URLS & ROUTING

Code 301

AGENDA

- Feedback review
- Paired assignment retrospective and review
- Welcome to the HTTP Party
- Routing and Controllers

CLASS FEEDBACK REVIEW: MOST HELPFUL

- “The code review and pair programming are helpful and fun”
- “I think the stacked modules must be working because I feel more comfortable with concepts from last week or a couple days ago, even if I didn't understand them much initially.”
- “Having to work with existing code was interesting.”
- “The most hopeful thing we did all week was taking a day to not introduce something new”
- “Thursday when we walked through how the example code was organized”
- “It was nice to have this past week be less work-stressful than the first week.”

CLASS FEEDBACK REVIEW: NEEDS IMPROVEMENT

- “It'd be nice to have the TA's walk around a little more and see where students are at.”
- “Demo code for the SQL day… wound up being more frustrating”
- “Monday…I felt like I wasn't properly equipped to handle the lab assignment.”
- “This week the pair programming was really challenging for me.”
- “User stories set unrealistic goals”
- “Maybe if there were a few mandatory (for grades) user stories, and the rest were for people who are doing great and want the extra challenge.”
- “I hear everyone bashing on jQuery like it is the drunk inbred cousin of computer programming. He’s invited to all the parties, but everyone makes fun of him! He passes out on the lawn, drooling, right next to PHP.”

PAIR RETROSPECTIVE

What went well?
What was challenging?

ROUTING & CONTROLLERS

> The controller in a web app is a bit more complicated, **because it has two parts**. The first part is the web server (such as a servlet container) that **maps incoming HTTP URL requests to a particular handler** for that request. The second part is those handlers themselves, which are in fact often called “controllers" [or actions].
>
> So the C in a web app MVC includes both the web server "overlord" that routes requests to handlers and the logic of those handlers themselves, which **pull the data from the database and push it into the template**.
>
> *-Terence Parr*

ROUTES: YOUR PUBLIC API

- What resources does your app offer?
- Abstract away the details of html files
  - https://www.codefellows.org/blog.html
  - https://www.codefellows.org/blog/
  - Same page!

