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Web Development

SW.

These trends are reshaping web development by making web apps faster, more powerful, and able to function online, allowing developers to deliver better user experience.

## 1.) BEST PRACTICES IN WEB DEVELOPMENT

\* CODE OPTIMIZATION - optimizing code

is crucial for fast website performance.

This includes reducing the size of HTML, CSS, and JavaScript files through minification, caching data to reduce server requests, etc.

\* SECURITY MEASURES - web security ensures user safety and data protection such as using SSL/TLS

for encryption and validating user inputs to prevent attacks like SQL injection.

\* ACCESSIBILITY STANDARDS - means making websites usable for everyone, including those with disabilities.

## 3. BACKEND DEVELOPMENT

- involves the server-side logic of a web application. It handles tasks like user authentication, processing data, and managing databases. The backend sends and receives data between the server and the frontend (what the users see).

## 4.) SERVER-SIDE TECHNOLOGIES COMPARISON

\* NODE.JS - known for its speed in handling real-time applications. It uses JavaScript on both the backend and frontend, making development more consistent.

\* PHP - widely used in small-to-medium projects (e.g. WordPress).

It's beginner-friendly, but it may not be as fast as Node.js.

\* Python Django - it's a popular tool for fast development with built-in features. It's highly scalable and easy to use due to Python's simplicity.

## 2.) EMERGING TRENDS IN WEB DEVELOPMENT

\* PROGRESSIVE WEB APPS (PWAs)

- PWAs are websites that act like mobile apps, offering offline access and faster performance.

\* WEBASSEMBLY (WASM)

- allows developers to run high-performance code in the browser.



Each technology interacts with frontend framework through APIs ensuring data is sent and received efficiently.

## 5.) HTML in Web Development

- HTML or Hypertext Markup

Language is the core language used to structure contents on the web. It defines elements like text, images, links, and buttons and works with CSS (for styling) and JavaScript (for interactivity).

## 6.) IMPORTANCE OF SEMANTIC MARKUP IN HTML.

- semantic markup uses meaning-

ful tags like `<article>`, `<header>`, and `<footer>` to describe the content. This improves accessibility because screen readers can better understand the structure of the page. It also enhances SEO (Search Engine Optimization) by helping search engines better index and rank the content.