

ANATOMY OF THE WEB

AGENDA

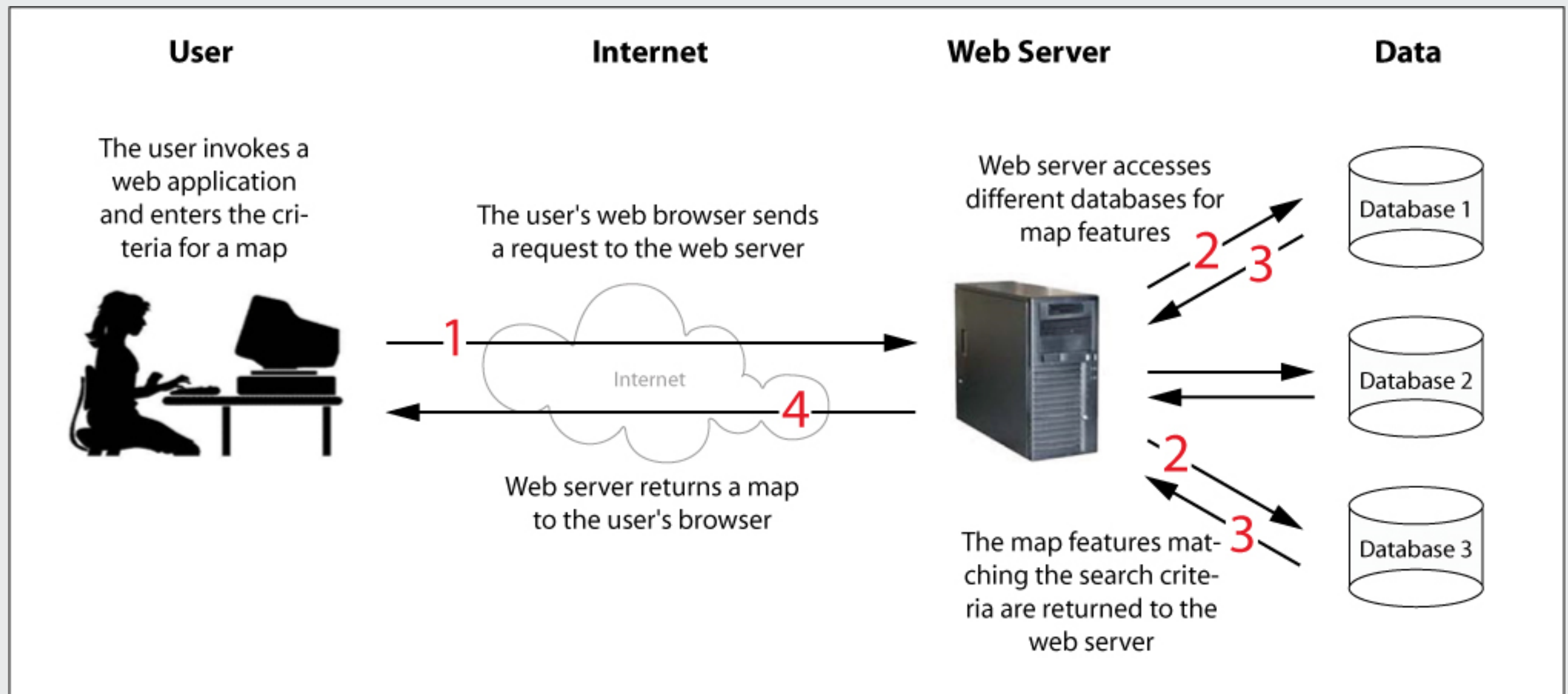
- Weekly Class Summaries
- How does the web work?
- Web Components
- Homework Due
- Class Folder
- Working with GitHub

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](http://example.com), [.net](http://example.net), [.org](http://example.org), [.edu](http://example.edu), [.co.uk](http://example.co.uk), etc.
- Sub-domain [http://its.syr.edu/visitors/visitors-future.html](http://<u>its</u>.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

An Office Address

43.038161, -76.1334084

PACKET ROUTING

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SUMMARIZE TODAY'S CLASS

HTML

Next Class