ROUTES: YOUR PUBLIC API

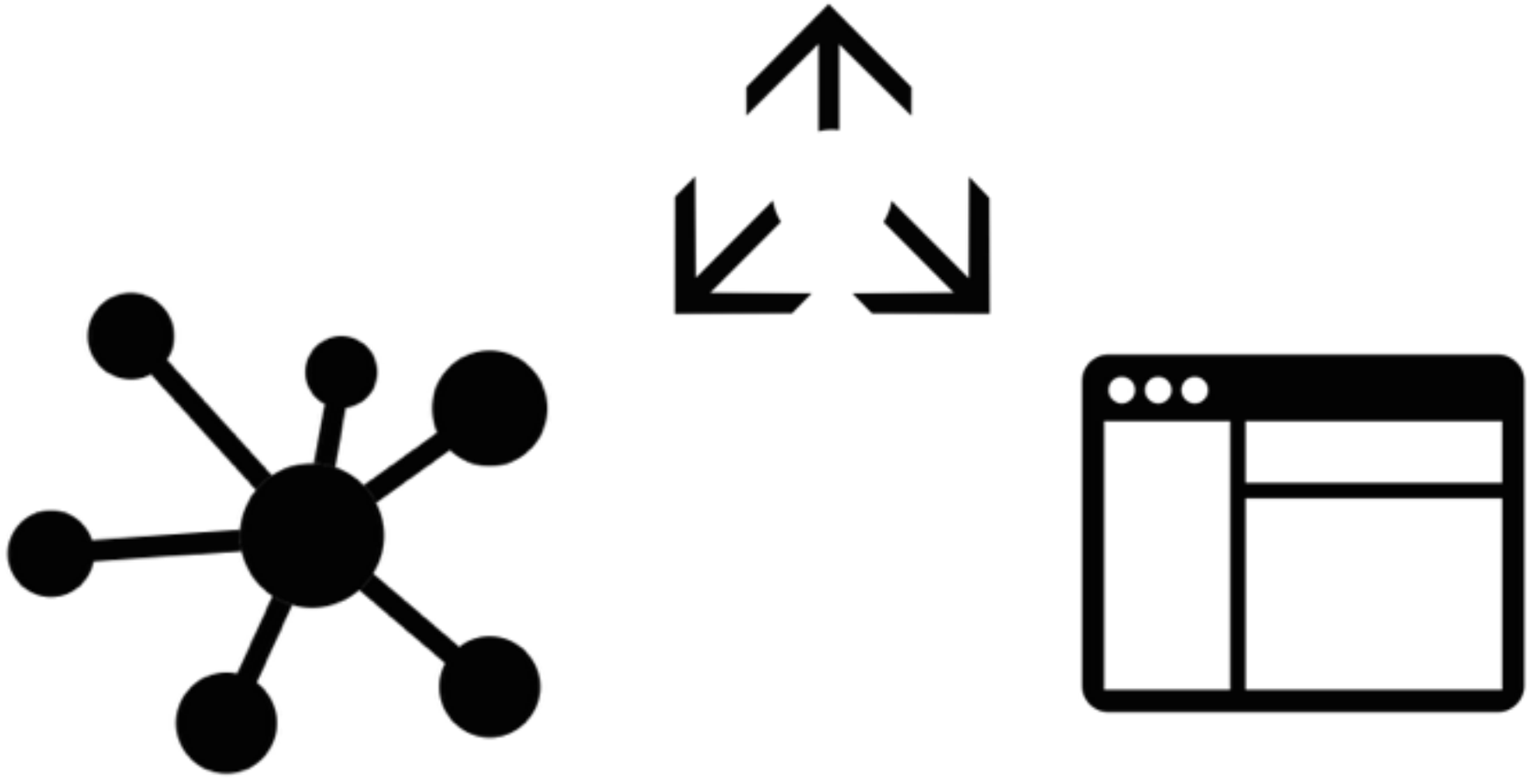
- Making files is slow
- We want programmatic control of what our app can do
- GET: /
- GET: /about
- GET: /articles/42
- GET: /articles/42/edit
- PUT: /articles/42

CLIENT-SIDE ROUTING

- Client-side, the route can tell us a few things:
  - What resource the user wants:
    - hipmunk.com/flights
  - Additional info:
    - hipmunk.com/flights#f=SEA;t=HNL;d=2015-12-22
- JavaScript can interpret this route, and…
  - take apart the pieces
  - call the proper function to handle it all
  - …all from a single index file: NO RELOAD!

MVC FLOW

Controller



Model

View

CLIENT-SIDE CONTROLLER

- Our controller will handle the user request
- The controller converts a route into displayed content…
- with the proper data load.
- Simply a list of functions (aka: “actions”), waiting to be called
- One controller per resource:
  - ArticlesController
  - FlightsController
  - UsersController

CLIENT-SIDE ROUTING: HELPFUL LIBRARIES

- page.js
  - Connect routes with handling function:
    - `page('/', user.list)`
    - `page('/', index);`
    - `page('/about', about);`
    - `page('/contact', contact);`
- Many many more examples:
  - https://github.com/visionmedia/page.js
  - Install: copy/paste `page.js` file into your project

CLIENT-SIDE ROUTING: HELPFUL LIBRARIES

- `pushstate-server`
  - Sends all requests to: `index.html`
  - Passes through static files:
    - `/scripts/blogArticles.json`
    - `/templates/article.html`
- Requires full-path URLS, with starting slash
- More details: https://github.com/scottcorgan/pushstate-server
- Install: `npm install -g pushstate-server`

ROUTING DEMO

RECAP

RECAP

- URLs power the browser
- JavaScript can leverage the URL to control the app, without going back and forth with a server
- Assignment:
  - Work from assignment directory code
  - Add a router
  - Add a controller for articles