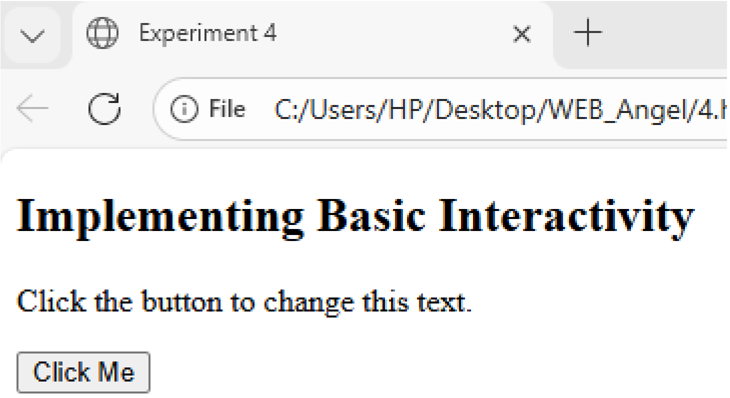
HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>Experiment 4</title>
</head>
<body>
<h2>Implementing Basic Interactivity</h2>
<p id="message">Click the button to change this text.</p>
<button id="btn">Click Me</button>
<script src="4s.js"></script>
</body>
</html>
```

JS

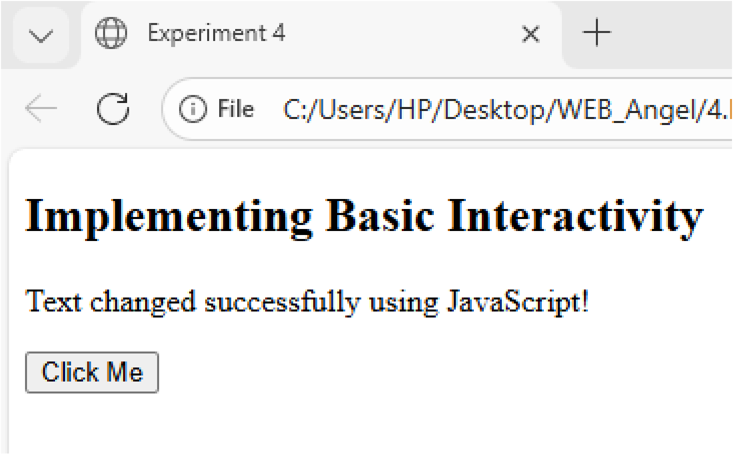
```
document.getElementById("btn").addEventListener("click", function() {
  document.getElementById("message").textContent = "Text changed successfully!";
});
```

## OUTPUT



Implementing Basic Interactivity

Click the button to change this text.



Implementing Basic Interactivity

Text changed successfully using JavaScript!