

INTRODUCTION

TO

WEB DEVELOPMENT

OVERVIEW

- What is web Development?
- Web developers Vs Web designers
- How does the web works?
- Why so many browsers?
- Static Vs Dynamic Websites
- Responsive Web Design
- Frontend Vs Backend
- Overview of HTML, CSS and Javascript
- Setting environment for Web Development



WHAT IS **WEB DEVELOPMENT**?

- **Web development** refers to the **building, creating, and maintaining** of websites.
- It includes aspects such as web design, web publishing, web programming, and database management.



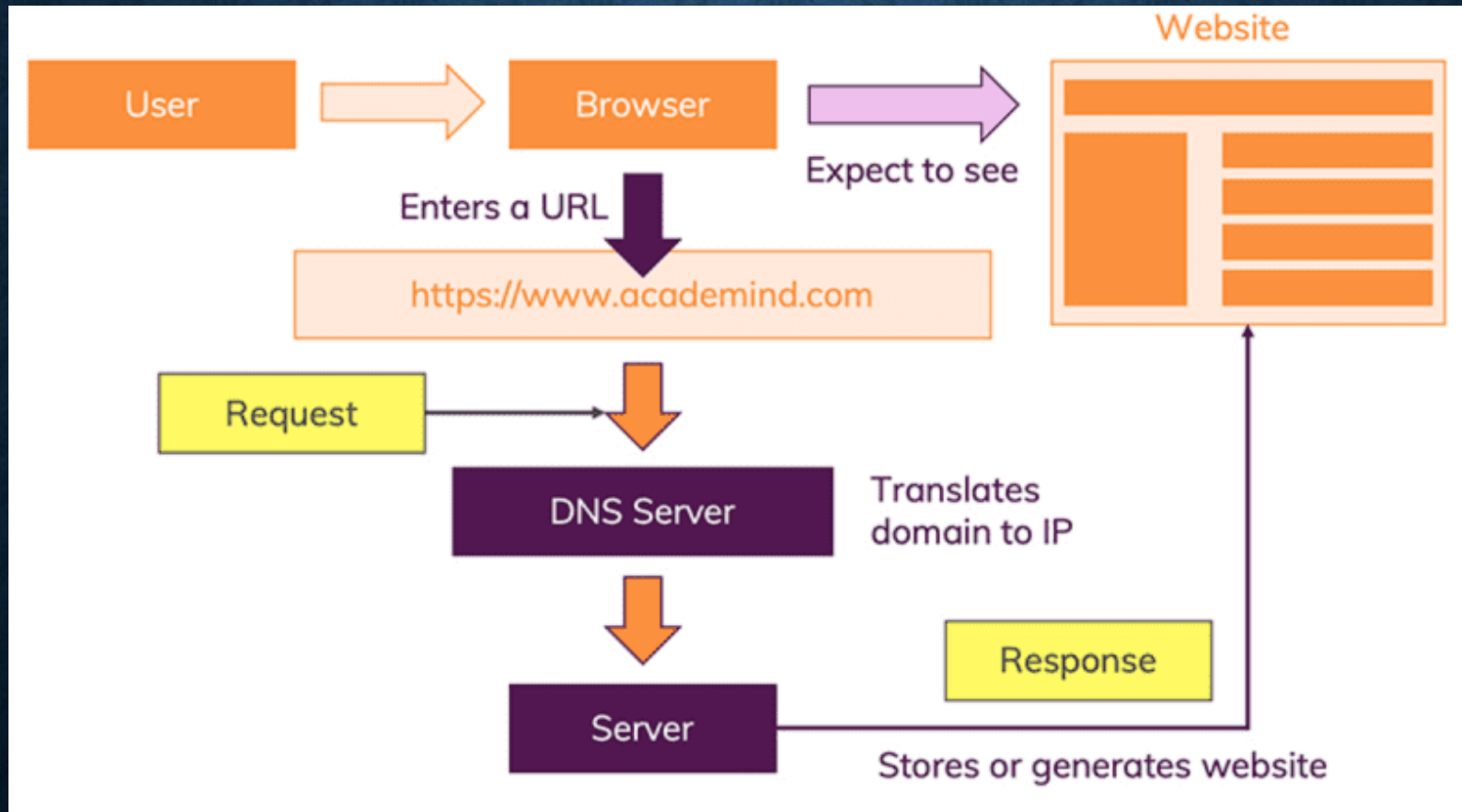
WEB DEVELOPERS **VS** WEB DESIGNERS



HOW DOES THE **WEB** WORKS?

- The browser (or clients) requests and displays information.
- Browser make request of servers, the servers process those requests based on a set of rules (called a protocol).
- On the server, a web server software processes the requests and return information to the client.

HOW DOES THE WEB WORKS ?



WHY SO MANY BROWSERS?

- The original intention behind HTML, is to describe meaning not formatting.
- Every browser adds its own tags.
- Every browser can vary in how it displays data.
(CSS and JS vary on browsers)
- It is nearly impossible to design a webpage that looks exactly same on all browsers.



Tip:

- Whenever you build a website it is advisable to cross-check its functioning on all main famous browsers.

STATIC WEBSITES AND DYNAMIC WEBSITES

- Static Websites:
 - Web pages are returned by the server which are prebuilt source code files built using simple languages such as HTML, CSS, or JavaScript.
 - Web pages are returned by the server with no change and there is no interaction with databases.
- Dynamic Websites:
 - Web pages are returned by the server which are processed during runtime.
 - In dynamic websites updates and interaction with databases are possible.

