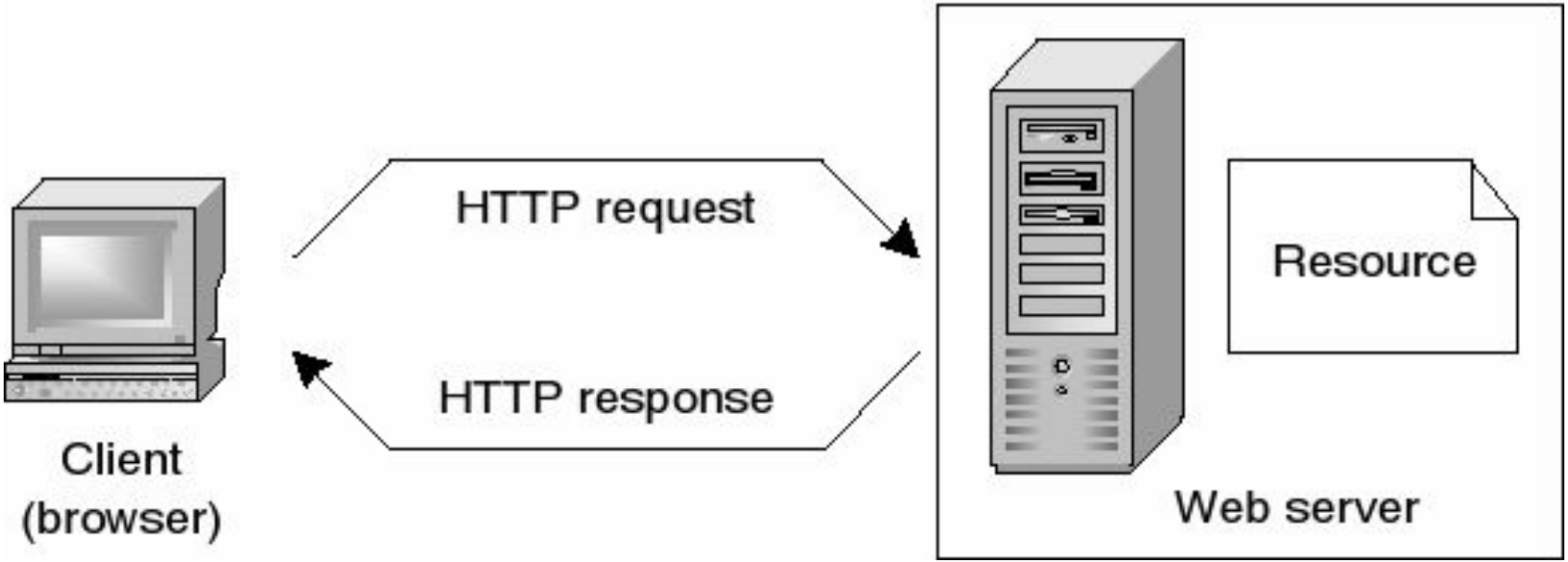
Web development basics

Intro

How does the web work?



How to create a webpage?

Planning stage: Determine the purpose and goals of the website, create a content plan, and identify the target audience.

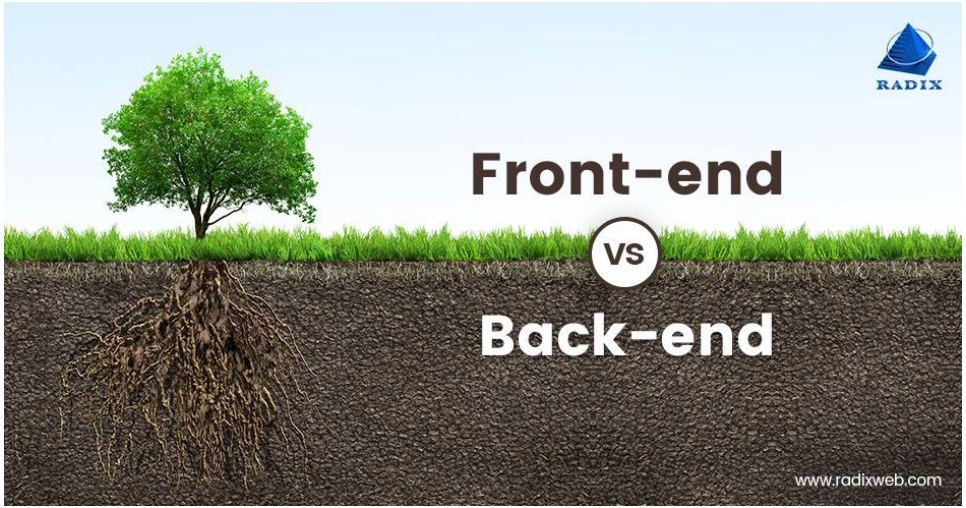
Design stage: Create a visual design, layout and wireframes for the website. This can include choosing colors, typography, and images that align with the overall aesthetic and goals of the website.

