The Difference Between STATIC & DYNAMIC Websites

Lecture Outlines

1. Static Websites.
2. Dynamic Websites.
3. Content Management Systems.
4. Technologies Every Web Developer Should Be Able to Explain.

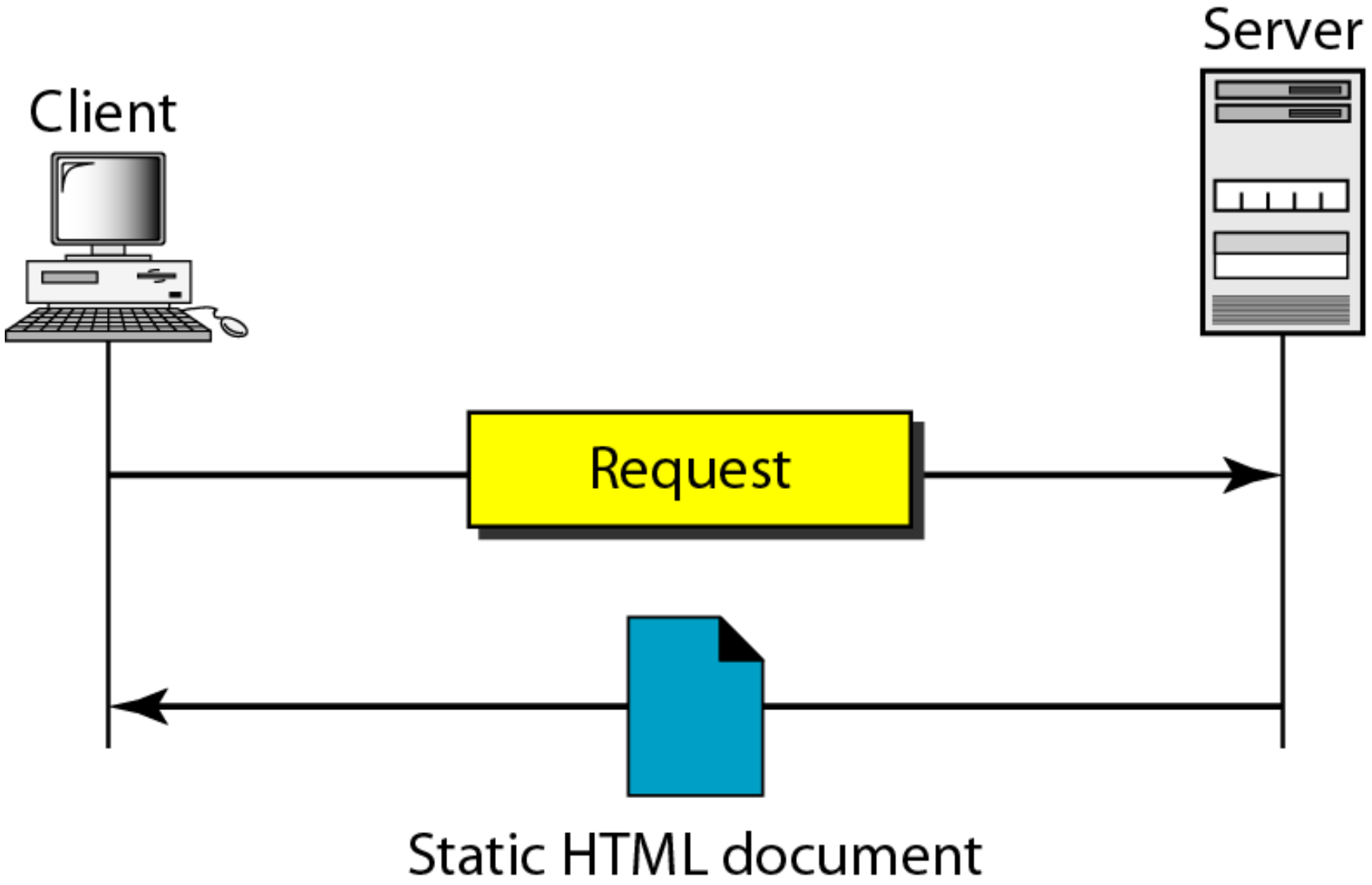
Static Websites

- Any Site that has **fixed** content usually written in html code.
- Every page will have the Code written **separately**, just as you see it on the web.
- Every page has to be saved **separately** on the server.
- Changes have to be made **manually** every time, and you need coding knowledge to make any and all changes.