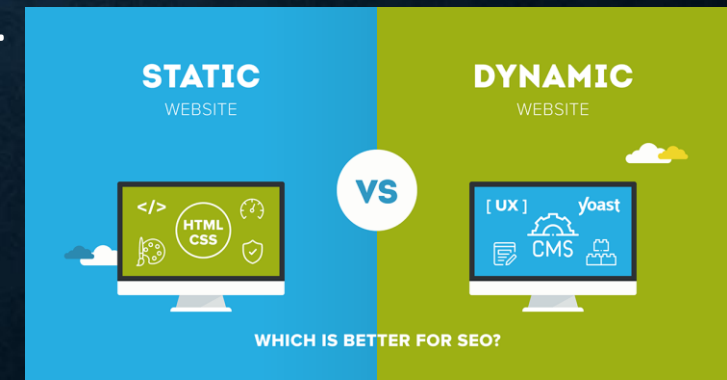
STATIC **VS** DYNAMIC WEBSITES

Static websites

- Content of Web pages can not be change at runtime.
- No interaction with database possible.
- It is faster to load as compared to dynamic website.
- No feature of Content Management.
- HTML, CSS, Javascript is used for developing the website.

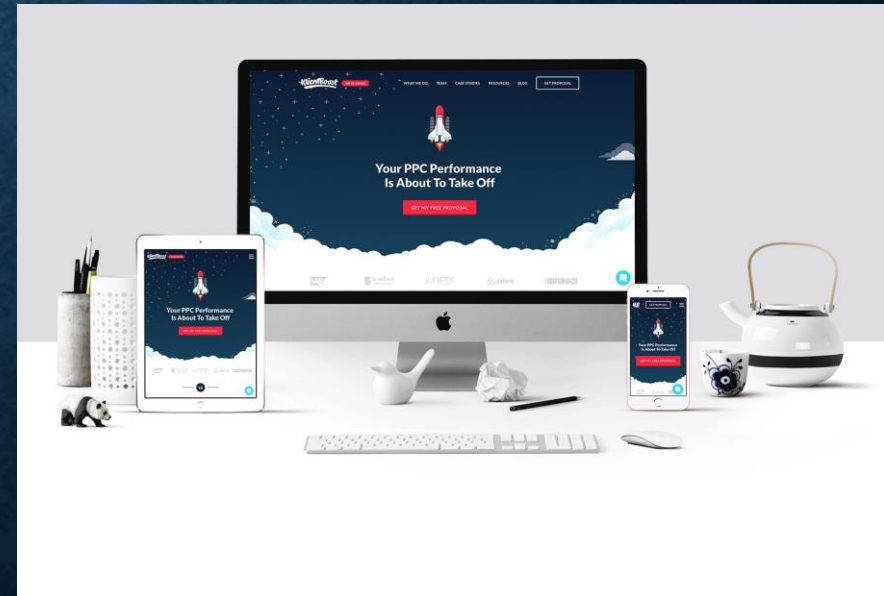
Dynamic websites

- Content of Web pages can be changed.
- Interaction with database is possible
- It is slower then static website.
- Feature of Content Management System.
- Server side languages such as PHP, Node.js are used.



RESPONSIVE WEB DESIGN

- Responsive web design is about creating web pages that look good on all devices.
- A responsive web design will automatically adjust for different screen sizes and viewports.



FRONTEND AND BACKEND

- Web Development can be classified into two ways:
 - [Frontend Development](#)
 - [Backend Development](#)
- Frontend Development:
 - The part of a website that the **user interacts** directly is termed as front end. It is also referred to as the **'client side'** of the application.
- Backend Development:
 - **Backend is the server side of a website.** It is the part of the website that users cannot see and interact. It is the portion of software that does not come in direct contact with the users. It is used to store and arrange data.

FRONTEND **VS** BACKEND



Front End

- Markup and web languages such as HTML, CSS and Javascript
- Asynchronous requests and Ajax
- Specialized web editing software
- Image editing
- Accessibility
- Cross-browser issues
- Search engine optimisation



Back End

- Programming and scripting such as Python, Ruby and/or Perl
- Server architecture
- Database administration
- Scalability
- Security
- Data transformation
- Backup

OVERVIEW OF HTML, CSS AND JS

- **HTML :**
 - **Create the structure**
 - Controls the layout of the content.
 - It is fundamental building block of any web page.
- **CSS:**
 - **Stylize the website**
 - Targets various screen size to make web page responsive
 - Primarily handle the “look and feel” of a web page.
- **JS:**
 - **Increase interactivity**
 - Handles complex functions and features.
 - Programming code which enhances functionality.



OVERVIEW OF HTML, CSS AND JS

HTML



the actual
content of a page

CSS



look of the page
[color, style]

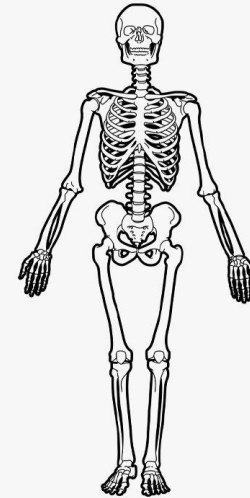
JavaScript



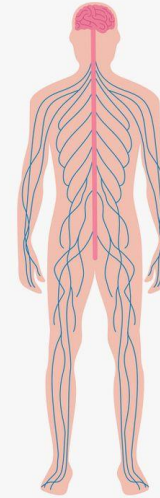
easily control
and alter HTML



Understand this!



HTML



JavaScript



CSS

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Difference between a markup language & programming language ?

- **Markup Language:**

- A language designed to format text.
- A markup language is just interpreted by the browser and not compiled.
- E.g. HTML,XML,XHTML and MML

- **Programming language:**

- It is an set of instructions to the computer to perform.
- The **computer hardware** is responsible to execute an programming language (compiling).
- Few Programming Languages are JAVA,C++,C, and VB