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Assignment 1

1. How do you optimize the loading time of your web application as a Web Developer?

* Compressing files
* Optimizing images by reducing its size but maintaining their quality
* Implement code splitting to load only what is required at a time on each page
* Monitor performance to identify problems and quickly fix them.
* Enabling browser catching to store static data locally on the user’s device.

1. Explain the role of W3C (World Wide Consortium).

W3C is an international organization that that develop standards and guidelines for the web.

* Through standardization creates and maintains web standards like HTML, CSS, and XML to ensure consistency across browsers and devices
* It ensures that web technologies work seamlessly across different platforms and devices.
* Solves web-related challenges.

1. What are the key responsibilities of Web Developers?

Designing and Developing Website by using HTML, CSS, JS etc.

Backend Development which involves developing the server side, databases, API’s etc.

Frontend development which involve developing interactive websites for user use.

Testing the website to identify potential bugs and fixing errors.

Maintenance which involves updating the website to work in par with current trends and to ensure performance, security and scalability.

1. Discuss the benefits of Web Development to a learning institution

* Web development enables the creation of Learning Management Systems (LMS) for online courses, quizzes, and assignments.
* Online libraries, course materials, and tutorials, enhances access to resources making learning resources accessible anytime, anywhere.
* It helps reduce cost of infrastructure i.e building libraries since all the content are available online.
* It helps improve communication among students,teachers and the school administration.

1. Discuss the web technologies

Frontend Technologies

* HTML (Hypertext markup language) to make the structure of the webpage
* CSS (cascading style sheet ) for styling the webpage
* JavaScript for making the webpage dynamic and interactive
* Libraries i.e. REACT

Backend Technologies

* Programming languages i.e. Python for developing the server side logic.
* API’s to enable communication between frontend and backend.
* Frameworks e.g. Django and PHP for the backend development.

Databases Technologies

* Relational databases such as MySQL for storage of data.

Version control technologies e.g. git and GitHub for code management and collaboration.