

## Project Design Phase-4

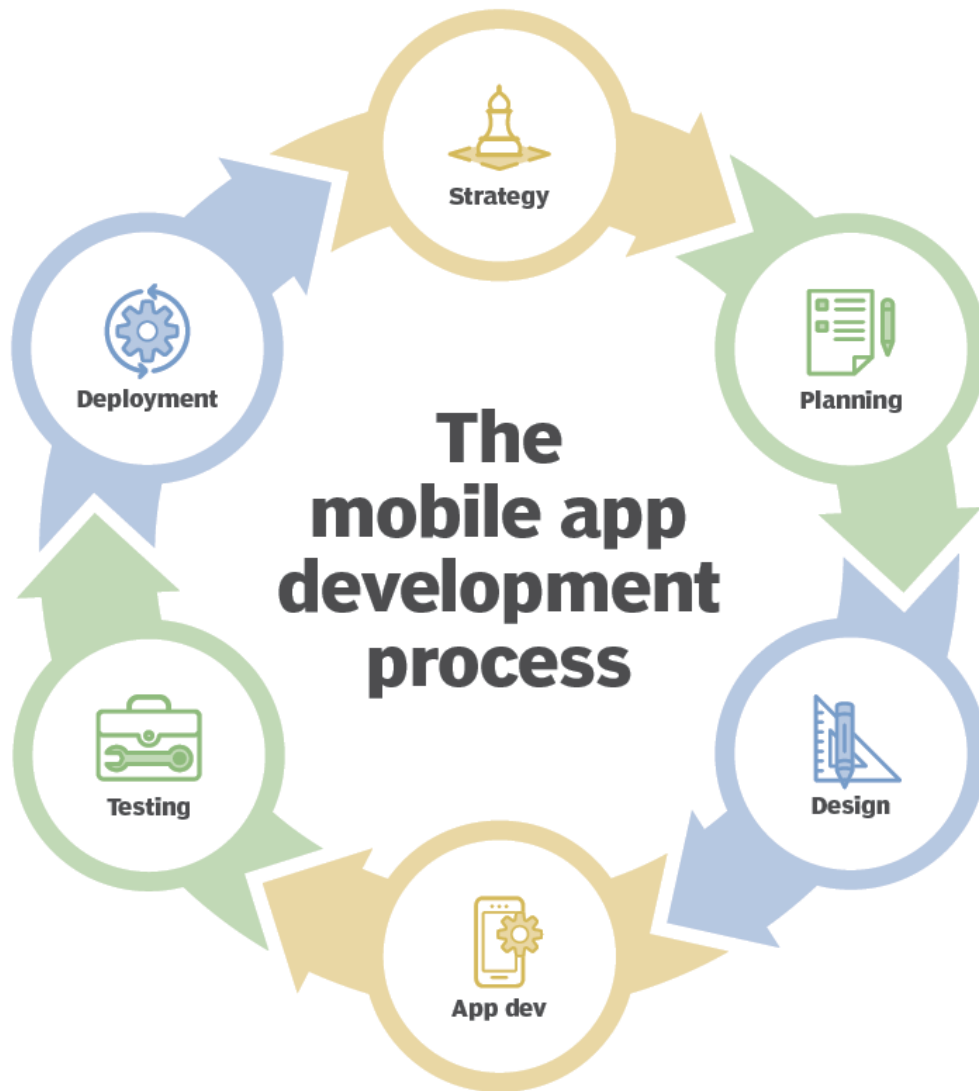
Date	26 October 2023
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Project Name	4123-Traffic Management System
Team Name	Proj_227233_Team_1

**Continue building the project by developing the traffic information platform and mobile apps.**

Mobile application development is the set of processes and procedures involved in writing software for small, wireless computing devices, such as smartphones and other hand-held devices.

Like web application development, mobile application development has its roots in more traditional software development. One critical difference, however, is that mobile apps are often written specifically to take advantage of the unique features of a particular mobile device. For example, a gaming app might be written to take advantage of the iPhone's accelerometer, or a mobile health\_app might be written to take advantage of a smartwatch's temperature sensor.

Today, the two most **prominent mobile platforms** are iOS from Apple and Android from Google. Phones and tablets from Apple come preloaded with essential applications, including a full web browser and the Apple App Store. Android devices also come preloaded with similar apps, and you can install more using the Google Play Store.



**Use web development technologies (e.g., HTML, CSS, JavaScript) to create a platform that displays real-time traffic information.**

Web application development is of significant importance in today's digital age due to the widespread use of the internet and the increasing reliance on online services. Here are some key reasons why web application development is crucial:

- **Global Accessibility:** Web applications can be accessed from anywhere in the world with an internet connection. Global accessibility allows businesses to reach a broader audience and users to access services without geographical limitations.
- **Business Growth and Innovation:** Web applications enable businesses to expand their reach and offer new products or services. They provide a platform for innovation and allow companies to differentiate themselves in a competitive market.
- **Enhanced User Experience:** Well-designed web applications offer a seamless and user-friendly experience. A positive user experience leads to increased user engagement, customer satisfaction, and brand loyalty.
- **Efficiency and Automation:** Web applications automate processes, reducing manual efforts and improving efficiency. They can handle tasks such as data entry, transaction processing, and inventory management, saving time and resources.
- **Cost-Effectiveness:** Web applications can often be more cost-effective than traditional desktop software. They eliminate the need for distributing and updating software on individual machines, reducing maintenance costs.