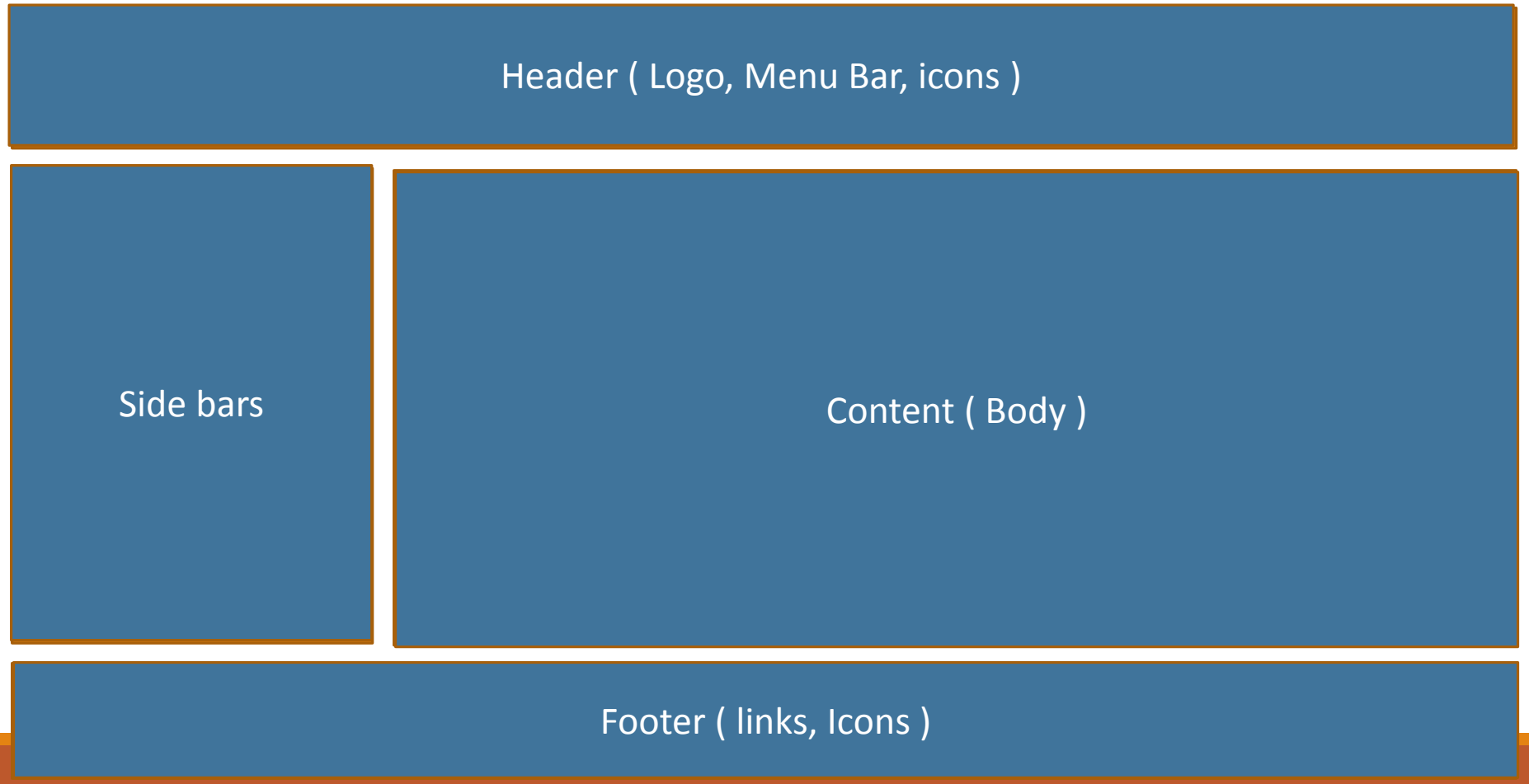
Static Websites

Static Web Page Files are published by *physical transfer*

from the development PC to a Web Hosting Computer


Server
Client
Request
Static HTML document

Static Websites
Website Structure



Advantages & Disadvantages of STATIC Websites

ADVANTAGES (PROS)

Easy to develop

Cheap to develop

Cheap to host

DISADVANTAGES (CONS)

