Web Programming AJAX and Vue.js

- Vuejs and Flask
 - How to combine Vuejs and Flask
- AJAX calls in Components
 - Livecycle hooks and watchers
 - Pitfalls
- Cross origin requests
- Caching

Flask and Vuejs

- Serve JS files and index.html from /static folder.

```
@app.route("/")
def index():
    return app.send_static_file("index.html")
```

Include /static/ for resources in index.html

```
<!-- Downloaded vuejs development version -->
<script src="/static/vue.js"></script>

<script src="/static/mycomponent.js"></script>
<link rel="stylesheet" href="/cstatic/style.css">
```

Flask and Vuejs

- It is not recommended to use jinja templates together with
 - Should {{ xxx }} be replaced by jinja or vue?

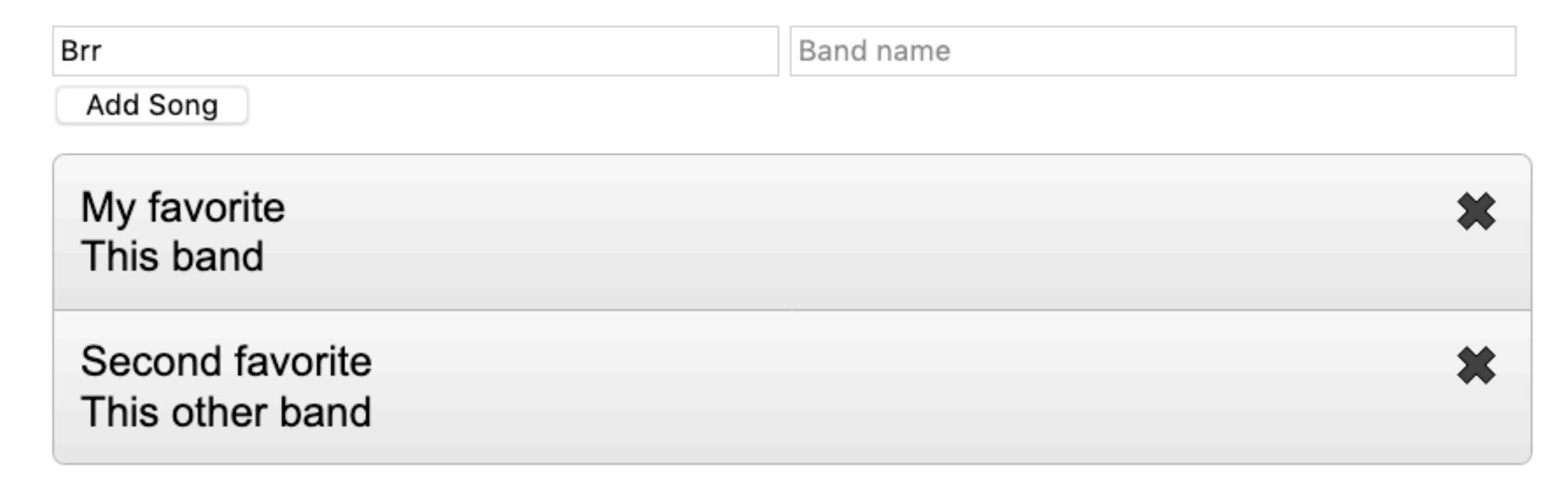
- Use created lifecycle hook to load data via AJAX
- Perform AJAX calls in methods
- Load data in components using watch

- Use created lifecycle hook to load data via AJAX

```
let app = new Vue({
    el: "#app",
    data: {
        items: [],
        loading: true
    },
    created: function(){
        // function is run after component is created.
        // can access data, methods, ... but not DOM
    },
    methods: {
        ...
    }
}
```

- Perform AJAX calls in methods
- Pitfalls when performing state updates:
 - AJAX requests do not happen immediately
 - AJAX request may fail
 - AJAX requests may be accidentially send twice
 - Should be idempotent

Example Examples / ajax/playlist



Exercises #1

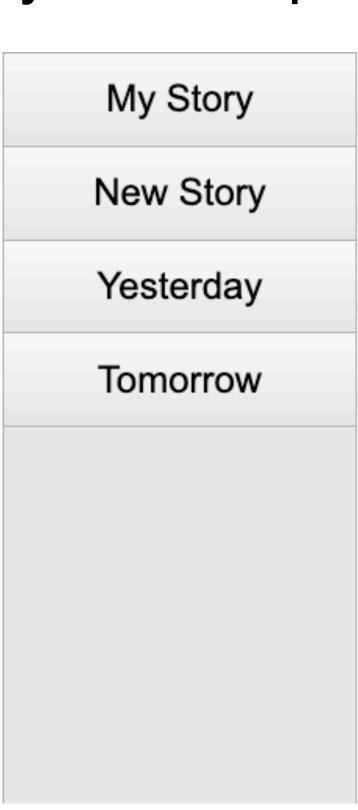
github.com/dat310-spring20/course-info/tree/master/exercises/ajax/vue

- Load data in components using watch

Example

comples/ajax/blog

- Retrieve blog text only when opened.



My Story

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi at aliquet sapien. Pellentesque bibendum felis quis nulla pulvinar, luctus lobortis turpis venenatis. Phasellus imperdiet neque neque, in condimentum nisi fringilla et. Nam aliquet justo nunc, et semper nunc hendrerit in. Suspendisse potenti. Nam lectus purus, ullamcorper aliquet aliquet eu, malesuada nec nulla. Etiam dui eros, interdum a diam non, tempus vestibulum lorem. Nulla facilisi. Pellentesque et purus non dolor semper eleifend eget eget sem. Sed gravida pharetra varius. Aenean elementum sapien in mi finibus dictum.

In dictum ipsum id nisi pretium, a interdum magna blandit.

Flask and Vuejs decoupled

- It is also possible to run a Vuejs application independently.
 - I.e. open index.html or run development server, (live server VSCode extension)
- Send AJAX requests using full URL

```
let response = await fetch("http://127.0.0.1:5000/playlist");
```

- Need to enable cross origin requests in Flask:

```
from flask import Flask, request
from flask_cors import CORS

app = Flask(__name__)
CORS(app)
```

Example Examples/ajax/playlist2



References

- Vue livecycle hooks
 https://alligator.io/vuejs/component-lifecycle/
- Cros origin requests https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS