A large red square with a white border, centered on a white background. Inside the square, the text "Introduction to Web Concepts & Technologies" is written in white, bold, sans-serif font.

Introduction to Web Concepts & Technologies

What to Expect

This is an introduction to a very broad topic

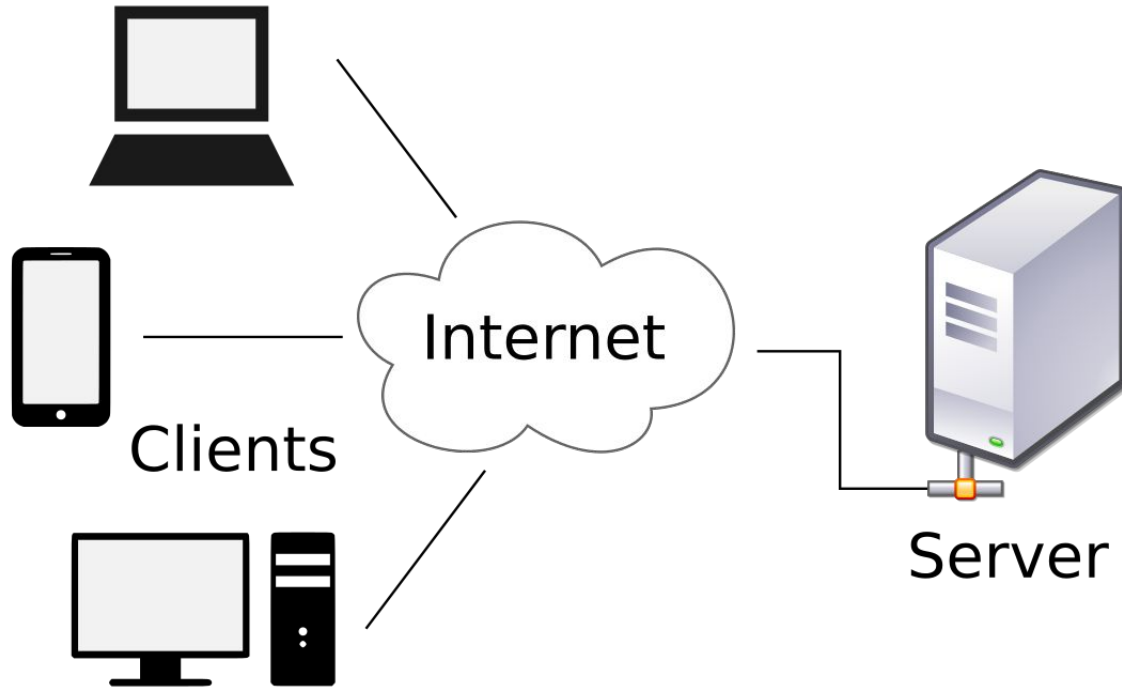
This should give you a sense of what you will learn in this course

