CS314 Software Engineering Technology

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Graded Assignments

- GH readme
  - some look better than others, use markdown
- TW quest
  - approvers? fewer mistakes
  - missing/wrong name, loss of markdown
  - team directory
- GT test (brews)
  - approvers?
  - errors, uncorrected near the deadline

Next assignments

- GH redux
  - sort the breweries by name above first "davematt" entry
- SP1 resume
  - reminder (no style or CSS)
  - codepens (HTML, HTML/ReactJS)
  - github (HTML, HTML/ReactJS)
  - http://www.cs.colostate.edu/~eID (optional)

GitHub

- create an issue

- create a pull request
- resolve merge conflicts
- wait for approvals
- merge/confirm

Git

- clone/pull
- make/use a new branch
- *make source changes*
- add changes
- check for merge conflicts
- commit
- push

Technology

- Bootstrap 4 (HTML)
  - no CSS or style yet
- React JS (JavaScript)
- ~eID/public_html
  - CS student web sites
  - http://www.cs.colostate.edu/~eID

What is responsive?

- Mobile-first flexbox grid to build layouts
  - twelve columns
  - five responsive tiers (xs, sm, md, lg, xl)
  - SASS variables and mixins
  - predefined classes
- Components/classes for layout alignment (fixed or fluid)
  - Container
  - Row
  - Column

ReactJS

- Component based system
  - render() takes input data and returns what to display
  - stateful, when state changes render is invoked

CodePens

https://codepen.io/davematt

Deployment to HTML

Shows the deployment of a CodePen containing only Bootstrap 4 to a single HTML file. See the instructions under Starter Template in the Bootstrap 4 Introduction to create the HTML file. Note that codepen will not render this file for you so open it in a new tab.

You can deploy the finished page in the public_html directory of your CS Linux account, such as this.

HTML

```
<!-- Our Bootstrap 4 code -->
<div class="jumbotron">
  <h1>Deployment to HTML</h1>
  <hr/>
  <p class="lead">
    Shows the deployment of a <a
href="https://codepen.io/davematt/pen/LeqOMN">CodePen containing only Bootstrap
4</a> to a single HTML file.
    See the instructions under Starter Template in the <a
href="https://getbootstrap.com/docs/4.0/getting-started/introduction/">Bootstrap
4 Introduction</a> to create the <a
href="https://github.com/csu314sp18/tripco/blob/setup/team/davematt/index.html">H
TML file</a>.
    Note that codepen will not render this file for you so open it in a new tab.
  </p>
  <p class="lead">
    You can deploy the finished page in the public_html directory of your CS
Linux account,
    such as <a
href="http://www.cs.colostate.edu/~davematt/indexbs.html">this</a>.
  </p>
</div>
```

CSS

JS (Babel)

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Pen Settings

HTML CSS JavaScript Behavior Screenshot

HTML Preprocessor

None

Add Class(es) to <html>

lang="en"

Stuff for <head>

```
<title>CodePen to HTML</title>
<!-- Required meta tags -->
<meta charset="utf-8">
<meta name="viewport" content="width=device-
```

↑ Insert the most common viewport meta tag

Pen Settings

HTML **CSS** JavaScript Behavior Screenshot

CSS Preprocessor

None

CSS Base

NORMALIZE RESET NEITHER

Vendor Prefixing

AUTOPREFIXER PREFIXFREE NEITHER

Add External Stylesheets/Pens

Any URL's added here will be added as `<link>`s in order, and before the CSS in the editor. If you link to another Pen, it will include the CSS from that Pen. If the preprocessor matches, it will attempt to combine them before processing.

External Resource search...

Recent: Bootstrap 4

https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.0.

https://codepen.io/username/pen/aBcDef

Quick-add: ---

+ add another resource

Pen Settings

HTML CSS **JavaScript** Behavior Screenshot

JavaScript Preprocessor

Babel

Add script as a module

Add `type="module"` on the Pen's `<script>` tag

Add External Scripts/Pens

Any URL's added here will be added as `<script>`s in order, and run *before* the JavaScript in the editor. You can use the URL of any other Pen and it will include the JavaScript from that Pen.

External Resource search...

Recent: Bootstrap 4 jQuery React React DOM jQuery UI

https://cdnjs.cloudflare.com/ajax/libs/jquery/3.2.1/jquery.mi

https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/

https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.0.