Requires web development expertise to update site

Changes and updates are very time consuming

Site not as useful for the user

Content can get stagnant

OUT OF DATE!! → **YOU ARE A DINOSAUR**

DYNAMIC WEBSITE

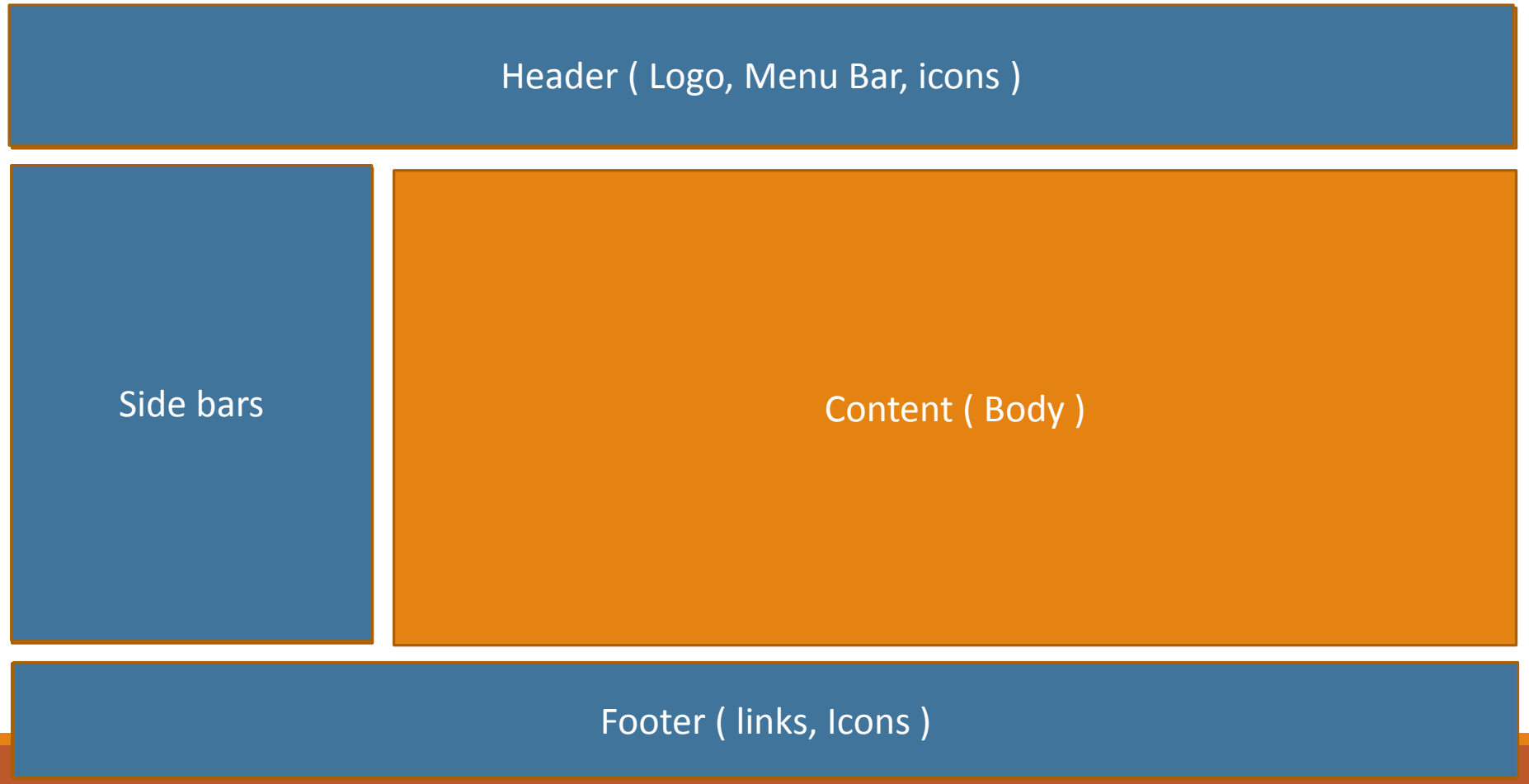
A site whose construction is controlled by an application server processed by server-side scripts.

1. Pages of the **website are not coded and saved separately**.
2. The design/template (look and feel) is saved separately.
3. Corresponding content are saved separately.
4. The pages are dynamically populated every time.

DYNAMIC WEBSITE

- Employ **Dynamic pages** that exist as files with extensions based on the type of programming used.
- .jsp , .cfm, .pl, .php, .asp, .aspx
- Information that is already maintained within company I.T. Systems such as Databases, Spreadsheets, and text files can be leveraged as Web Content.
- Pages can provide Create, Retrieve, Update, and Delete functions for company records

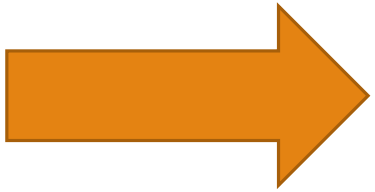
Website Structure

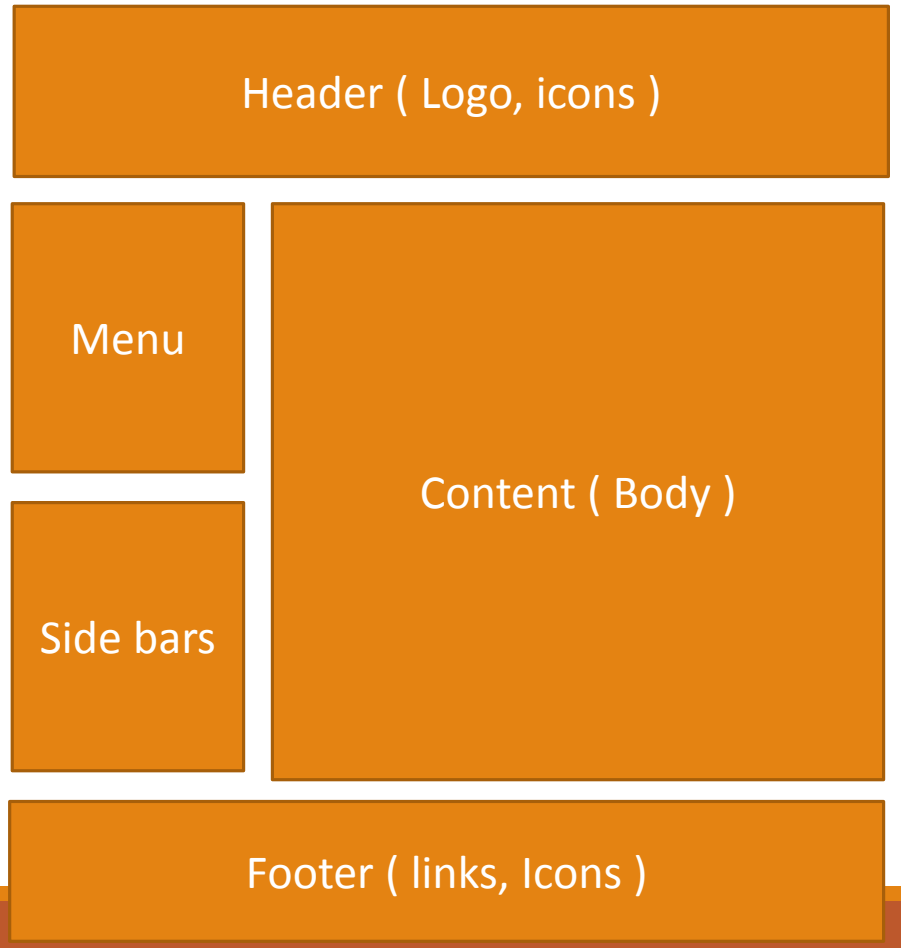


A DYNAMIC Website Structure

A request to view a page will Dynamically populate the different sections of the site according to a template file

- Header
- Menu
- Content
- Side bars
- Footer





Dynamic Websites
Content Management Systems

Web Content Management System (WCMS)

A web content management (WCM) system is a CMS designed to simplify the publication of Web content to Web sites, in particular allowing content creators to submit content without requiring technical knowledge of HTML or the uploading of files.

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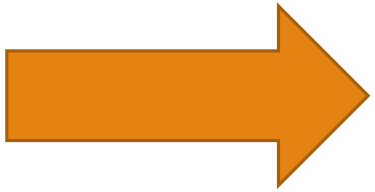
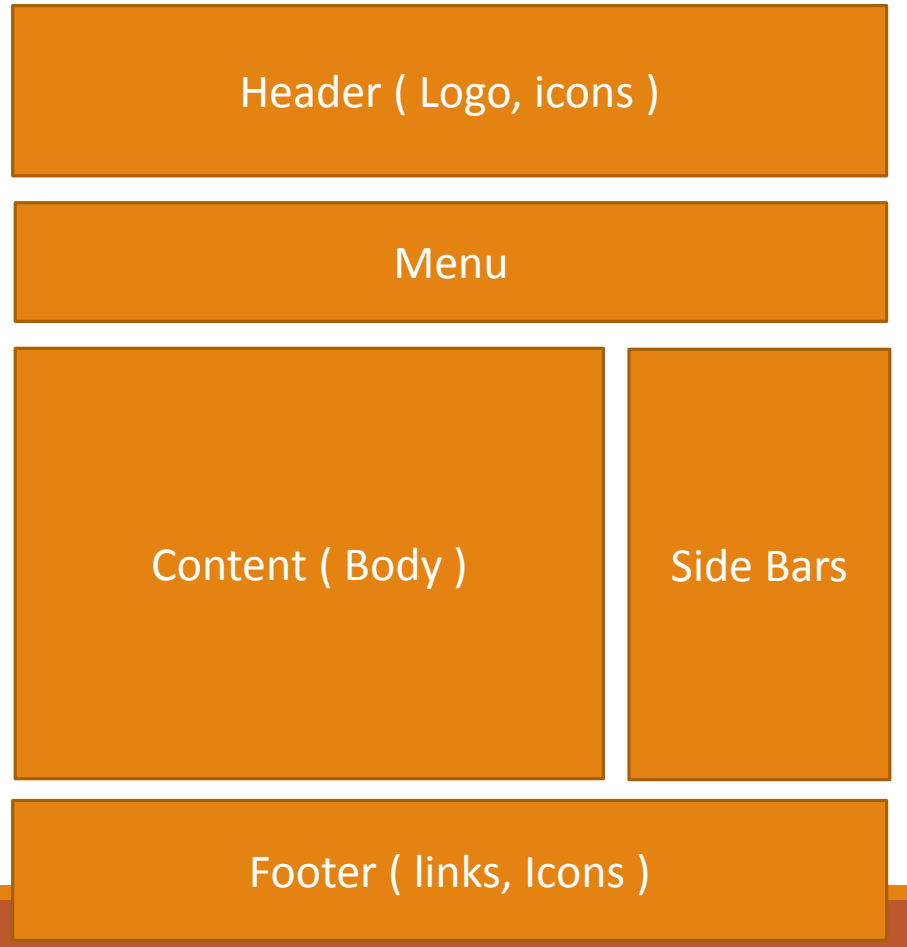




