

# Dynamic Web



Servers, Clients, Protocols

# **The Whole Point of this Course...**

Being able to answer these questions will make your entire experience in this class easier.

## **We will discuss:**

What a server is,

What a browser is, and

What a protocol is.

# What is a server?

Software on a computer.

That software is usually running on another computer, far away from you.

That software has rules and expectations.

That software will exchange information (data) if you give it information (data).

# What is a browser?

Software on a computer.

Software that runs software while running inside of software running inside of software.

*Webpage -> Browser -> Operating System -> CPU/GPU/Bios*

# What is a protocol?

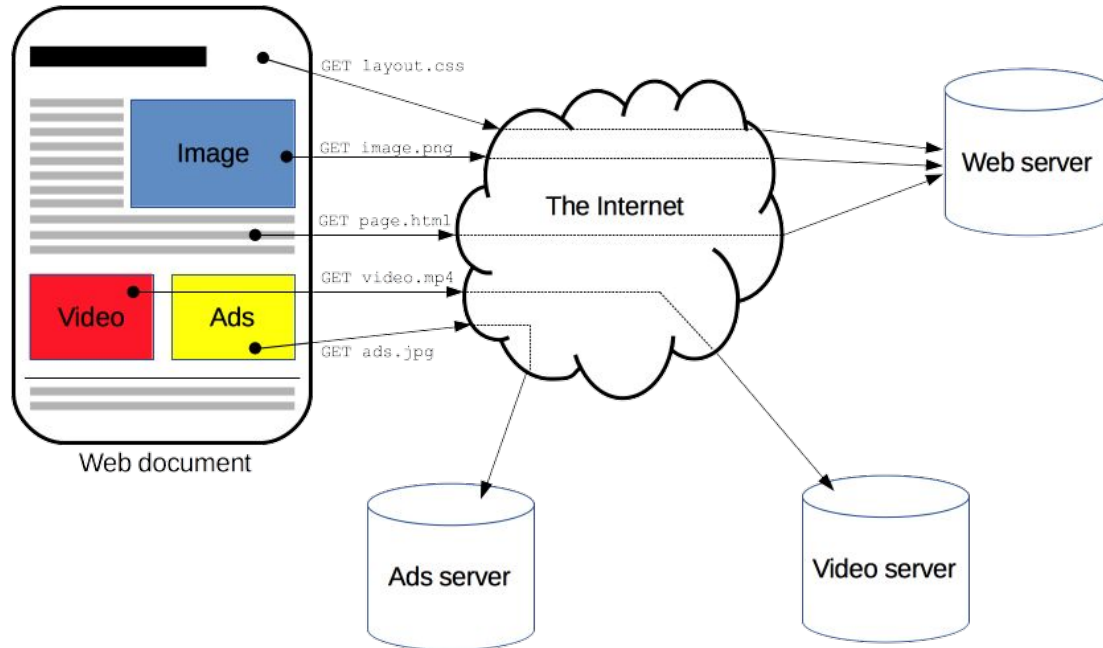
The **rules** that allow two computers to “talk” to one another - using software.

The **rules** portion is key.

A protocol is simply a set of rules - knowing the rules and having the correct values to satisfy the rules allows you to use the protocol to let software communicate.

# Have I used a protocol before?

Yes. Today even. You used this one, I am sure.



# How does a protocol work?

1. **Client** (Browser) sends **data** to a **server**.
2. This **data** includes information about what it wants from the **server**.
3. The **server** receives the **data** and then sends **data** to the **client**.
4. The **client** now has the **data** it wanted and can do something with it.

# Why does this matter?

**Servers** can do a lot of interesting things:

1. Send a website and its content.
2. Compute complex problems and return the results.
3. Save information for later.
4. Anything you want it to do - so long as you possess the means to write the instructions (code).



# What about browsers?

Browsers are not necessarily optimal software environments, however...

1. Programming in a browser provides a lot of opportunity to learn... more than we could cover in 100 classes.
2. Everyone has a browser.
3. Everyone knows how to use a browser.
4. But, browsers also have rules, lots of them.

# How do browsers work?

1. What languages do browsers accept?
2. What protocol does a browser rely heavily on?
3. Name one good website. Why?
4. What purpose does HTML serve in a browser?
5. What purpose does CSS serve in a browser?
6. What purpose does JavaScript serve in a browser?
7. How many different browsers are there? Why so many?

# How do browsers differ from apps?

What are the major differences?

How are they the same?

Why are we learning about the browser based web in this course?

- Fundamentals?
- Commonalities?

# Why should I care?

Are these good or bad?

1. Connectivity to billions of devices and people
2. Ability to modify the world and reality remotely
3. Ability to express ideas - creative or otherwise.
4. Create communities, create connections, and create memories
5. Perform tasks people cannot.

# In this class we will...

1. Learn how to set up and give commands to servers.
2. Learn how to get a server to talk to a client (browser).
3. Display server processed data to a client.
4. Do this in new ways, think about how this simple structure can be applied to a multitude of situations.
5. Ideally pick up some skills - and you can do what you will with those skills.
6. Create something cool?