Quick-add: ---

+ add another resource

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```
<!doctype html>
<html lang="en" >  <!-- from codepen HTML add classes settings -->
  <head>
    <!-- from codepen HTML stuff for head settings-->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <!-- from codepen CSS settings-->
    <link rel="stylesheet"
      href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css">
    <title>CodePen to HTML</title>
  </head>

  <body>
    <!-- from codepen HTML view-->
    <div class="jumbotron">...</div>
    <!-- from codepen settings external scripts-->
    <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" ></script>
    <script
      src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
  </body>
</html>
```

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Deployment to HTML / JavaScript

Shows the packaging of a CodePen containing React components and Bootstrap 4 to both HTML and JavaScript files.

You can deploy the finished app in the public_html directory of you CS Linux account. Such as this.

HTML

```
<div id="root"></div>
```

CSS

JS (Babel)

```
/* ReactJS components to render the sample page */
/* Note the use of className rather than class for ReactJS */

class Header extends React.Component{
  render() {
    return (
      <h1>Deployment to HTML / JavaScript</h1>
    )
  }
}

class Body extends React.Component {
  render() {
    return (
      <div>
        <p className="lead">
          Shows the packaging of <a href="https://codepen.io/davematt/pen/QaYajY">a CodePen containing React components and Bootstrap 4 </a> to both HTML and JavaScript files.
        </p>
        <p className="lead">
          You can deploy the finished app in the public_html directory of you CS Linux account.
          Such as <a href="http://www.cs.colostate.edu/~davematt/indexjs.html">this</a>.
        </p>
      </div>
    )
  }
}
```

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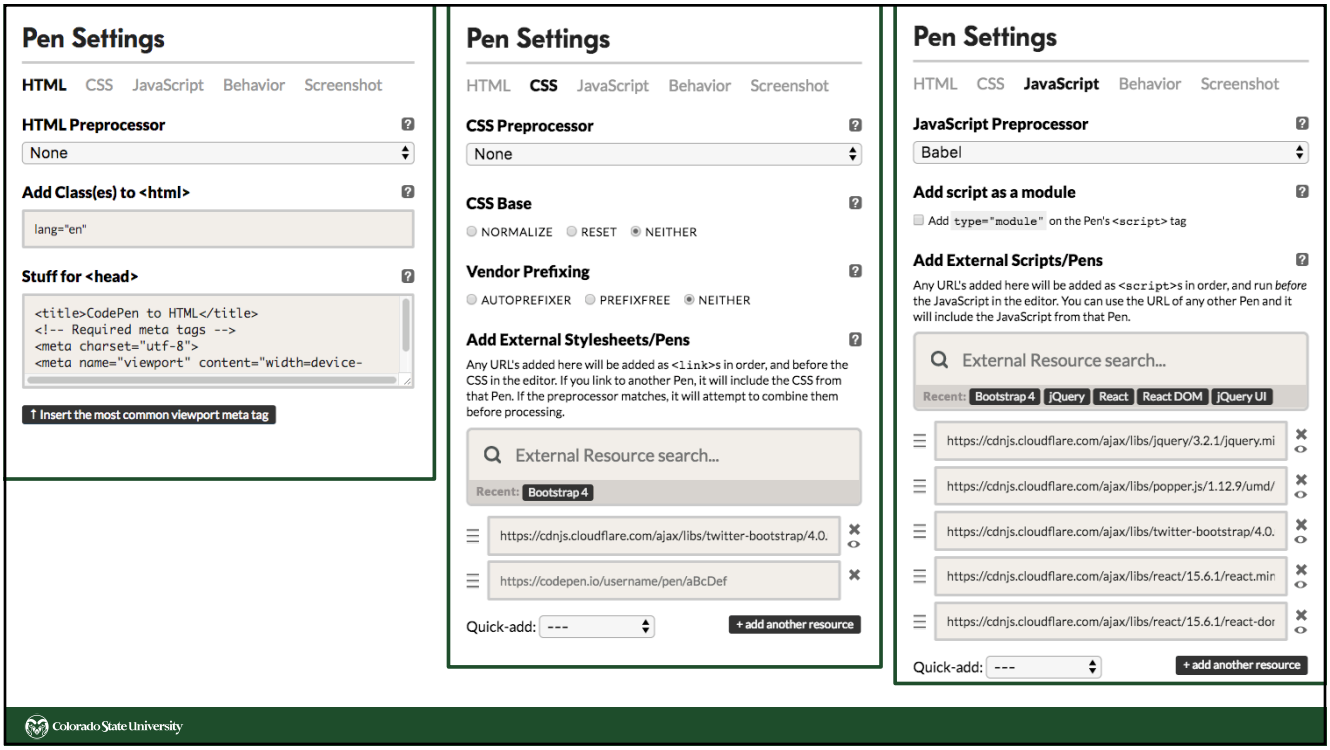
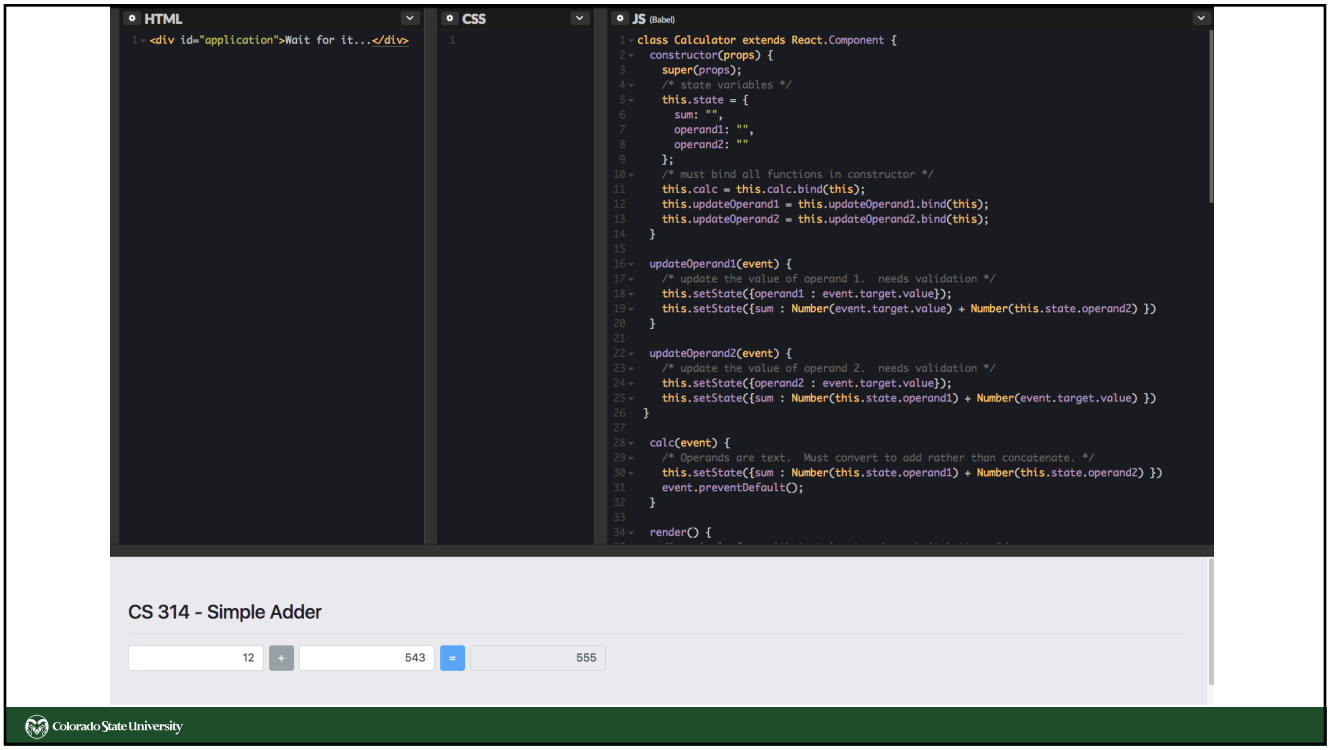