Try to figure out what you want to know more about

I don't know everything, and neither will you

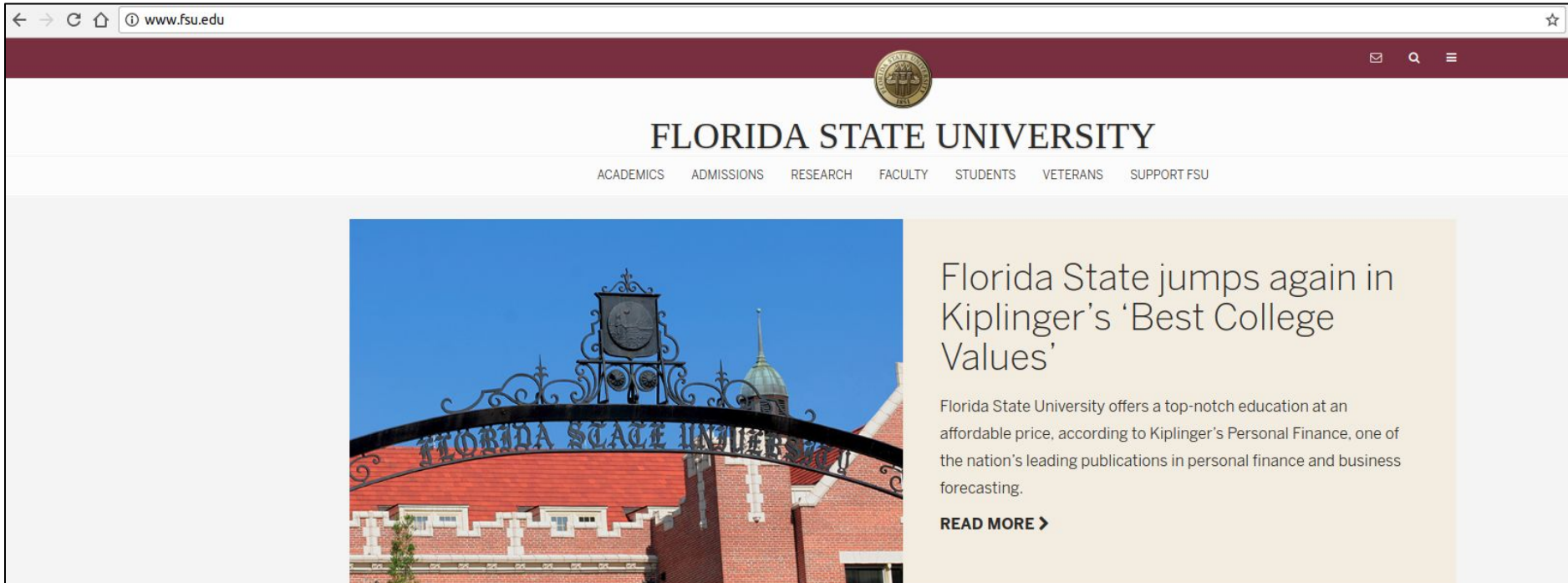
Have fun! (and ask lots of questions)

What is the World Wide Web



How Does the Web Work

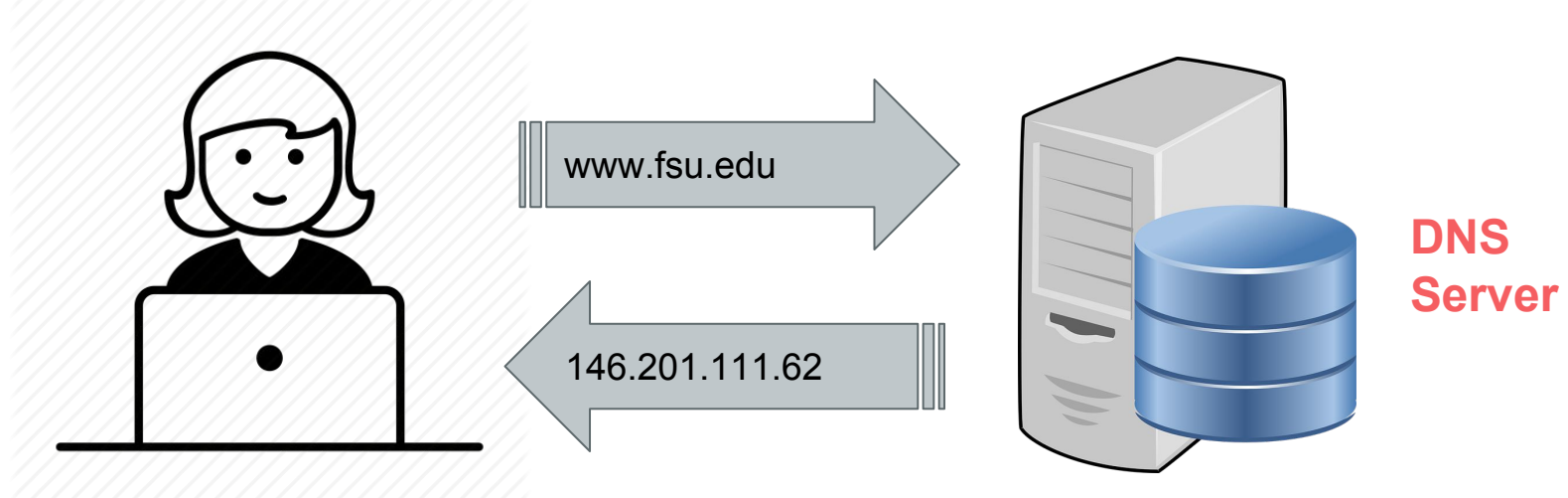
1. You type an address(URL) in a browser address bar



