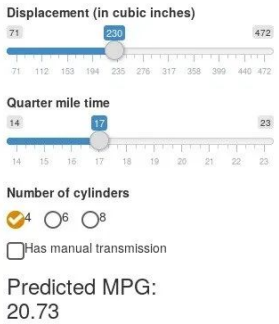
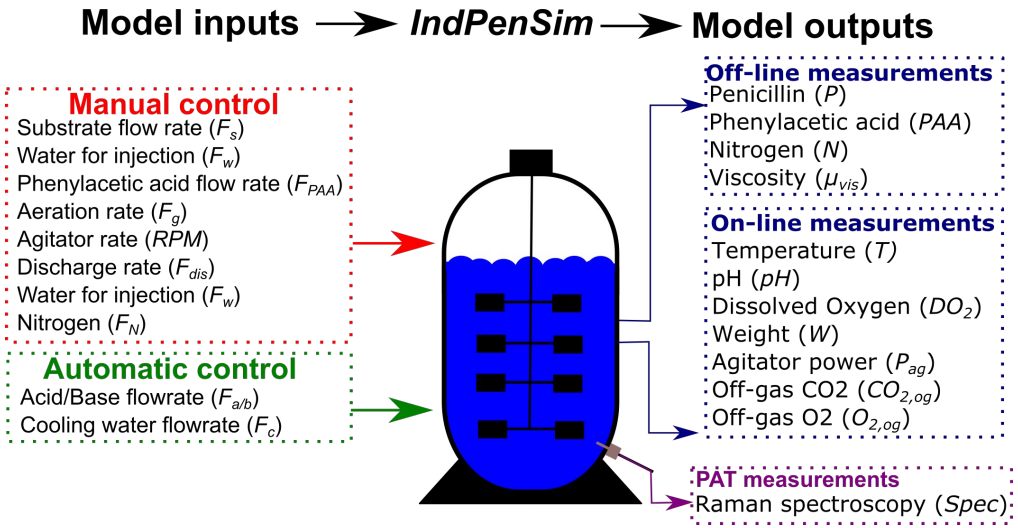
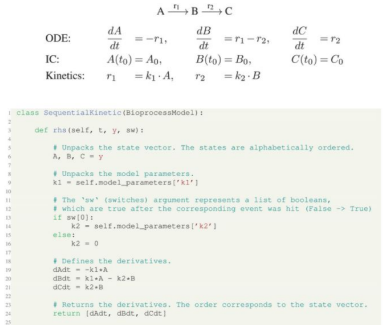
Reactor Modeling Sandbox

Frontend





Backend



PRESENTED BY: Diego Alba and Shweta Bhushan

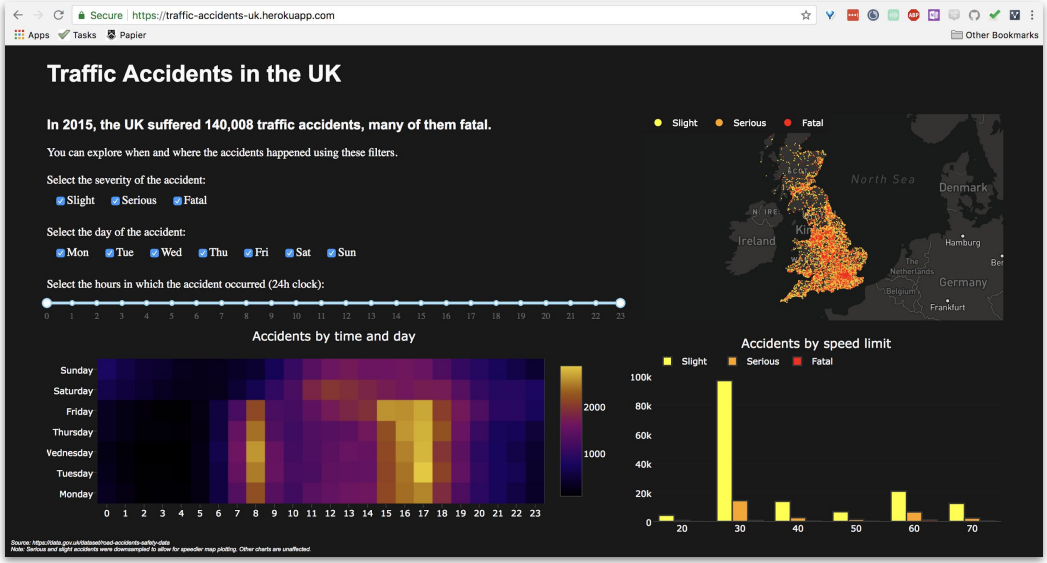
Dashboard/Interface Tech

Tool	Language	Compatibility with Jupyter	Processing Speed	Customizability
Bokeh	Python, JavaScript	Natively renders visualizations	Low	Medium
Dash	Python, HTML, CSS, JavaScript	Supported by plotly extension	Medium	High
Voila	Python	Natively renders visualizations	Medium	Medium
Streamlit	Python	Not compatible	High	Low

We chose Dash!

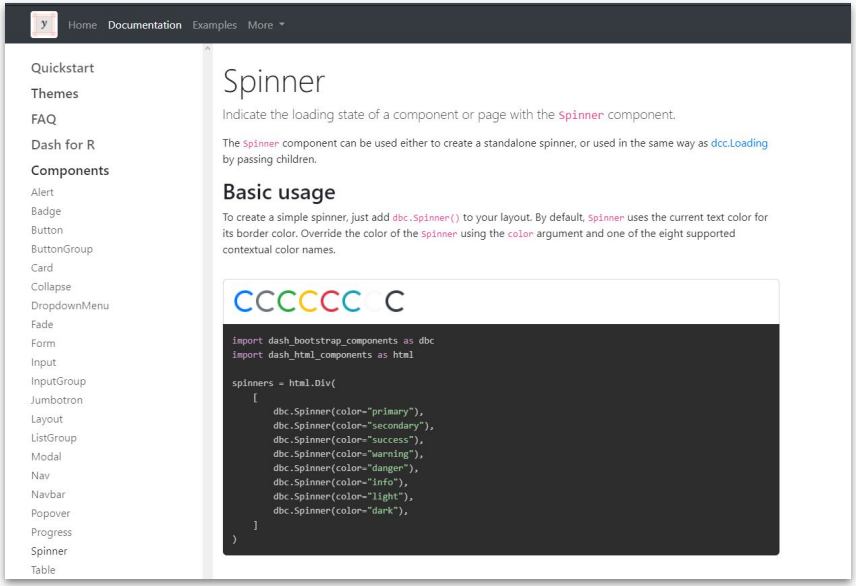
What is Dash?

- A Python framework for building interactive web apps.
- Apps are rendered in the web browser.
- Deploys apps to servers and shares them through URLs.



Dash: Advantages

- Customizability
- Large community examples
- Many components



Dash: Drawbacks

- HTML and CSS heavy
- More lines of code
- Not as easy to deploy as Streamlit

```
import dash_html_components as html

html.Div([
    html.H1('Hello Dash'),
    html.Div([
        html.P('Dash converts Python classes into HTML'),
        html.P("This conversion happens behind the scenes by Dash's JavaScript front-end")
    ])
])
```

which gets converted (behind the scenes) into the following HTML in your web-app:

```
<div>
    <h1>Hello Dash</h1>
    <div>
        <p>Dash converts Python classes into HTML</p>
        <p>This conversion happens behind the scenes by Dash's JavaScript front-end</p>
    </div>
</div>
```