**Edusphere: A Front-End Web App Crafted with HTML, CSS, and JavaScript**

WEB TECHNOLOGY PROJECT REPORT

SUBMITTED TO MANIPAL ACADEMY OF HIGHER EDUCATION, MANIPAL



**By**

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**WEBPAGE TITLE**

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1. **Bootstrap**

# Discuss about the Bootstrap concepts used in the development of the web page.

1. **Responsive Design Concepts**

Discuss about the responsive design concepts in detail that is used in the development of the webpage.

**III. Assistive Technology/Design Concepts**

Discuss about the various assistive technology concepts that is used in the development of the webpage.

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**Sadanand S Lalagi (Reg. No: 24097149)**

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**WEBPAGE TITLE (for each student)**

**Deepak D Nayak (Reg. No: 24097156)**

1. **Bootstrap**

**Bootstrap Concepts Used**

1. **Responsive Design with Bootstrap Grid System**:
   * **Container**: The use of <div class="container"> ensures that the content is cantered and responsive. It provides padding and maintains a fixed width for different screen sizes.
   * **Fluid Containers**: The container-fluid class allows the container to take up the full width of the viewport, which is useful for sections like headers and footers.
   * **Grid Classes**: The grid system is utilized throughout the code, particularly in sections like the faculty section and the impact numbers section. Classes like row, col, col-md-4, and col-xl-6 help create a responsive layout that adjusts based on the screen size.
2. **Navigation Bar**:
   * **Navbar Component**: The <nav class="navbar navbar-expand-lg bg-secondary"> uses Bootstrap’s navbar component, which is designed for responsive navigation. The navbar-expand-lg class allows the navbar to collapse on smaller screens, providing a toggler button.
   * **Toggler Button**: The button with data-bs-toggle="collapse" and data-bs-target="#navbarNav" enables the collapsing functionality, allowing users to toggle the menu on mobile devices.
3. **Typography and Text Utilities**:
   * Classes like text-centre, text-white, and fw-semibold are used to style text elements. Bootstrap provides utility classes to easily manage text alignment, color, and font weight.
4. **Buttons**:
   * The button class btn btn-warning is used to style buttons consistently across the application. Bootstrap provides various button styles (like btn-primary, btn-danger, etc.) to indicate different actions.
5. **Cards**:
   * The card component is heavily utilized in the impact numbers section. The card, card-body, and card-title classes create a structured, responsive card layout for displaying content in a visually appealing manner.
6. **Utility Classes**:
   * Bootstrap includes numerous utility classes for spacing and alignment. For example:
     + py-5 adds vertical padding to elements.
     + my-0 removes vertical margins from elements.
     + d-flex, justify-content-center, and align-items-center help in centering content both vertically and horizontally.
7. **Images**:
   * The class img-fluid is applied to images to make them responsive, ensuring they scale appropriately within their parent containers without distortion.
8. **Background Colors**:
   * Background color classes such as bg-dark, bg-secondary, and bg-danger are used to apply specific background colors, enhancing the visual hierarchy and aesthetic appeal of different sections.
9. **Forms**:
   * Bootstrap’s form controls are used to style input fields and buttons. Classes like form-control ensure consistent styling for text inputs, and row g-3 is used to create a responsive form layout.
10. **JavaScript Integration**:
    * Bootstrap's JavaScript components, such as the collapsible navbar and any potential modals or carousels, are initialized using jQuery. Including bootstrap.bundle.min.js ensures that all necessary Bootstrap scripts are available for interactive components.
11. **Responsive Design Concepts**

Discuss about the responsive design concepts in detail that is used in the development of the webpage.

**III. Assistive Technology/Design Concepts**

**Semantic HTML Elements**

* The use of semantic HTML (like <header>, <nav>, <section>, and <footer>) helps assistive technologies (like screen readers) understand the structure and purpose of different sections of the webpage. This improves navigation for users relying on such tools.

**2. ARIA Attributes**

* While the code does not currently utilize ARIA (Accessible Rich Internet Applications) attributes, adding them can enhance accessibility. For example, using aria-expanded and aria-controls on the navbar toggler button would provide additional context to screen readers about the menu's state.

**3. Text Alternatives for Images**

* The <img> tags include alt attributes (e.g., alt="profile-picture"). These attributes are crucial for users who rely on screen readers, as they provide descriptions of images that cannot be seen. Ensuring that these descriptions are meaningful improves the experience for visually impaired users.