The screenshot shows a web browser window with the address bar containing "www.fsu.edu". The website header features the Florida State University logo and the text "FLORIDA STATE UNIVERSITY". Below the header is a navigation menu with links for ACADEMICS, ADMISSIONS, RESEARCH, FACULTY, STUDENTS, VETERANS, and SUPPORT FSU. The main content area displays a news article with a photograph of the Florida State University archway. The article title is "Florida State jumps again in Kiplinger's 'Best College Values'" and the text states: "Florida State University offers a top-notch education at an affordable price, according to Kiplinger's Personal Finance, one of the nation's leading publications in personal finance and business forecasting." A "READ MORE" link with a right-pointing arrow is located at the bottom of the article.

How Does the Web Work

2. Your computer(client) performs a DNS lookup
 - Each website has a unique code, called an IP address, like a phone number.
 - DNS, or Domain Name Servers, are like phone books.
 - The DNS servers will connect you to the right server.



How Does the Web Work

3. Your computer uses the IP address to find the web server and requests a page.



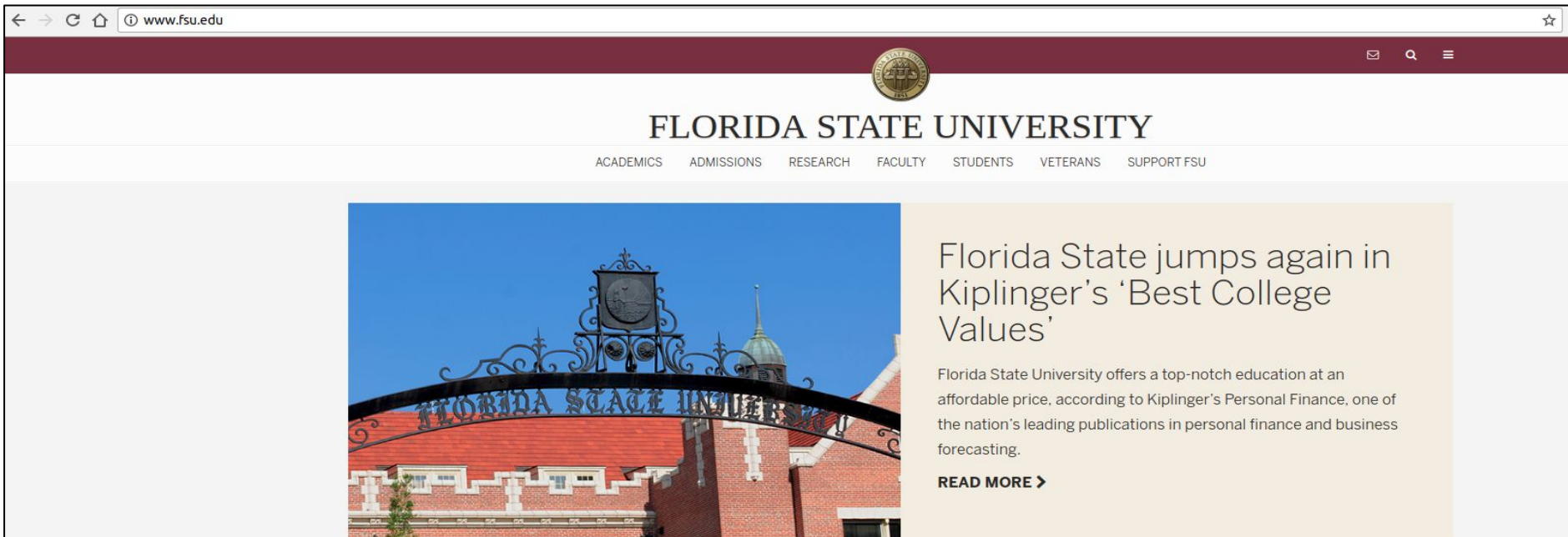
How Does the Web Work

4. The server processes your request and responds:
 - The requested document is unavailable
 - Redirect the client to another web page
 - Respond with content from a file
 - Run a program that decides what content to respond with

The response typically includes some HTML and CSS with some Javascript and potentially some media files.