## How to build a website using HTML

You must be aware of all the basic concepts and techniques associated with HTML before compiling all of it to create a website using HTML and CSS. There are multiple actions you are going to perform while writing code in HTML.

## How To View the Source Code of an HTML Document?

Every webpage on the internet uses HTML to structure its webpage and display it. To view the source code of any webpage, navigate to the webpage, right-click on the page and then select “view page source”. Moreover, you may use a keyboard shortcut CTRL + U or CMD + U to inspect the source code of any HTML document.

The source code of an HTML document will look something like this.

```
18 }, true);  
19 </script> <script type="application/ld+json">
```

## Understanding and using HTML Elements

In HTML, elements are the building blocks for an HTML document. It usually contains an opening tag, a closing tag, and the content between them. It helps browsers to interpret in classifying the content, such as headings, images, paragraphs, and more.

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`<em>` This is an emphasized text `</em>`

In this example, it tells the browser to interpret and render this HTML element as an emphasized text.

## Using Inline-level and Block-level Elements in HTML

Block-level elements in HTML are those elements that always start on a new line and occupy the complete width of the screen. Some popular block-level elements are, `<p>`, `<div>`, `<table>`, and more.

Inline-level elements are those elements that occupy only the necessary width and do not start on a new line.

**BLOCK LEVEL ELEMENTS**

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## How To Nest HTML Elements

Nesting in HTML is to apply several HTML tags to a single content. In nesting, one element can be placed inside other elements. Another benefit of nesting in HTML includes improving the readability of your code for you and other developers.

Nesting in HTML will look something like this.

# How to build a website using CSS

## Understanding and Creating CSS Rules

CSS rules also known as rulesets and are a combination of one or more CSS properties that you can apply to one or more HTML elements. It consists of a CSS selector and CSS properties. It determines what to style to a targeted HTML element.

```
div {  
border-color: black;  
font-size: 2rem;  
}
```

In this instance, it creates a CSS rule targeting the div element and creating CSS properties, border-color, and font-size to be the style for the element.

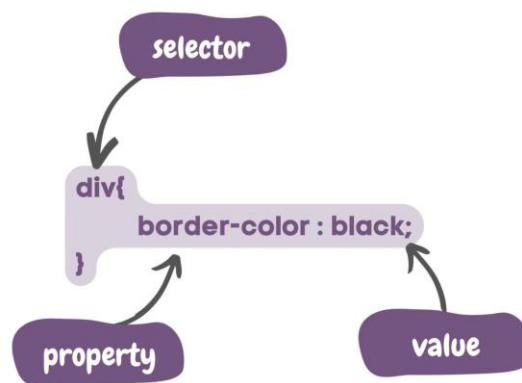


diagram of a CSS rule

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## Declaring Values For Multiple Properties In a CSS Rule

In this section, let us learn how to declare values for multiple properties in a CSS rule. This is very helpful as it allows you to apply several style instructions to an HTML element all at once. In simpler words, for instance,

if you want to apply border-color, font-size, and more to a div tag, you can do that all at once.

```
div {  
border-color: brown;  
font-size: 2rem;  
font-family: 'Times New Roman';  
}
```

## Style Images With CSS

In this section, let's learn how to style images with CSS such as adding a border to an image, adjusting its dimensions, and further specific CSS to our images in the webpage. First, add an image element in the HTML file.

```

```



Now, it's time to add CSS to the image to make it look good.

```
img{  
height: 300px;  
border-radius: 50%;  
border: 12px dotted rgb(255, 85, 0);  
}
```

This CSS will apply to all the images of our HTML document.



## JavaScript (script.js):

Use JavaScript to fetch real-time traffic data and display it on your page. For this example, we'll use a mock API.

```
const trafficDataElement = document.getElementById('traffic-data');
```

```
function fetchTrafficData() {
```

```
// You would typically fetch data from a real API here.  
// For this example, we'll use a mock API.  
setTimeout(() => {  
    const trafficInfo = 'Heavy traffic on I-95 southbound.';  
    trafficDataElement.textContent = trafficInfo;  
}, 3000); // Update every 3 seconds  
}
```

```
fetchTrafficData(); // Initial data load  
setInterval(fetchTrafficData, 30000); // Fetch data every 30 seconds
```

This is a simple example, and in a real-world scenario, you would use APIs like Google Maps or a local traffic service to get real traffic data. You might also consider using a mapping library like Leaflet or Map box for displaying the map.

Remember that building a complete real-time traffic information platform would involve server-side code, database integration, and proper API handling for traffic data, which is a much more extensive project.