

Server-Side Rendering (SSR)

Outline

- Introduction
- MPAs
- SPAs
- Transitional Apps
- SSGs
- React SSR Frameworks

Multi-Page Applications (MPAs)

What are MPAs?

- The traditional (de facto) way of doing things
- Navigation and form submission causes reload
- A bulk of the content (markup) generation is done on the server
- Client-side scripting focused mainly on interactivity

jQuery

- Makes doing the following things much simpler
 - HTML document traversal and manipulation,
 - Event handling,
 - Animation, and
 - Ajax

jQuery - HTML document traversal and manipulation

- Popularized the `$` query selector function
 - Uses css selectors for dom selection and manipulation

```
$( "button.continue" ).html( "Next Step..." )
```

jQuery - Event handling

```
var hiddenBox = $( "#banner-message" );  
$( "#button-container button" ).on( "click", function( event ) {  
    hiddenBox.show();  
});
```

jQuery - Animation

```
$( "button" ).click(function() {  
    $( "div" ).animate({ left: "250px" });  
});
```

jQuery - Ajax

```
$.ajax({
  url: "/api/getWeather",
  data: {
    zipcode: 97201
  },
  success: function( result ) {
    $( "#weather-temp" ).html( "<strong>" + result + "</strong>
degrees" );
  }
});
```

Building MPAs w/ Nodejs

- Express
- EJS

Advantages of MPAs

- Faster page loads
- Enhanced SEO
- Doesn't require JavaScript to work

Disadvantages of MPAs

- Bad UX
- Content generation is mostly done on the server

Single-Page Applications (SPAs)

What are SPAs?

- Markup gets generated on the client side (CSR)
- Native feeling apps

Building SPAs w/ React & Node

- Webpack
- Babel
- React
- ReactDOM

Advantages of SPAs

- Better UX
- Fast after initial page load
- Better decoupling

Transitional Apps

Introduction to Server-Side Rendering

What is SSR

- Initial page is rendered from the server and subsequent pages render directly on the client

SSR w/ ReactDOMServer

Disadvantages of SPAs

- Doesn't work without JavaScript
- Large bundle sizes
- Not SEO friendly

Advantages of SSR

- The best of both
 - Faster page loads
 - Enhanced SEO
 - Enhanced UX
 - Shared markup b/n the client and server

Disadvantages of SSR

Static Site Generators (SSGs)

SSGs

- Generate static HTML files using SSR
- Doesn't support real-time rendering.

React SSR Frameworks

React SSR Frameworks

- Next.js
- Razzle
- Remix
- Gatsby