Ritesh Jha | 16010423076 | SY-IT(B3)
WPL Tutorial - 7(b) | 26-03-25

Aim: To demonstrate Form validation and DOM manipulation with JavaScript.

Results: (Program printout with output)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>🚀 Space Travel Booking</title>
    <link
href="https://fonts.googleapis.com/css2?family=Orbitron:wght@400;700&family=Rajdhani:wght@400;60
0&display=swap" rel="stylesheet">
    <style>
        body {
            font-family: 'Orbitron', sans-serif;
            background-color: #0a0a0a;
            color: #fff;
            text-align: center;
            padding: 15px;
        }

        h2 {
            color: #0ff;
            text-shadow: 0 0 12px #0ff;
            font-size: 22px;
            font-weight: 700;
        }

        /* Main Container */
        .container {
            display: flex;
            justify-content: center;
            flex-wrap: wrap;
            gap: 20px;
            padding: 10px;
        }

        .form-box {
            width: 100%;
            max-width: 420px;
            padding: 18px;
            border-radius: 12px;
            background: rgba(15, 15, 15, 0.95);
            box-shadow: 0 0 15px rgba(0, 255, 255, 0.5);
            display: flex;
            flex-direction: column;
            gap: 10px;
            flex: 1;
        }

        @media (min-width: 768px) {
            .form-box {
                width: 48%;
            }
        }

        label {
            font-family: 'Rajdhani', sans-serif;
            font-size: 14px;
```

```
            font-weight: 600;
            text-align: left;
        }

        input, select, textarea {
     width: 100%;
     padding: 7px;
     margin-top: 3px;
    background: #111;
    color: #0ff;
     border: 1.5px solid #0ff;
     border-radius: 6px;
    outline: none;
    font-size: 14px;
    transition: all 0.3s ease-in-out;
    box-sizing: border-box; /* Ensures padding and borders don't cause overflow */
    }


        input:focus, select:focus, textarea:focus {
            border-color: lime;
            box-shadow: 0 0 8px lime;
        }

        .error {
            color: red;
            font-size: 12px;
            font-weight: 500;
            text-align: left;
        }

        .success {
            color: lime;
            font-weight: bold;
            text-shadow: 0 0 10px lime;
            font-size: 16px;
        }

        /* Button Styling */
.form-box button {
    position: relative;
    overflow: hidden;
    padding: 10px;
    margin-top: 160px;
    background: linear-gradient(90deg, #0ff, #00f); /* Initial blue gradient */
    color: white;
    font-size: 14px;
    font-weight: bold;
    border: none;
    border-radius: 6px;
    cursor: pointer;
    transition: background 0.5s ease-in-out, color 0.5s ease-in-out;
    box-shadow: 0 0 8px #0ff;
    z-index: 1; /* Ensures text stays above */
}

.form-box button::before {
    content: "";
    position: absolute;
    top: 0;
    left: -100%;
    width: 100%;
    height: 100%;
    background: linear-gradient(90deg, #00f, lime); /* Blue to Green */
    transition: left 0.5s ease-in-out;
    z-index: -1; /* Moves background behind the text */
}

.form-box button:hover::before {
    left: 0;
}
```

```
.form-box button span {
    position: relative;
    z-index: 2; /* Ensures text is always above */
}



    input:focus, select:focus, textarea:focus {
    border-color: lime;
    box-shadow: 0 0 8px lime;
    }

    input[type="radio"]:focus, input[type="checkbox"]:focus {
    border-color: initial;
    box-shadow: none;
    }

    #travelForm {
      padding-bottom: 30px;
    }

label input[type="checkbox"] {
    display: inline-block;
    width: auto;
    margin-right: 5px;
    vertical-align: middle;
}

label[for="terms"] {
    display: inline-block;
    font-size: 14px;
    vertical-align: middle;
}



    </style>
</head>
<body>

    <h2>🪐 🚀 Space Travel Booking 🛸 🌌</h2>
    <div class="container">
        <!-- Personal Details -->
        <form id="personalForm" class="form-box">
            <h3>🧑‍🚀 Personal Details 🧑‍🚀</h3>
            <label for="name">Full Name:</label>
            <input type="text" id="name">
            <span class="error" id="nameError"></span>