Frontend/Backend development: Write the code for the website using HTML, CSS, JavaScript and a programming language like Python or Ruby to create the frontend and backend logic.

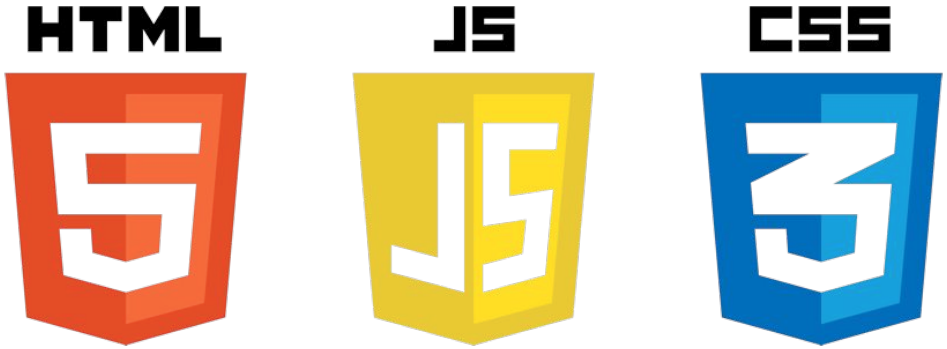
Launch stage: Test the website for any bugs or errors, and make any necessary adjustments. Once the website is ready, it can be launched and made live for the public to access.

What is frontend?

Frontend refers to the part of web development that deals with the user interface and user experience of a website or application. It is the part of the website or application that the user interacts with and sees. It is typically made up of HTML, CSS, and JavaScript, which are used to create the layout, design, and interactivity of the website or application. Essentially, frontend is what the user sees, interacts and engage with on a website or application.



Frontend technologies



HTML (Hypertext Markup Language) is the standard language used to create web pages. It provides the structure and layout of a web page, including headings, paragraphs, images, and links.

CSS (Cascading Style Sheets) is used to add style and layout to web pages created with HTML. It allows for the separation of the presentation of a web page from its structure and content.

JavaScript is a programming language that is commonly used to create interactive and dynamic elements on web pages. It can be used to add interactivity and effects, such as animations, form validation, and dynamic content updates.

In **summary**, HTML provides the structure and content of a web page, CSS is used to add style and layout, and JavaScript adds interactivity and dynamic effects. Together, these three technologies are used to create the majority of websites on the internet.

Syntax

```
<!DOCTYPE html>
<html>

    <head>
        <title>My First Webpage</title>
    </head>

    <body>
        <h1>
            My First Webpage
        </h1>
        <p>This is a paragraph...</p>
    </body>

</html>
```

```
/* A reference to a type */
span.ts span.type-ref {
    color: rgb(175, 0, 219) !important;
}

/* Signature details */
div.signature > table {
    border-collapse: collapse;
    border: thin darkgray solid;
    width: 60%;
}
```

```
function quickSort(items, left, right) {
  var index = 0;
  if (items.length > 1) {
    left = typeof left != 'number' ? 0 : left;
    right = typeof right != 'number' ? items.length - 1 : right;
    index = partition(items, left, right);
    if (left < index - 1) {
      quickSort(items, left, index - 1);
    }
    if (index < right) {
      quickSort(items, index, right);
    }
  }
  return items;
}
// first call
var result = quickSort(items);
```