Advantages & Disadvantages of DYNAMIC websites

ADVANTAGES (PROS)

Much more functional website

Much easier to update

Much Easier to add new content/pages

New content brings people back to the site and helps in the search engines

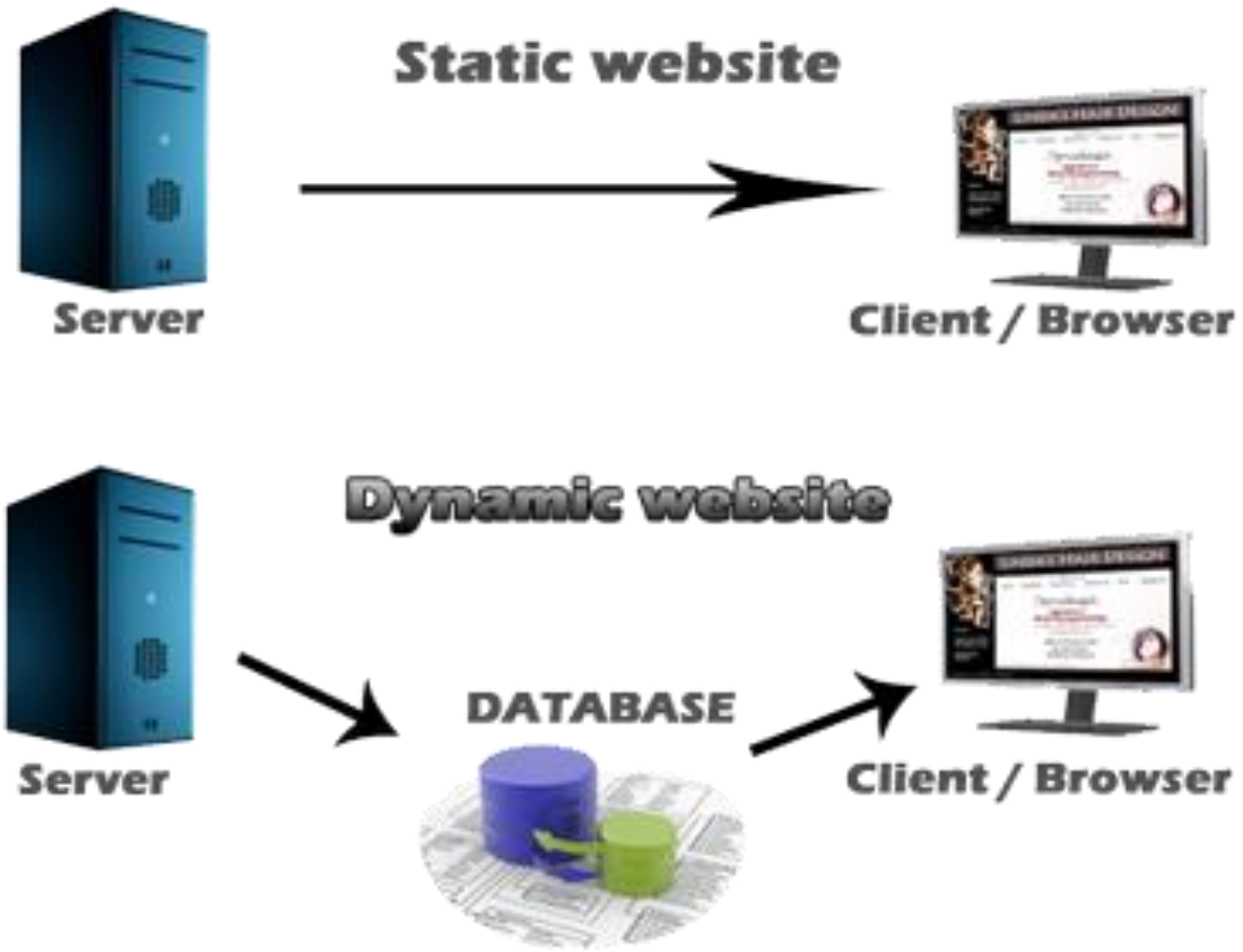
Can work as a system to allow staff or users to collaborate