            <label for="email">Email:</label>
            <input type="email" id="email">
            <span class="error" id="emailError"></span>

            <label for="phone">Phone Number:</label>
            <input type="text" id="phone" placeholder="+91 9876543210">
            <span class="error" id="phoneError"></span>

            <label>Gender:</label>
            <input type="radio" name="gender" value="Male"> Male
            <input type="radio" name="gender" value="Female"> Female
            <input type="radio" name="gender" value="Other"> Other
            <span class="error" id="genderError"></span>

            <label for="age">Age:</label>
            <input type="number" id="age">
            <span class="error" id="ageError"></span>

            <label for="passport">Upload Passport:</label>
            <input type="file" id="passport" accept="image/*">
            <span class="error" id="passportError"></span>

        </form>
```

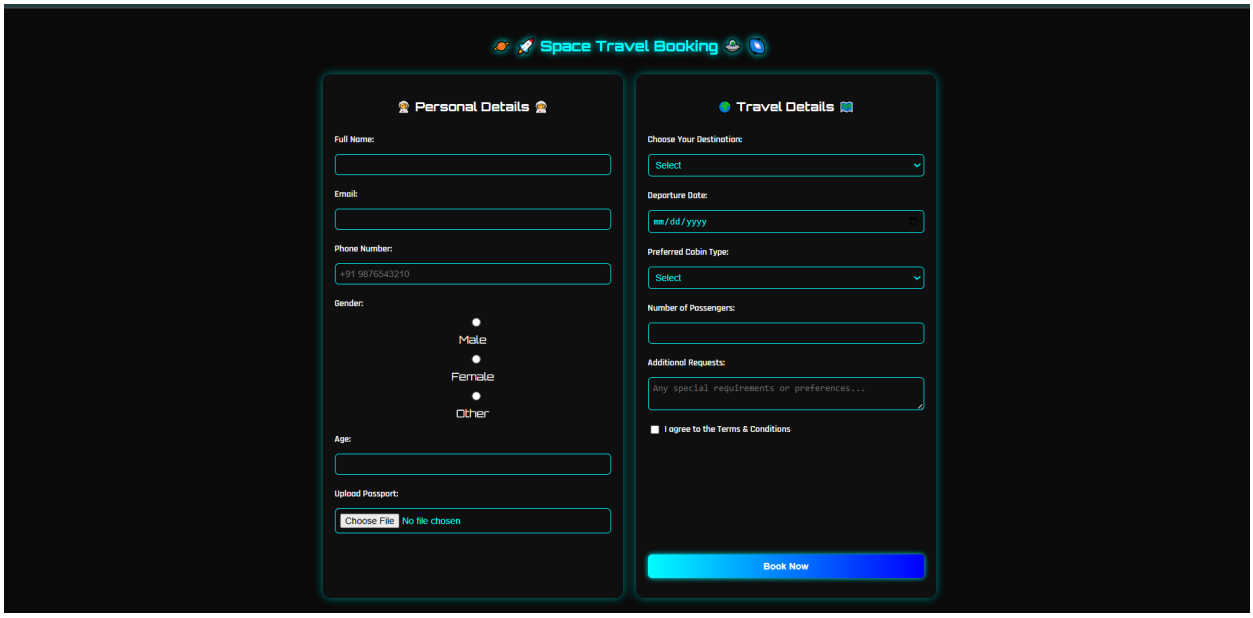
```
    <!-- Travel Details -->
    <form id="travelForm" class="form-box">
      <h3>🌍 Travel Details 🗺️</h3>
      <label for="destination">Choose Your Destination:</label>
      <select id="destination">
        <option value="">Select</option>
        <option value="Moon">Moon</option>
        <option value="Mars">Mars</option>
        <option value="Titan">Titan</option>
      </select>
      <span class="error" id="destinationError"></span>

