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

Lecture example on course-info examples/ajax/vue/lecture

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

```
<!-- vuejs development version -->
    <script src="https://unpkg.com/vue@3.0.5/dist/vue.global.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 = Vue.createApp({
    data: function(){
        return {
            playlist: []
        }
    },
    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

O examples/ajax/vue/playlist



Exercises #1

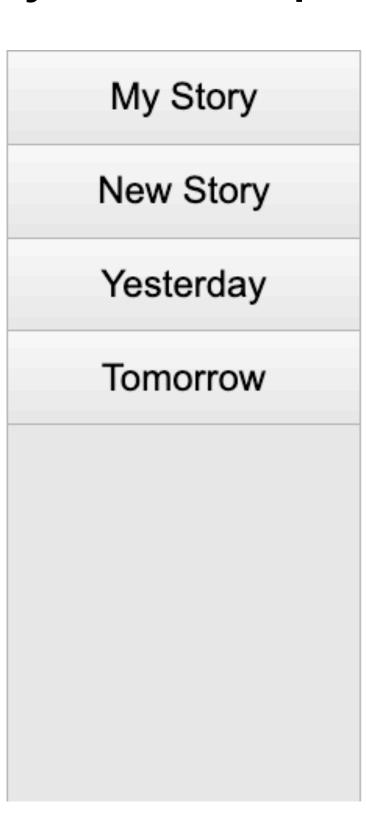
github.com/dat310-spring21/course-info/tree/master/exercises/ajax/vue

- Load data in components using watch

Example

© examples/ajax/vue/blog

- Retrieve blog text only when opened.



My Story

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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

O examples/ajax/vue/playlist-cors



References

- Vue livecycle hooks https://alligator.io/vuejs/component-lifecycle/
- Cros origin requests https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS
- Some free loading gifs http://ajaxload.info/