

**MULTIMEDIA UNIVERSITY OF KENYA**

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**BACHELOR OF COMPUTER SCIENCE.**

**CCS 222I: WEB DESIGN AND PROGRAMMING I**

### **Assignment 1**

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

- Minimizing and compressing files such as CSS file, JavaScript file and HTML file to reduce their size and hence lead to faster download times
- Optimizing images – compressing images and using modern image formats.
- Using lazy loading – loads images, videos and other resources only when they are needed and hence reduce the load time.
- Enable caching – allowing server side caching and browser caching mechanism to store frequently visited resources and hence reduce the load time for returning visitors.
- Reducing the server response time

#### **2. Explain the role of W3C (World Wide Consortium).**

- W3C develops standards guidelines to ensure the long term growth of the web. They develop and maintain specifications for HTML, CSS and JavaScript and other web technologies ensuring consistency across different web browsers and platforms. W3C works with industry stakeholders and user communities to establish consensus based standard that drive the evolution of the web.

#### **3. What are the key responsibilities of Web Developers?**

- Designing and developing websites.
- Creating responsive and user friendly interfaces that work seamlessly across different devices.
- Implementing best security practices to protect website from vulnerabilities.
- Optimizing website performance by improving load times, minimizing resource usage and optimizing code.
- Testing and debugging to fix issues on the website

#### **4. Discuss the benefits of Web Development to a learning institution**

- Enhanced communication - a well-designed website can serve as a central hub for students, parents and administration to access information and updates and engage with the institution.
- Improved accessibility to learning materials as web based learning materials are accessible to students at any time.
- Enhanced learning experiences - web-based tools and interactive features can enrich teaching and learning experiences, promoting student engagement and collaboration.