      <label for="departure">Departure Date:</label>
      <input type="date" id="departure">
      <span class="error" id="departureError"></span>

      <label for="cabin">Preferred Cabin Type:</label>
      <select id="cabin">
        <option value="">Select</option>
        <option value="Economy">Economy</option>
        <option value="Business">Business</option>
        <option value="First Class">First Class</option>
      </select>
      <span class="error" id="cabinError"></span>

      <label for="passengers">Number of Passengers:</label>
      <input type="number" id="passengers">
      <span class="error" id="passengersError"></span>

          <label for="requests">Additional Requests:</label>
  <textarea id="requests" placeholder="Any special requirements or preferences..."></textarea>
  <span class="error" id="requestsError"></span>


      <label for="terms">
   <input type="checkbox" id="terms">
  I agree to the Terms & Conditions
  </label>

      <span class="error" id="termsError"></span>

      <button type="submit">Book Now</button>
    </form>
  </div>

  <p id="successMessage" class="success"></p>

  <script>

   // DOM manipulation: event listener to handle form submission
      document.getElementById("travelForm").addEventListener("submit", function(event) {
        event.preventDefault();   // prevents default submission
        let isValid = true;

       // function to show error messages
        function validateField(id, errorId, condition, errorMessage) {
          let value = document.getElementById(id).value.trim();
          if (condition(value)) {
            isValid = false;
              //show
            document.getElementById(errorId).innerText = errorMessage;
          } else {
              //hide
            document.getElementById(errorId).innerText = "";
          }
        }

        // field specific validations
        validateField("name", "nameError", v => v === "", "Name is required.");
        validateField("email", "emailError", v => !/^[\w._%+-]+@[\w.-]+\.[a-zA-Z]{2,}$/.test(v), "Enter a valid
email.");
```

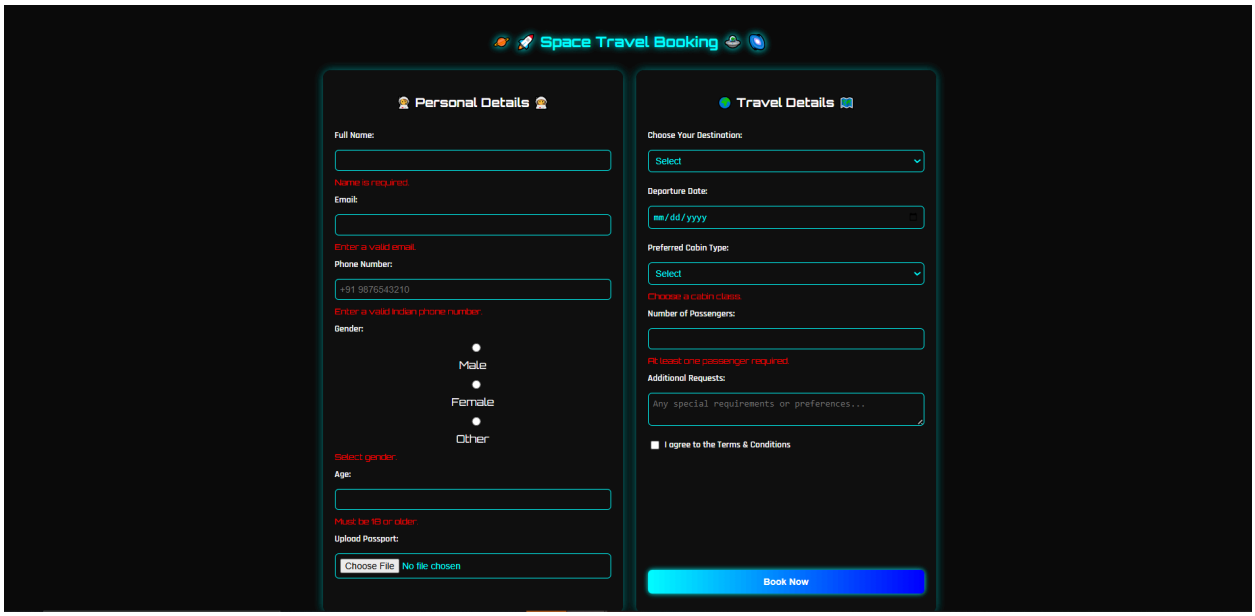
```
        validateField("phone", "phoneError", v => !/^(\+91\s?)?[6-9]\d{9}$/.test(v), "Enter a valid Indian phone number.");
        validateField("age", "ageError", v => v < 18, "Must be 18 or older.");
        validateField("departure", "departureError", v => new Date(v) <= new Date(), "Select a future date.");
        validateField("passengers", "passengersError", v => v < 1, "At least one passenger required.");
        validateField("cabin", "cabinError", v => v === "", "Choose a cabin class.");
      validateField("requests", "requestsError", v => v.length > 200, "Requests should be under 200 characters.");