How Does the Web Work

5. Your browser displays the page by interpreting the response code and assembling different files. Each browser may do this slightly differently.



The screenshot shows a web browser window with the address bar displaying "www.fsu.edu". The website header is maroon with the Florida State University seal in the center. Below the seal, the text "FLORIDA STATE UNIVERSITY" is displayed in a serif font. A navigation menu includes links for "ACADEMICS", "ADMISSIONS", "RESEARCH", "FACULTY", "STUDENTS", "VETERANS", and "SUPPORT FSU". The main content area features a large image of the Florida State University archway on the left. To the right of the image is a news article titled "Florida State jumps again in Kiplinger's 'Best College Values'". The article text states: "Florida State University offers a top-notch education at an affordable price, according to Kiplinger's Personal Finance, one of the nation's leading publications in personal finance and business forecasting." Below the text is a "READ MORE" link with a right-pointing arrow.

www.fsu.edu

FLORIDA STATE UNIVERSITY

ACADEMICS ADMISSIONS RESEARCH FACULTY STUDENTS VETERANS SUPPORT FSU

Florida State jumps again in Kiplinger's 'Best College Values'

Florida State University offers a top-notch education at an affordable price, according to Kiplinger's Personal Finance, one of the nation's leading publications in personal finance and business forecasting.

[READ MORE >](#)