DISADVANTAGES (CONS)

More **expensive** to develop

Slower to develop

Hosting costs a little more (This might not be true now, because of great shared web hosting plans these days)


Static website
Server
Client / Browser
Dynamic website
Server
DATABASE
Client / Browser

Is Static Right for Your Organization

Static websites are a better choice when you:

- ❑ are limited in **budget** and are starting with a core web presence
- ❑ are dealing with 20 pages or less
- ❑ are planning to add new pages occasionally
- ❑ are assigning maintenance to a provider or have skilled staff and proper software
- ❑ need of portable, physical web page files

Is Dynamic Right for Your Organization

Dynamic websites are a better choice when you:

- need **custom programming** to accommodate your unique business needs
- need pages that must **pull information** from sources external to the website proper
- need to be able to **easily add and edit** web pages (Content) from within a browser

Is Dynamic Right for Your Organization

Dynamic websites are a better choice when you:

- need web pages that will display and update records from your information systems
- need to give one or more staff members access to edit the site
- need convenient access to setup common **interactive features** such as Article Publishing, Event Calendaring, Blogs, Secure Login, Ecommerce, and others.

Technologies Every Web Developer Should Be Able to Explain

Browsers

HTML

CSS

Programming Languages

Frameworks

Libraries

Databases

Client (or Client-side)

Server (or Server-side)

Front-end

Back-end

Protocols

API

Data formats

Browsers

Browsers are the interpreters of the web.

They request information and then when they receive it.

- **Google Chrome** - Currently, the most popular browser brought to you by Google
- **Safari** - Apple's web browser
- **Firefox** - Open-source browser supported by the Mozilla Foundation
- **Internet Explorer** - Microsoft's browser. web developers **complain** about this one.

HTML

HyperText Markup Language

HTML is a markup language.

It is the standard markup language for creating web pages and web applications.

It provides structure of a website so that web browsers know what to show.

CSS

```
h1 { color: white;
  background: orange;
  border: 1px solid bla
  padding: 0 0 0 0;
  font-weight: bold;
}
/* begin: seaside-theme */

body {
  background-color:white;
  color:black;
  font-family:Arial,sans-serif;
  margin: 0 4px 0 0;
  border: 12px solid;
}
```

CSS

Cascading Style Sheet

CSS is a style sheet language used for **describing the presentation** of a document written in a markup language.

It let’s web designers change colors, fonts, animations, and transitions on the web.

They make the web look good.

Programming Languages

Programming languages are ways to communicate to computers and tell them what to do.

Server Side:-

- ASP.NET
- PHP
- JSP
- Ruby

Client Side:-

- Javascript

Frameworks

Frameworks are built to make building and working with programming languages **easier**.

Take all the **difficult**, **repetitive** tasks in setting up a new web application and either do them for you or make them very easy for you to do.

- Drupal
- Wordpress
- Node.js

Databases

Databases are where all your data is stored.

Databases come mainly in two flavors: SQL and NoSQL.

SQL provides more structure which helps with making sure all the data is correct and validated.

- MySQL
- Oracle
- SQL Server

NoSQL provides a lot of flexibility for building and maintaining applications.

