

ECS 10

3/6

Midterm MC questions

- 2,7,8

What is the difference between the internet and the Web?

Internet

- The physical network connecting our computers, and the protocol connecting them.
- Email goes over the internet, Skype goes over the internet, phone apps go over the internet, and the Web goes over the internet.

World-Wide Web

- Two programs: Web browser and Web server.

The diagram illustrates the interaction between a server and a client through the internet. On the left, a server rack is labeled 'SERVER(web server)'. In the center, a globe icon is labeled 'NETWORK (Internet)'. On the right, a Firefox browser window is labeled 'CLIENT(Firefox)'. Arrows indicate the flow of data: one arrow points from the client to the network, another from the network to the server, and a third from the server back to the network.

World-Wide Web

- Two programs: Web browser and Web server.
 1. Browser requests a text file from a server.
 2. Server sends the text file over the internet (html is a kind of text file, just like csv).
 3. Browser chops up data in the file, and figures out how to displays it in a GUI window.

GUI - Graphical User Interface. Windows, buttons, scrollbars, etc.

HTML

- Particular kind of text file.
- Instructions on how to display text in tags:

```
<font size="20">
A very minimal Web page.
</font>
```

We could do this in Python!

- .html is a little more complicated than .csv, but still...
- With a GUI module, we can display the data in windows.
- There is also a module for step 1, requesting files from server.
- How do we do the links?

Weather widget – Program 6

- Request weather data from Yahoo.
- Break it down and displays it in a window.



World's lamest Web browser

```
from urllib.request import urlopen

myData = urlopen( \           "http://www.cs.ucdavis.edu/
~amenta/f111/sparse.html")

for line in myData:
    print(line)
```

- urlopen should be in try-except
- Display is pretty minimal
- What are those "b"s at the beginning of every line?

Byte data

- A byte is eight bits.
- A bit is either zero or one.
- A simple character is also eight bits.
- But data on a Web page might be in some other encoding; often specified in Web page itself.
- Data from urlopen comes as bytes; up to the browser how to interpret them.
- Use **decode()** method to convert to a string.

RSS feeds

- Urls are a good way of distributing other data besides Web pages
- "Syndicated" data – changes pretty often, other Web sites grab the data and put it into their Web pages.
- Blogs, podcasts, weather, stocks, news...
- Often not in HTML, read by programs on some other Web server, not directly by browser.
- For a data base with lots of different information, have different urls for different pieces of data.

Yahoo developer site

Yahoo! Weather RSS Feed

The Weather RSS feed enables you to get up-to-date weather information for your location. You can save this feed in My Yahoo! or your favorite feed aggregator, or incorporate the RSS data into your own web site or client application. The Weather RSS feed is a dynamically-generated feed based on WOEID.

This page describes the format of the Weather request URL and the RSS response for developers. It contains these sections:

- RSS Request
 - Summary
 - Request Parameters
- RSS Response
 - Top-Level Elements
 - Channel Elements
 - Image Elements

How Yahoo refers to places

- WOEID – “Where on earth identifier”
- WOEID of Davis is "2389646"

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Examples

To get the forecast for Yahoo! Headquarters in Sunnyvale, CA, use the WOEID code:

```
http://weather.yahooapis.com/forecastrss?w=2502265
```

To get the forecast for New York City, use the WOEID 2459115:

```
http://weather.yahooapis.com/forecastrss?w=2459115
```

To get the forecast for Paris, France, use the WOEID 615702:

```
http://weather.yahooapis.com/forecastrss?w=615702
```

To get the forecast for Paris, France, with degrees Celsius and other metric units:

```
http://weather.yahooapis.com/forecastrss?w=615702&u=c
```

xml

- Xml is like html but for data.
- Html describes how to display the data in the file, which is usually text.
- Xml is usually tables, kind of like .csv. But description of data is embedded into file in tags, like html.

```
<title>Conditions for Davis, CA at 8:36 pm PST</title>
<geo:lat>38.55</geo:lat>
<geo:long>-121.74</geo:long>
```