

React, State, Fetch and Mobx

General part

- Describe the term Single Page Application and why it has become so popular for modern web-applications
- Explain the “recommended” React way of passing data into Components (at the top, or at the bottom or..)
- Explain how JavaScript array methods, like `filter`, `map` and `(reduce)` can be used to generate dynamic HTML structures (tables, ul's etc.)
- Explain about the Observer pattern, and where you have used it, both with Java, JavaScript and Mobx.
- Explain how a library/framework like Mobx fits into the React world, and the actual problems it solves.

Practical part

Getting Started: Clone the start code (exactly as) outlined below to get the right branch (it will provide a React project with support for ES-7 decorators for the MobX part of the exercise):

```
git clone -b ejected https://github.com/Lars-m/reactMoxExExamex3.git
```

- Type **`npm install`** to fetch dependencies and **`npm start`** to run, and open the project in your favourite IDE.
- In the root of the project, open a new terminal and type **`npm run dataserver`**. This will start a simple REST/JSON server, which you need for this exercise (leave this window open, and let the server run for the rest of the exercise). Test it via a browser: <http://localhost:4567/api/persons>

The project is a *create-react-app* generated project, modified to provide start code for this exercise. It simulates a site that can show “members” their friends, and eventually members will change in the backend “all the time”.

1) Complete the `personFactory` to fetch data, using `fetch`, from the REST-api given above.

2) Use your updated `personFactory` and “inject” it into relevant controls so it will be available via `props` in `PersonTable` Control

3) Add the necessary code to `PersonTable` to render a table as sketched here.

Age	name	Gender	Email	Friends
21	Caitlin Robles	female	caitlinrobles@brainquil.com	2
28	Chavez Stuart	male	chavezstuart@brainquil.com	2
29	Olga Barton	female	olgabarton@brainquil.com	3

4)

Change the code that generates the Table to provide a comma-separated list of all friends, instead of just the number of friends

5)

Change `personFactory` to use `mobx` for event-Handling (it must be possible to observe the `persons` array).


Add the necessary code to other Components (where required) to observe the `persons` array.

6)

Change the URL in `personFactory` into this one http://localhost:4567/api/persons_changing/, and use JavaScript's `setInterval` function to repeatedly update the person's array with fresh data from the server (while developing, fetch every 3 seconds to see changes).

This new URL provides new (random) data “all the time” to simulate new members are added, members leave, etc.

How this would be graded:

	2-4	<p>To fall into this range you must:</p> <p>Give a <u>minimal to fair</u> performance related to the topics stated in the "General Part"</p> <p>And</p> <p>Have completed, ex 1+2 in the practical part with only a few weaknesses</p>
	4-7	<p>To fall into this range you must:</p> <p>Give a <u>fair to good</u> performance related to the topics stated in the "General Part"</p> <p>And</p> <p>Have completed, ex 1+2 in the practical part with none or only minor weaknesses</p> <p>Have completed ex-with only minor weaknesses or alternatively 3+4 with some major/minor weaknesses.</p>
	7-10	<p>To fall into this range you must:</p> <p>Give a <u>very good</u> performance related to the topics stated in the "General Part"</p> <p>And</p> <p>Have completed, ex-1 +2 in the practical part with none or only a few minor weaknesses</p> <p>Have completed , ex 3 +4 in the practical part with only minor weaknesses</p> <p>Have completed 5 with only minor weaknesses or</p> <p>Have completed 5+6 with some major/minor weaknesses</p>
	10-12	<p>To fall into this range you must:</p> <p>Give an <u>excellent</u> performance related to the topics stated in the "General Part"</p> <p>And</p> <p>Have completed, ex-1 +2 in the practical part with no or only a few minor weaknesses</p> <p>Have completed , all steps in ex-3 +4 in the practical part with only a few minor weaknesses</p> <p>Have completed 5+6 with only minor weaknesses</p> <p>Have a working demo, demonstrating all topics above (--> 12)</p>