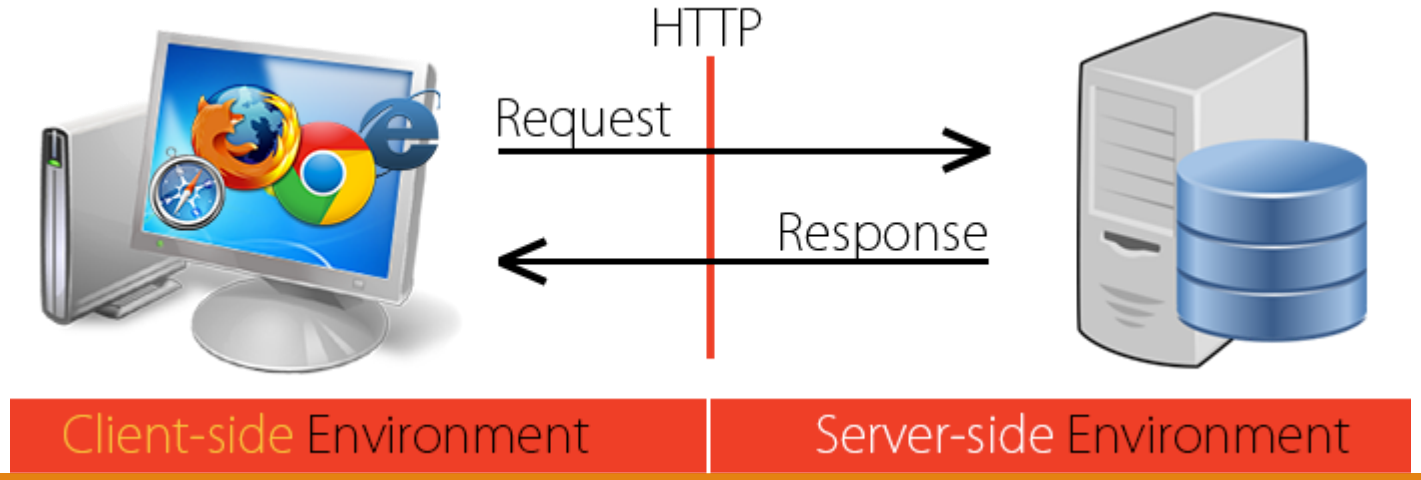
- MongoDB

Client (or Client-side)

A client is one user of an application.

Client's can be desktop computers, tablets, or mobile devices.

There are typically multiple clients interacting with the same application stored on a server.

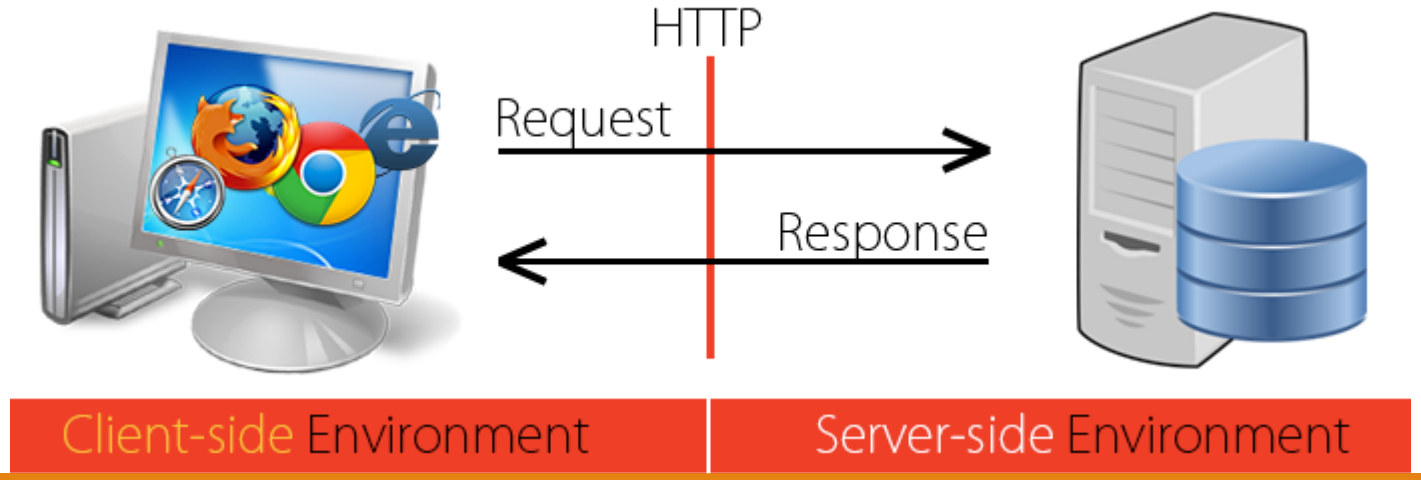


Server (or Server-side)

Server is where the application code is typically stored.

Requests are made to the server from clients

The server will gather the appropriate information and respond to those requests.



