Course Title - Web System Engineering

Topic Title - BUILD INTERFCAES USING BOOTSTARP

Introduction to web design from an evolutionary perspective, user interface design through bootstrap, containers, tables, jumbotrons, list, cards, carousal, navigation, modals, flex and forms, responsive web page design, basic UI grid structure.

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Introduction to web design from an evolutionary perspective

Creating interfaces using Bootstrap is an efficient way to build responsive, visually appealing, and mobile-first web pages. Below, I'll show you how to use some common components in Bootstrap to build a simple interface.

Step 1: Set up Bootstrap

Step 2: Building a Basic Interface

Step 3: Customizing

Introduction to web design from an evolutionary perspective

Step 1: Set up Bootstrap

Make sure you include the Bootstrap CSS and JS files in your HTML file.

```
<!-- Bootstrap CSS CDN -->

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-KyZXEJxS9a4bc2XSh4gLadR6F5CkAf7j2" crossorigin="anonymous">


<!-- Bootstrap JS CDN -->

    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js" integrity="sha384-pp5J87kI6+0FNEFCi0FwptfMO/8+Yw2+jW0F91H4eJ6vxlzIwiGg9pSMnWgFQv8+" crossorigin="anonymous"></script>
```

Introduction to web design from an evolutionary perspective

- You can either download the Bootstrap files or

- Include them via a CDN (Content Delivery Network).

link to download offline or locally :

 https://getbootstrap.com/docs/5.3/getting-started/download/

Download ready-to-use compiled code for Bootstrap v5.3.3 to easily drop into your project, which includes:

Compiled and minified CSS bundles (see CSS files comparison)

Compiled and minified JavaScript plugins (see JS files comparison)

user interface design through bootstrap - containers

In Bootstrap, containers are a fundamental building block for creating layouts. A container helps define the width of your content and ensures that it is aligned correctly on the page. Bootstrap provides two types of containers:

.container: A fixed-width container.

.container-fluid: A full-width container that spans the entire width of the viewport.

In Bootstrap, .container and .container-fluid are both used to create layouts with padding and centered content, but they have different behaviors when it comes to responsiveness and width.

Key Differences:

•Width Behavior:
.container has a maximum width at each breakpoint, while .container-fluid always spans 100% of the available width.
•Responsive Design:
.container changes width at different breakpoints (e.g., sm, md, lg, xl, etc.), whereas .container-fluid always remains full-width.

When to Use:

•Use .container when you want a fixed-width layout with some responsive behavior (e.g., a centered content block with padding).
•Use .container-fluid when you want the layout to stretch across the full width of the screen, such as for background images, full-width carousels, or wide sections.

user interface design through bootstrap - containers & Tables

M2Demos.zip

jumbotron

- In Bootstrap, the .jumbotron class was used to create a large, attention-grabbing component for showcasing key content, like a heading, some text, and a call-to-action button. However, with Bootstrap 5, the .jumbotron class has been **removed**, and it's now recommended to use other layout and utility classes to achieve similar results.

```html
<div class="jumbotron">
  <h1 class="display-4">Hello, world!</h1>
  <p class="lead">This is a simple hero unit, a simple jumbotron-style component for calling extra attention to featured content or information.</p>
  <hr class="my-4">
  <p>It uses utility classes for typography and spacing to space content out within the larger container.</p>
  <a class="btn btn-primary btn-lg" href="#" role="button">Learn more</a>
</div>
```

bootstrap : jumbotron

- bg-light: Light background color for the section.

- p-5: Padding to give the content some spacing.

- rounded-lg: Rounded corners to make the box look more polished.

- text-center: Center the text within the box.

- display-4: A large header style for a bold title.

- btn btn-primary btn-lg: A large button with the primary theme color.

jumbotron

In Bootstrap 5, since .jumbotron is no longer available, you can create a similar layout with custom classes.

```
<div class="bg-light p-5 rounded-lg text-center">
  <h1 class="display-4">Hello, world!</h1>
  <p class="lead">This is a simple hero unit, a simple jumbotron-style
component for calling extra attention to featured content or information.</p>
  <hr class="my-4">
  <p>It uses utility classes for typography and spacing to space content out
within the larger container.</p>
  <a class="btn btn-primary btn-lg" href="#" role="button">Learn more</a>
</div>
```

bootstrap:list

- In Bootstrap, you can create lists using various classes to control the style and appearance of list elements. Bootstrap provides utility classes for both unordered (<ul>) and ordered (<ol>) lists. Here's an overview of the main list-related classes you can use.

1. Basic Lists
2. List with Inline Items (list-inline)
3. List Group (for styled lists)
4. Contextual Classes
5. Horizontal List Groups

Key Classes:

•list-unstyled: Removes bullets from an unordered list.
•list-inline: Displays list items inline (side by side).
•list-group: Creates a styled list group with various options for contextual colors, badges, and more.
•list-group-item: Used within a list group to style individual items.
•list-group-horizontal: Makes the list group horizontal.

Bootstrap: Demo Project

demoproj2.zip

carousal, navigation, modals, flex and forms, responsive web page design,basic UI grid structure.

1. Include Bootstrap

Link to Bootstrap's CSS and JavaScript via CDN or download it.

Ensure to use the meta viewport tag for proper scaling on mobile devices.

2. Bootstrap Grid System

The grid is divided into 12 columns, and you can create responsive layouts by using classes like col-12, col-md-6, col-lg-4, etc.

Use rows (.row) to group columns together.

Define how columns behave across screen sizes using responsive classes like:

col-12: Full-width on small devices

col-md-6: Half-width on medium devices (tablets)

col-lg-4: One-third width on large devices (desktops)

3. Responsive Navigation

Use the navbar component for a responsive menu.

Add the navbar-expand-* class to define at what screen size the navbar should collapse (e.g., navbar-expand-lg collapses on small screens).

Include a hamburger menu (navbar-toggler) for mobile screens.

4. Responsive Images

- Use the .img-fluid class to make images scale appropriately and fill the available width without breaking the layout.

5. Responsive Utilities

- Bootstrap provides display utility classes to show/hide content based on screen size.
  - Example: d-none d-md-block hides an element on small screens and shows it on medium and larger screens.

6. Media Queries (Optional)

•Custom CSS media queries can be used to target specific screen sizes and tweak the design further.
•Example:
css
Copy

```css
@media (max-width: 768px) {
  .custom-class {
    background-color: lightblue;
  }
}
```

7. Flexbox and Utility Classes

•Bootstrap's grid system uses flexbox, which allows you to align items easily.
•Use classes like d-flex, justify-content-center, and align-items-center to manage alignment.

8. Mobile First Approach

•Bootstrap's default styles are mobile-first, meaning that you build for small screens first, and then scale up to larger ones using responsive classes.
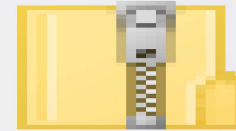
9. Testing and Tweaking

•Test the layout on different screen sizes and adjust content and column behavior as needed using Bootstrap's grid system and utility classes.

Bootstrap : Webpack + Vite Projects

webpackdemoproj
2.zip

vebpackdemoprc
ect1.zip

vitedemoproj1.zip

Thank You