        // checks gender radio button
        let genderSelected = document.querySelector('input[name="gender"]:checked');
        if (!genderSelected) document.getElementById("genderError").innerText = "Select gender.";

        //final success msg
        if (isValid) document.getElementById("successMessage").innerText = "Booking successful! 🚀";
      });
  </script>

</body>
</html>
```

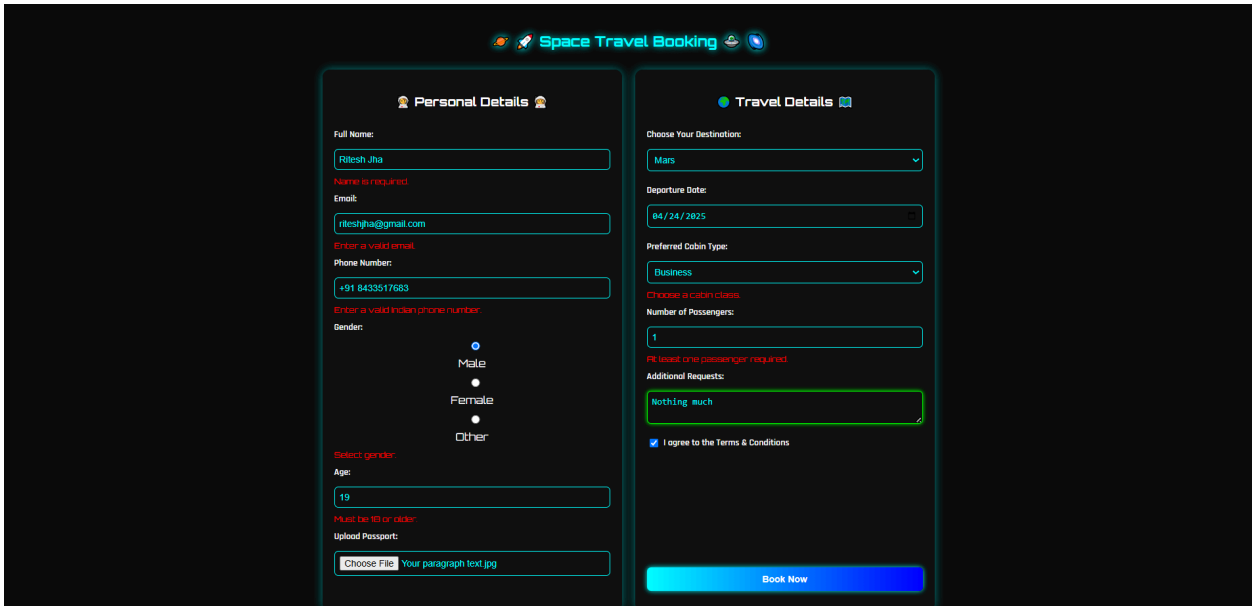
DOM Tree for the web page :

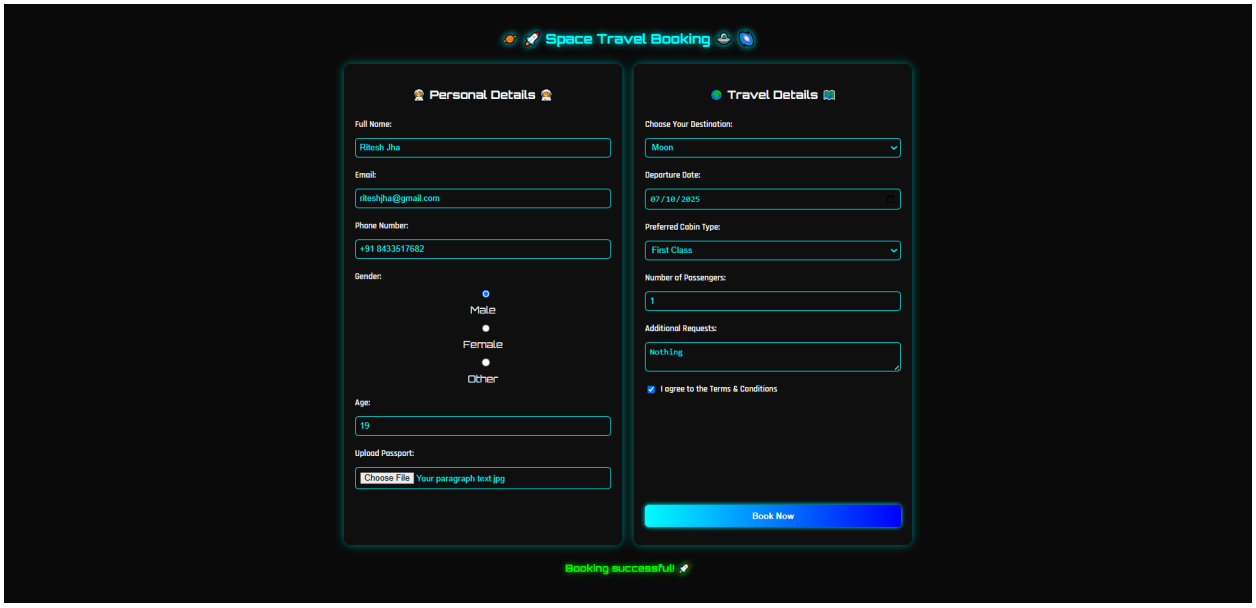
```
<!DOCTYPE html>
|
└── html (lang="en")
    ├── head
    │   ├── meta (charset, viewport)
    │   ├── title
    │   ├── link (Google Fonts)
    │   └── style (CSS for layout and styling)
    └── body
        ├── h2 ("🪐 🚀 Space Travel Booking 🛸 🌌")
        ├── div.container
        │   ├── form#personalForm.form-box
        │   │   ├── h3 ("👨‍🚀 Personal Details 👩‍🚀")
        │   │   ├── label + input#name + span#error
        │   │   ├── label + input#email + span#error
        │   │   ├── label + input#phone + span#error
        │   │   ├── label + input[type=radio]*3 + span#error
        │   │   ├── label + input#age + span#error
        │   │   └── label + input#passport[type=file] + span#error
        │   |
        │   └── form#travelForm.form-box
        │       ├── h3 ("🌍 Travel Details 🗺️")
        │       ├── label + select#destination + span#error
        │       ├── label + input#departure[type=date] + span#error
        │       ├── label + select#cabin + span#error
        │       ├── label + input#passengers + span#error
        │       ├── label + textarea#requests + span#error
        │       ├── label[for=terms] > input#terms[type=checkbox]
        │       ├── span#error
        │       └── button[type=submit] ("Book Now")
        |
        └── p#successMessage.success
```

Output WebPage :









Outcomes:

CO3: Apply JavaScript and JSON for web application development

Conclusion: (Conclusion to be based on the outcomes achieved)

From this experiment, I learned how to use JavaScript for form validation and DOM manipulation in web applications. I applied

different validation techniques to ensure user input is correct and provided real-time feedback for errors. The experiment helped me understand how to dynamically interact with form elements and enhance user experience. By implementing validation checks, styling effects, and event handling, I gained practical knowledge of JavaScript's role in web development.