



To discuss this course and customizations:
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Implement User Interface Designs with React

Duration

3 Days

Description

This course, focused on implementing user interface designs with React, is designed to equip learners with a comprehensive understanding of UI design's significance in React applications. Participants will learn to differentiate between raster and vector graphics, understanding their unique applications in web design, and delve into the specifics of optimizing various graphic formats such as JPEG, GIF, PNG, WEBP, AVIF, and SVG for web interfaces. The course also covers the effective use of stock photos, illustrations, icons, and the integration of pre-built HTML5 and React themes to accelerate UI development. Students will gain hands-on experience in image slicing and management for diverse screen sizes, implementing key web elements, and applying responsive design principles. Additionally, the course provides an in-depth exploration of CSS, including resets, selectors, box model, Flexbox, Grid, and the customization of popular frameworks like Bootstrap, Tailwind CSS, or Material UI. By the end of the course, students will be proficient in various styling methods in React, preparing them to create dynamic, responsive, and visually appealing user interfaces.

Objectives

- Understand the importance of UI design in React applications.
- Differentiate between raster and vector graphics and their application in web design.
- Understand the use cases and optimizations for JPEG, GIF, PNG, WEBP, AVIF, and SVG formats in web interfaces.
- Utilize stock photos, illustrations, and icons effectively in UI design.
- Integrate pre-built HTML5 and React themes for rapid UI development.
- Master slicing tools for optimizing images for web use.
- Learn to export and manage sliced images for various screen sizes and resolutions.
- Implement web elements like favicons, logos, and optimize image tags for React-based UI.
- Apply background images, image sizing, and responsive design techniques.
- Integrate images with JavaScript for dynamic UIs.
- Implement CSS resets, selectors, box model, positioning, Flexbox, and Grid in React UIs.
- Develop a deep understanding of CSS's role in modern web design.



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- Integrate and customize CSS frameworks like Bootstrap, Tailwind CSS, and Material UI (select one) in React projects.
- Utilize various methods of styling in React, including inline styles, CSS stylesheets, modules, CSS-in-JS (e.g., Styled Components), and Sass.

Prerequisites

All attendees must have significant experience with modern JavaScript or TypeScript, and React.

Training Materials

All students receive comprehensive courseware covering all topics in the course. Courseware is distributed via GitHub in the form of documentation and extensive code samples. Students practice the topics covered through challenging hands-on lab exercises.

Software Requirements

Students will need a free, personal GitHub account to access the courseware. Students will need permission to install Node.js, Visual Studio Code, and either Adobe Photoshop or Gimp on their computers. Also, students will need permission to install NPM Packages and Visual Studio Extensions. If students are unable to configure a local environment, a cloud-based environment can be provided.

Outline

- Introduction
- Graphics Software
 - Adobe Photoshop
 - Adobe Illustrator
 - Gimp
 - Inkscape
- Web Browsers and Graphics
 - Raster vs. Vector
 - Canvas & WebGL (short overview)
- Graphics File Formats
 - JPEG, GIF, PNG
 - WEBP & AVIF
 - SVG
- Graphics Resources
 - Stock Photos



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- Stock Illustrations
- Stock Icons
- Pre-Built HTML5 Themes
- Pre-Built React Themes
- Image Slicing (Photoshop or Gimp)
 - Slice Tool
 - Slice Select Tool
 - Slice Properties
 - Exporting Slices
- Using Images in a Webpage
 - Favicon
 - Logos (Raster vs. Vector)
 - Image Tag
 - Background Images
 - Image Sizing
 - Responsive Images
 - Images and JavaScript
- Typography
 - Fonts Style Properties
 - Serif vs. Sans-Serif
 - Font Families
 - Third-Party Fonts
 - Google Fonts
 - Font Sizing (fixed vs. relative)
- CSS
 - CSS Reset
 - CSS Selectors
 - CSS Box Model
 - CSS Positioning
 - CSS Flexbox
 - CSS Grid
- CSS Frameworks
 - Bootstrap
 - Tailwind CSS
 - Material UI



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- Styling React
 - Inline Styles
 - CSS Stylesheets
 - CSS Modules
 - CSS-in-JS (Styled Components)
 - Sass
- Conclusion