Client-Side

Stuff happening on your computer independently of the server

Browser,HTML,CSS

Also called front-end

Server-Side

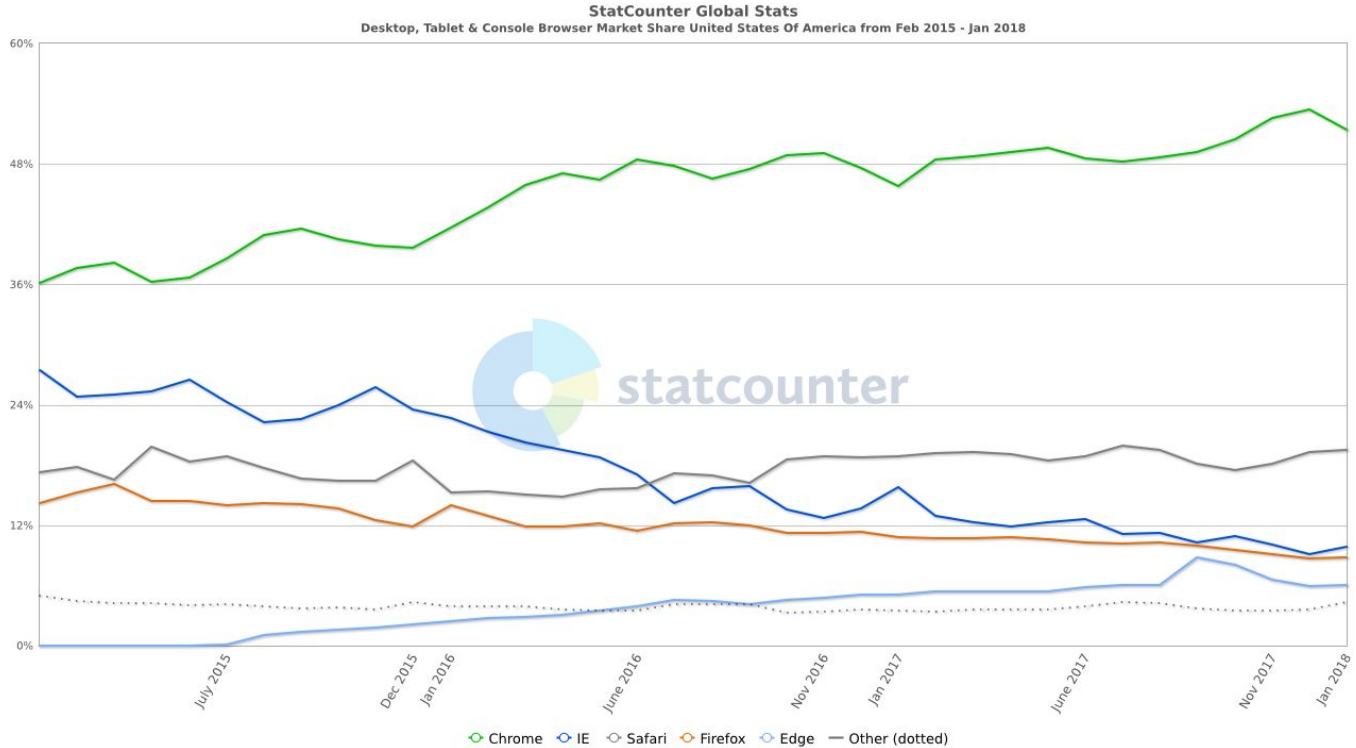
Requests being fulfilled by a server

DNS,API,CMS ...

Also called back-end

Client-Side Technology

Browsers



HTML

HTML (HyperText Markup Language) is a special type of computer language called a markup language designed to specify the content and structure of web pages (also called documents) in a portable manner.

HTML5, is the latest version of HTML.

```
<ul>
<li><a href="/wiki/Cascading_Style_Sheets" title="Cascading Style Sheets">CSS</a></li>
</ul>
</li>
<li><a href="/wiki/Font_family_(HTML)" title="Font family (HTML)">Font family</a></li>
<li><a href="/wiki/Web_colors" title="Web colors">Web colors</a></li>
<li><a href="/wiki/HTML_scripting" title="HTML scripting">HTML scripting</a></li>
<li><a href="/wiki/JavaScript" title="JavaScript">JavaScript</a>
```

Cascading Style Sheets (CSS)

Although HTML5 provides some capabilities for controlling a document's presentation, it's better not to mix presentation with content.

Cascading Style Sheets (CSS) are used to specify the presentation, or styling, of elements on a web page (e.g., fonts, spacing, sizes, colors, positioning).

CSS was designed to style portable web pages independently of their content and structure. By separating page styling from page content and structure, you can easily change the look and feel of the pages on an entire website, or a portion of a website, simply by swapping out one style sheet for another.

CSS3 is the current version of CSS under development.

Javascript

JavaScript helps you build dynamic web pages (i.e., pages that can be modified “on the fly” in response to events, such as user input, time changes and more) and computer applications.

JavaScript is a portable scripting language. Programs written in JavaScript can run in web browsers across a wide range of devices.

Server-Side Technology

PHP

PHP is a server-side scripting language specifically designed for Web applications

A requested document that includes PHP code is preprocessed to interpret the PHP code and insert its output into the HTML document. The browser never sees the embedded PHP code and is not aware that a requested document originally included such code.

PHP provides support for many database management systems.

MYSQL

MYSQL is an open-source relational database management system

Relational database management systems are primarily used to store data organized into one or more tables (or "relations") of columns and rows, with a unique key identifying each row

MYSQL uses SQL (Structured Query Language) for querying and maintaining the database.

Building a Website

Considerations before building

- What is the purpose of the site?
- Domain name registration
- Hosting (choices may depend on supported server-side tech)
- Whether to build it yourself or hire someone

Building a Website(Over-simplified)

- Strategy is defined (Who is the audience? What are you giving them?)
- User Experience (UX) & Information Architecture are designed (How will the user do the tasks we want them to do?)
- Beautiful, on-strategy designs are crafted
- Development ensues
- Quality Assurance (QA) Testing is completed
- The website is launched