Study Guide - Module 2: MSc DS - Web Technologies

# Revision from Last Lecture

1. Module 1 covers computer networks and their significance in the digital landscape.
2. It explores Local Area Networks (LANs) and their role in enabling local communication.
3. The module also discusses Internet Protocol (IP), Transport Layer, and socket programming in networked communication.

# Expected Learning Outcomes

1. Understand the fundamental components and organisation of HTML and investigate the usage of tags to produce structured online content.
2. Develop the skill of web page style by using the force of CSS selectors and attributes for an aesthetically pleasing design.
3. Employ Bootstrap to explore the realm of responsive design, assuring the best viewing and interaction across a range of devices.
4. Develop a simple static website by learning how to improve web pages by using media and interactive aspects.

# Introduction to HTML

* The digital age brought about a paradigm shift in information dissemination through the World Wide Web.
* HTML is the fundamental markup language used for designing and organising web pages.
* HTML tags are used to structure and display content, such as headings and paragraphs, and can be combined with CSS and JavaScript for interactive and multimedia elements.

# Styling with CSS: Selectors and Properties

* CSS is responsible for the visual aesthetics and look of websites.
* Selectors are used to target HTML components and attributes define the desired styling.
* CSS has cascading behavior, allowing developers to establish default styles and modify them as needed.

# Layouts and Responsiveness with Bootstrap

* Bootstrap is a front-end framework that helps create flexible and responsive web layouts.
* The grid system in Bootstrap allows developers to easily specify the layout of content on different screen sizes.
* Bootstrap provides pre-styled components and utility classes that save time and enhance design efficiency.

# Integrating Media and Interactive Elements

* Integration of media and interactive features is important for website evolution and user engagement.
* Media assets enhance visual attractiveness and facilitate user engagement and retention.
* Media assets provide comprehensive and multifaceted context compared to written text alone.

# Building a Simple Static Website

* Static websites consistently display the same material to all viewers.
* Websites are constructed using HTML, CSS, and sometimes JavaScript.
* HTML functions as the foundational framework for webpages, using tags to delineate elements.
* CSS enhances the visual appearance of the website by specifying attributes such as colors and fonts.

# Important Terminologies

**HTML:** The commonly used markup language for the creation of web pages.

**CSS Selectors:** Patterns used to select and style HTML elements.

**Bootstrap:** A front-end framework that facilitates the creation of responsive and mobile-first websites.

**Responsive Design:** Guarantees that online content is visually appealing and operates well across a range of device sizes.

**Media Integration:** The incorporation of visual and auditory components, such as photos, videos, and audio, inside the structure of web pages.

**Static Website:** A website that uniformly presents its content to all visitors, without including any dynamic modifications in response to user input.

# Summary

* Module 2 explores fundamental aspects of web design, starting with HTML and CSS.
* HTML is introduced as the structural core of webpages, with an emphasis on understanding tags and their role in online content.
* CSS is recognised as the influential stylistic component of the internet, and students learn about selectors and properties for customising web components.
* Bootstrap, a widely used front-end framework, is covered to create adaptable designs that look visually appealing on different devices.

THANK YOU