

# ANATOMY OF THE WEB

# AGENDA

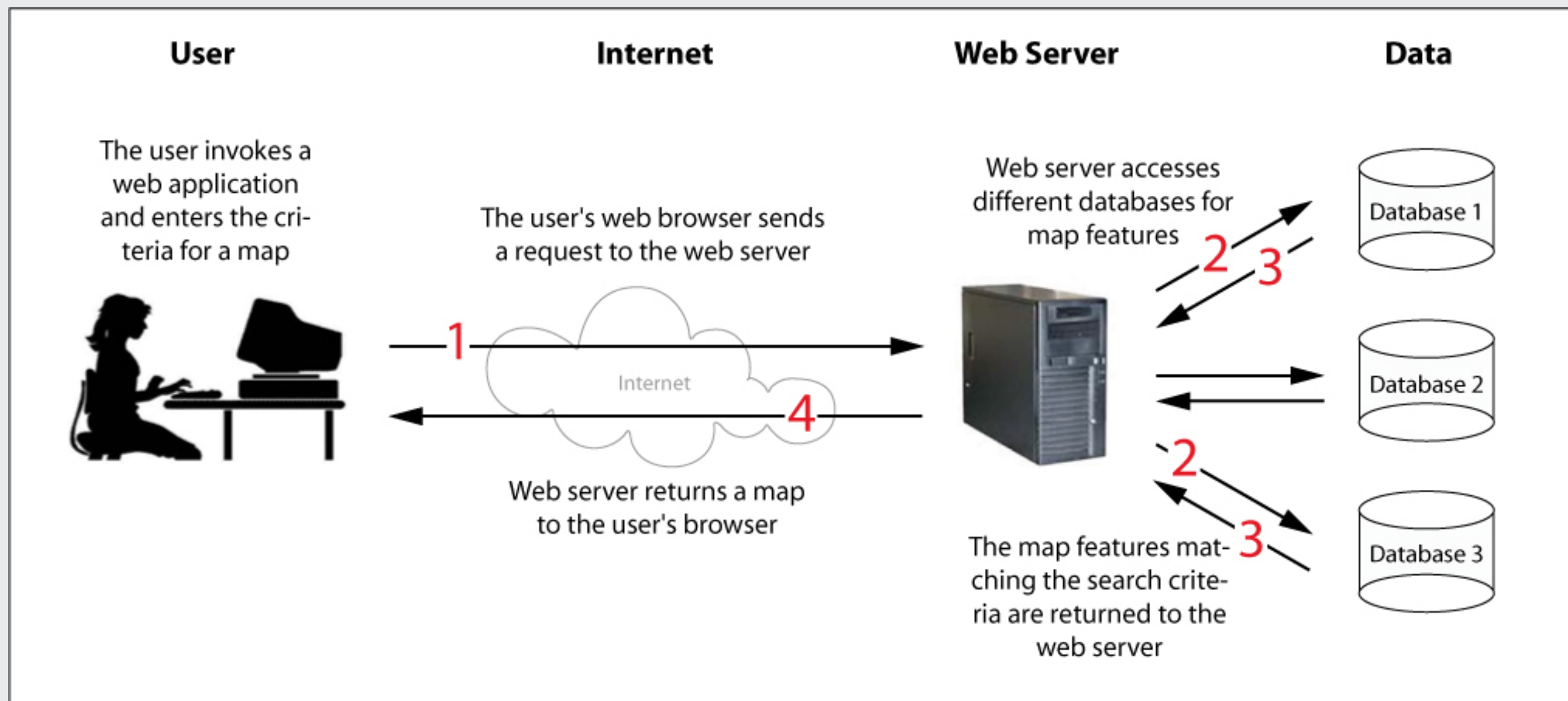
- Weekly Class Summaries
- How does the web work?
- Web Components
- Homework Due
- Class Folder
- Working with GitHub

# INTERESTING FACTS

- Over to 1.2 billion websites
- Invented by Sir Tim Berners-Lee in 1989 at CERN
- <http://info.cern.ch/>
- <http://web.archive.org/web/19961220154510/http://www.yahoo.com/>
- W3C, the governing body that sets standards

HOW DOES THE  
WEB WORK?

# HOW DOES THE WEB WORK?



# COMPONENTS

## Cheesecake Factory

- Mall / Complex
- Building
- Building No.
- Food
- Menu
- Menu Items
- Chef / Servers
- Health / Safety Inspectors

## Web

- Internet
- World Wide Web (Web)
- Internet Protocol (IP) Address
- Hypertext documents
- Browser
- Uniform Resource Locator (URL)
- Web-server / Developers
- W3C

# COMPONENTS

- **Internet aka Inter-network**

Global Communication network that allows almost all computers worldwide to connect and exchange information. Became feasible with development of the TCP/IP protocol for packet switched network traffic.

- **World Wide Web (Web)**

This is a byproduct of the Internet. The Web is a system of extensively interlinked hypertext documents. Invented in 1989 by Sir Tim Berners-Lee at CERN.

- **Hypertext documents**

It is a type of document that has 'links' to other texts. All webpages are hypertext documents that are written in HTML.

- **World Wide Web Consortium (W3C)**

- **Internet Protocol (IP) Address**

- **Browser**

- **Uniform Resource Locator (URL)**

- **Webserver**

# BROWSERS

- Browsers are web clients / send requests
- Type of Browsers
  - Command-line browser
  - Graphical Interface browser
- What purpose do they serve?
- Browser Engines



# WEB SERVER

- What is it?

Software that responds to browser requests

- What does it do?

Listens on a server port for HTTP requests

- Examples

Apache, IIS, Nginx, TomCat

# HTTP

## Hypertext Transfer Protocol

- HTTP Requests
  - What does the request need to have?
- Web Server
  - Handle HTTP requests
  - Creates and sends a HTTP response
- HTTP Response
  - Status Codes (2xx, 3xx, 4xx, 5xx)
  - Header
  - Body

# MORE COMPONENTS

- URL `http://google.com`
- Protocol `https://maps.google.com`
- Host name / IP Address `google.com, 192.168.0.0`
- Port `https://maps.google.com:8080`
- Top-level-domain `.com, .net, .edu, .co.uk, etc.`
- Sub-domain `http://its.syr.edu/visitors/visitors-future.html`

# IP ADDRESS

- What is your IP address?
- 128.230.74.20
- Special Addresses
  - 127.0.0.1
  - localhost
  - 192.168.x.x
- Host Names
  - DNS

400 Ostrom Ave  
Syracuse, NY 13210

**My Office Address**

**43.038161, -76.134894**

# PACKET ROUTING

**David Talley**  
**400 Ostrom Ave**  
**Syracuse, NY 13210**

**Asha Prakash**  
**123 Some St**  
**Aurora, IL 60503**

SUMMARIZE TODAY'S CLASS

# HTML

Next Class