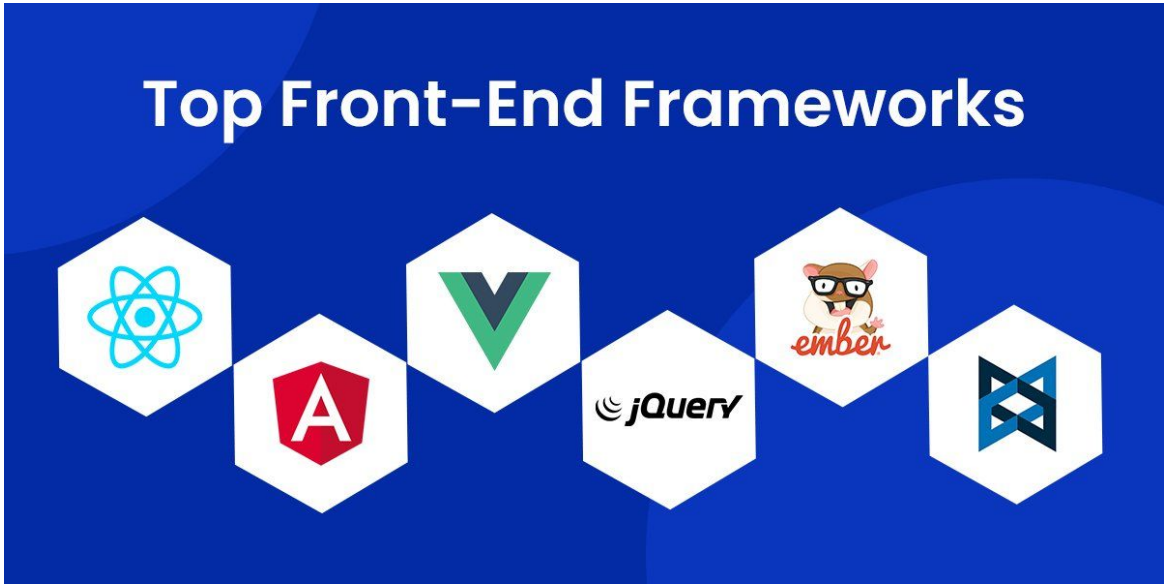
Frontend frameworks

How much does a React Js Developer make in USA?

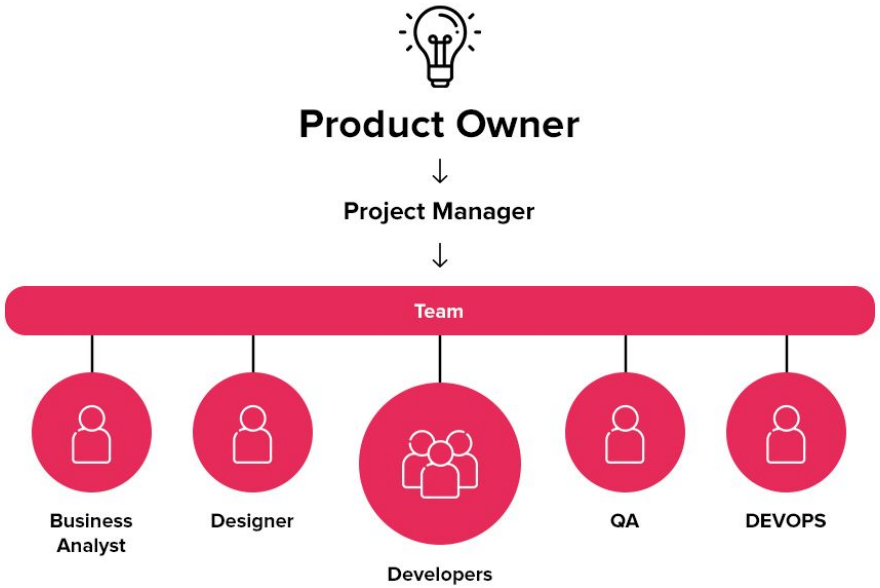
$119,992 / Annual

Based on 1298 salaries

The average **react js developer** salary in the **USA** is **$119,992** per year or **$61.53** per hour. Entry level positions start at **$100,000** per year while most experienced workers make up to **$150,000** per year.



How does team look like?



Quiz

Question 1: What should you do during the planning stage of creating a website?

A) Write the code for the website

B) Determine the purpose and goals of the website

C) Launch the website

D) Choose colors and typography for the website

Quiz

Question 2: What programming languages can you use to create the frontend logic of a website?

A) HTML, CSS, and JavaScript

B) Python and Ruby

C) C++ and Java

D) PHP and SQL

Quiz

Question 3: What is HTML used for?

A) Adding style and layout to web pages

B) Creating interactive elements on web pages

C) Providing the structure and layout of a web page

D) None of the above

Quiz

Question 4: What is CSS used for?

A) Providing the structure and layout of a web page

B) Creating interactive elements on web pages

C) Adding style and layout to web pages created with HTML

D) None of the above

Quiz

Question 5: What is JavaScript used for?

A) Providing the structure and layout of a web page

B) Adding style and layout to web pages created with HTML

C) Creating interactive and dynamic elements on web pages

D) None of the above

Quiz

Question 6: What is the purpose of HTML, CSS, and JavaScript when used together?

A) To create the content of a website

B) To add interactivity and dynamic effects to a website

C) To add style and layout to a website

D) To create the majority of websites on the internet

How to start coding?

