IO LAB

INFORMATION ORGANIZATION LAB

LAST TIME ON IOLAB

Course Recap & Overview

TODAY

Misc. Topics

Flask Lab

Final Project Open Lab

MISCELLANEOUS TOPICS

- **backbone.js** (http://backbonejs.org/)

  - Backbone tutorials: http://backbonetutorials.com/

- **Local Servers** (Python or MAMP/LAMP/WAMP)

  - Simple server: `python -m SimpleHTTPServer [port]`

    - Then go here: http://127.0.0.1:[port]

  - Mac: http://www.mamp.info/

  - Everyone: http://bitnami.org/stacks

FLASK

A Python Micro-framework

- Routing (WSGI)

- Templating (jinja2)

- Database access (sqlite3)

FLASK

Links & Additional Info

- Installation: http://flask.pocoo.org/docs/installation/

- Documentation: http://flask.pocoo.org/docs/

- Tutorial: http://flask.pocoo.org/docs/tutorial/

FLASK

Hello World!

In `hello.py`

```python
from flask import Flask
app = Flask(__name__)

@app.route('/')
def hello_world():
    return 'Hello World!'

if __name__ === '__main__':
    app.run()
```

Command prompt

```
$ python hello.py
  * Running on http://127.0.0.1:5000/
```

FLASK

Basics

- Routing (WSGI)

- Templating (jinja2)

- Database access (sqlite3)

FLASK

Routing

Routes: binds a function to a URL

```
@app.route('/')
def index():
    return 'Index Page!!'


@app.route('/hello')
def hello():
    return 'Is it me you're looking for?'
```

Source: http://flask.pocoo.org/docs/quickstart/

FLASK

Routing

Variables

Designate w/ <variable> in route & use in function

```
@app.route('/user/<username>')
def show_user(username):
    return 'User %s' % username
```

Can convert w/ <converter:variable> (int/float/path)

```
@app.route('/post/<int:post_id>')
def show_post(post_id):
    return 'Post %d' % post_id
```

Source: http://flask.pocoo.org/docs/quickstart/

FLASK
Static Files & Templating

Static Files

To point to `static/style.css` in a template

```
url_for('static', filename='style.css')
```

Templating

```
@app.route('/')
def index():
    return render_template('index.html')
```

FLASK

Databases

Sqlite3

- Simple to administer
- Simple to operate
- Simple to embed in a larger program
- Simple to maintain and customize

Source: http://www.sqlite.org/whentouse.html

FLASK

Databases

Schema.sql

- Databases need a schema to map how your data is intended to interact.

- wiki definition: A database schema (/ˈski.mə/skee-ma) of a database system is its structure described in a formal language supported by thedatabase management system (DBMS) and refers to the organization of data to create a blueprint of how a database will be constructed (divided into database tables)

Source: http://en.wikipedia.org/wiki/Database_schema

FLASK

Databases

Datatypes

- **NULL**. The value is a NULL value.

- **INTEGER**. The value is a signed integer, stored in 1, 2, 3, 4, 6, or 8 bytes depending on the magnitude of the value.

- **REAL**. The value is a floating point value, stored as an 8-byte IEEE floating point number.

- **TEXT**. The value is a text string, stored using the database encoding (UTF-8, UTF-16BE or UTF-16LE).

- **BLOB**. The value is a blob of data, stored exactly as it was input.

Source: http://www.sqlite.org/datatype3.html

OPEN LAB

Final Project

FOR NEXT TIME
for the last time

Final Project

Due 12/10/12 by 11:59PM

Presentations 12/12/12 (!) - 3-5PM

You can find links to help with all of these on the course website at
http://courses.ischool.berkeley.edu/290ta-iol/f12

THANK YOU

for an awesome semester!