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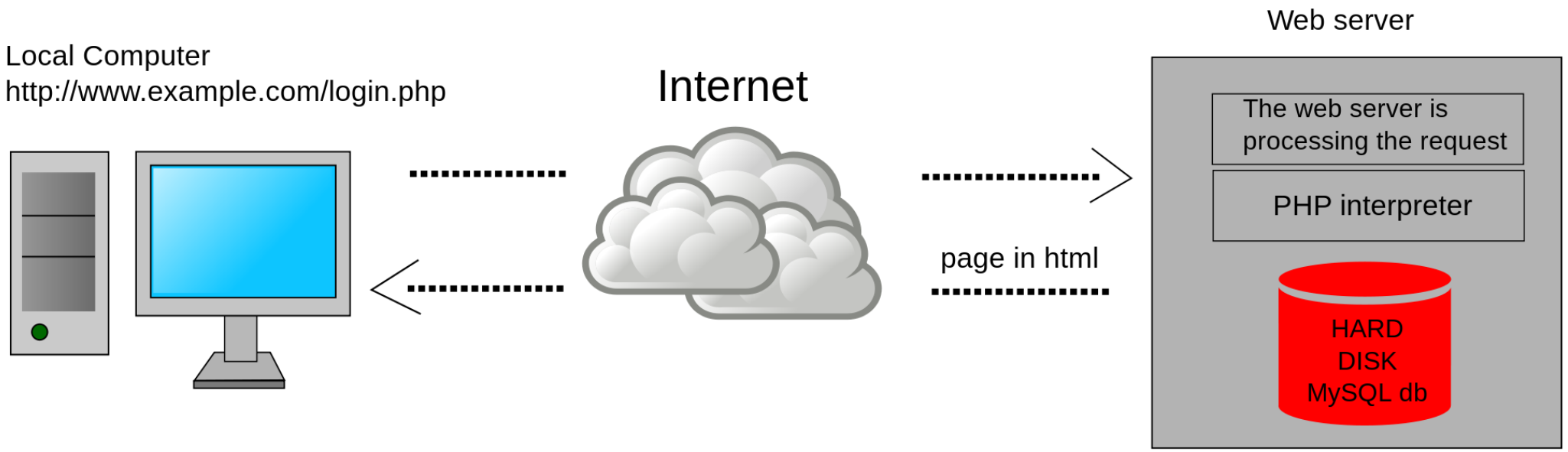

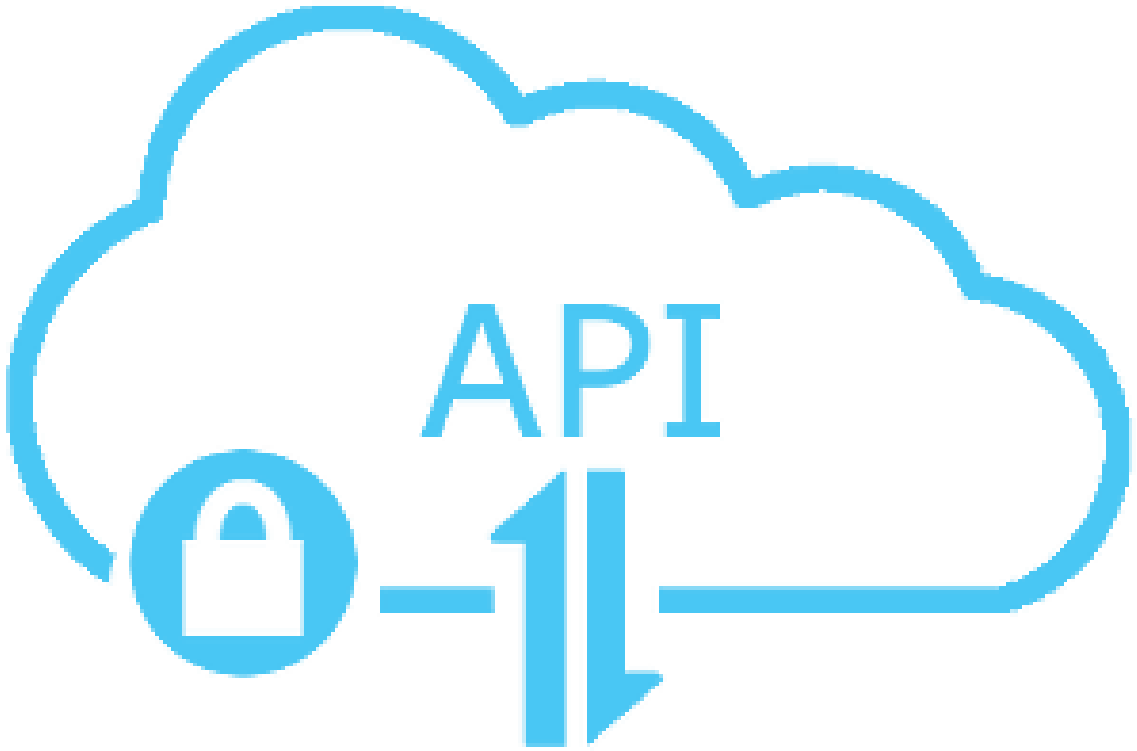

API

It is created by the developer of an application to allow other developers to use some of the applications functionality **without** sharing code.

Examples of good API's are those created by Facebook, Twitter, and Google for their web services.

Data formats

Data formats are the structure of how data is stored.

XML

Json

CSV

CSS
PHP
HTML
Web
Development
XML
My
SQL