1) Install git
   a) Windows
   b) Mac (install from https://sourceforge.net/projects/git-osx-installer/, so you don't get to install it with xcode)
2) Install Visual Studio Code - link

How to create HTML page

1) Open Visual Studio Code
2) Create empty index.html file
3) Start writing HTML code
4) Install Live Server extension (optional)
5) Open HTML file in browser:
    a) Open HTML with live server
    b) Or open file from file explorer

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>This is a Heading</h1>
    <p>This is a paragraph.</p>
  </body>
</html>
```

HTML tags

HTML tags are the building blocks of an HTML document. They are used to define the structure and content of a web page. There are many different types of HTML tags, but **some common** examples include:

- **<html>**: This is the root element of an HTML document, and it contains all of the other elements on the page.
- **<head>**: This element contains information about the document, such as the title of the page and any meta data.
- **<body>**: This element contains the content of the page that is visible to the user.
- ** **: This element is a container for other elements, and is often used to group elements together for styling purposes.
- **<p>**: This element is used to define a paragraph of text.

HTML tags 2

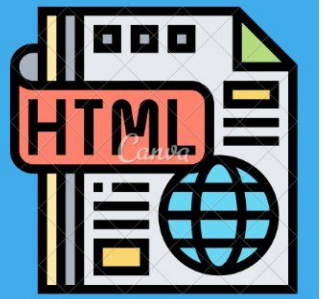
- **<a>**: This element creates a hyperlink to another web page.
- **<img>**: This element is used to embed images in a web page.
- **<h1> - <h6>**: These elements are used to define headings and subheadings on the page.
- **<ul>** and **<li>**: These elements are used to create unordered lists.
- **<ol>** and **<li>**: These elements are used to create ordered lists.
- **<form>**: This element is used to create forms that allow users to input data and submit it to a server.

HTML tags are often **paired**, with a start tag and an end tag, and the content between the start and end tags is the content of the tag. For example, an tag would be written as This is a paragraph , and the content inside the tags is "This is a paragraph"

Self Closing Tags

List of self-closing tags in HTML

- <area>
- <base>
-
- <hr>
- <input>
- <link>
- <col>
- <img>
- <meta>
- <source>
- <wbr>
- <track>



Most often tags in HTML start and end with a closing tag. E.g Paragraph
Whereas self-closing tags are those who do not need a closing tag

Rest tags

https://www.w3schools.com/TAGS/default.asp

HTML attributes

Attributes are additional information that can be provided for HTML elements to modify their behavior or appearance. Attributes are added to an HTML element in the opening tag and are specified as a **name-value pair**, such as **attribute="value"**. Some common uses of attributes include:

1) Specifying the **source** of an element's content:

```
<img src="image.jpg" alt="A beautiful landscape">
```

2) Modifying the **appearance** of an element:

```
<p class="highlight">This is a highlighted paragraph.</p>
```

HTML attributes 2

3) Providing **additional information** about an element:

```
<img src="image.jpg" alt="A beautiful landscape">
```

4) Creating **links**:

```
<a href="https://www.example.com">Visit Example.com</a>
```

5) Specifying form **controls**:

```
<input type="text" name="username" value="Enter your username">
```

https://www.w3schools.com/html/html_attributes.asp

HTML forms

Forms are an essential part of many websites and web applications, allowing users to **input data** and **interact with the site**. To create a form in HTML, you can use several elements, including <**form**>, <**input**>, <**select**>, and <**textarea**>. Here is how you create sample form:

1) Use the <**form**> element to define the form. Add an **action** attribute to specify the **URL** where the form data will be sent and a **method** attribute to specify how the form data will be sent (usually "**POST**" or "**GET**").

```
<form action="/submit-form" method="post">
</form>
```

HTML forms 2

2) Use the <**input**> element to create form fields, such as **text fields**, **checkboxes**, and **radio buttons**. Add a **type** attribute to specify the type of input field, and a **name** attribute to identify the field.

```
<form action="/submit-form" method="post">
  <input type="text" name="username">
  <input type="email" name="email">
  <input type="password" name="password">
</form>
```

3) Use the <**select**> element to create a **drop-down list**. Add **options** using <**option**> elements, and use the **value** attribute to specify the value that will be sent with the form.

```
<form action="/submit-form" method="post">
  <select name="city">
    <option value="nyc">New York City</option>
    <option value="la">Los Angeles</option>
    <option value="chicago">Chicago</option>
  </select>
</form>
```

HTML forms 3

4) Use the <**textarea**> element to create a **text area** for users to enter a **larger amount of text**. Add a **name** attribute to identify the field.

5) Add a **submit** button to the form using an <**input**> element with a **type** attribute of "**submit**".

```
<form action="/submit-form" method="post">
  <textarea name="message"></textarea>
</form>
```

```
<form action="/submit-form" method="post">
  <input type="text" name="username">
  <input type="email" name="email">
  <input type="password" name="password">
  <select name="city">
    <option value="nyc">New York City</option>
    <option value="la">Los Angeles</option>
    <option value="chicago">Chicago</option>
  </select>
  <textarea name="message"></textarea>
  <input type="submit" value="Submit">
</form>
```

Homework

Create your own portfolio page with plain html

Include:

1) Header, that contains page navigation
2) Main section
    a) Shortly about you
    b) Work experience, education
    c) Contact information
    d) etc...

Portfolio ideas - https://bashooka.com/html/free-html-css-portfolio-web-design-templates/