```
<!doctype html>
<html lang="en" >
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.cs
    <title>CodePen to HTML</title>
  </head>
  <body>
    <div id="root"></div>
    <!-- from codepen settings external scripts-->
    <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" ></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
    <!-- React, ReactDOM, Babel to handle our JavaScript components -->
    <script src="https://cdnjs.cloudflare.com/ajax/libs/react/15.6.1/react.min.js"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/react/15.6.1/react-dom.min.js"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/babel-standalone/6.21.1/babel.min.js"></scrip
    <!-- And lastly, our ReactJS code. -->
    <script src="./app.js" type="text/babel"></script>
  </body>
</html>
```


HTML
Wait for it...
CSS
JS (Babel)
class Calculator extends React.Component {
constructor(props) {
super(props);
/* state variables */
this.state = {
sum: "",
operand1: "",
operand2: ""
};
/* must bind all functions in constructor */
this.calc = this.calc.bind(this);
this.updateOperand1 = this.updateOperand1.bind(this);
this.updateOperand2 = this.updateOperand2.bind(this);
}
updateOperand1(event) {
/* update the value of operand 1. needs validation */
this.setState({operand1 : event.target.value});
this.setState({sum : Number(event.target.value) + Number(this.state.operand2) })
}
updateOperand2(event) {
/* update the value of operand 2. needs validation */
this.setState({operand2 : event.target.value});
this.setState({sum : Number(this.state.operand1) + Number(event.target.value) })
}
calc(event) {
/* Operands are text. Must convert to add rather than concatenate. */
this.setState({sum : Number(this.state.operand1) + Number(this.state.operand2) })
event.preventDefault();
}
render() {
CS 314 - Simple Adder
12
+
543
=
555
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