ANATOMY OF THE WEB

AGENDA

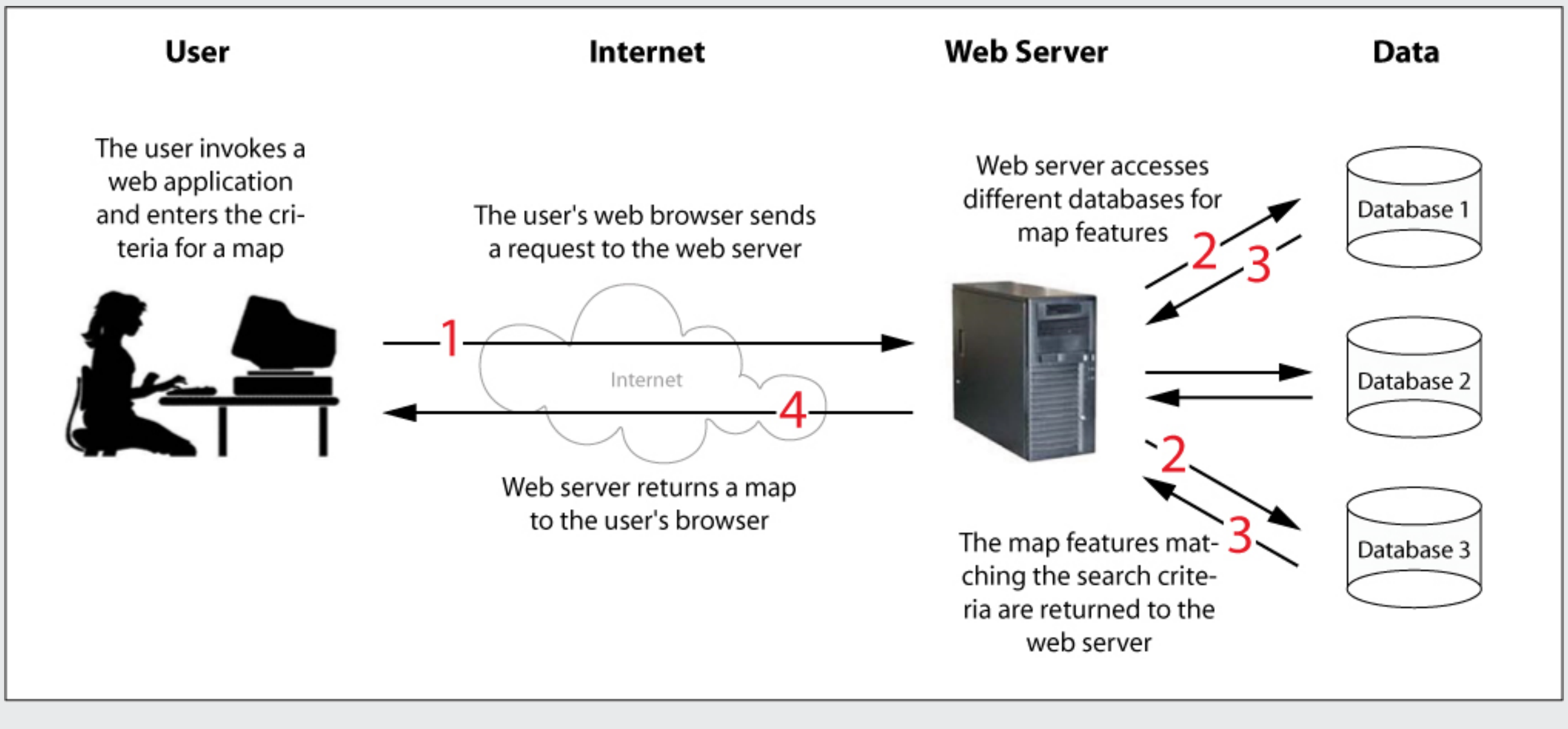
- Weekly Class Summaries
- How does the web work?
- Web Components
- Homework Due
- Class Folder
- Working with GitHub

INTERESTING FACTS

- Over 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, .org, .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

An Office Address

43.038161, -76.1334084

PACKET ROUTING

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123 Some St
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SUMMARIZE TODAY'S CLASS

HTML

Next Class