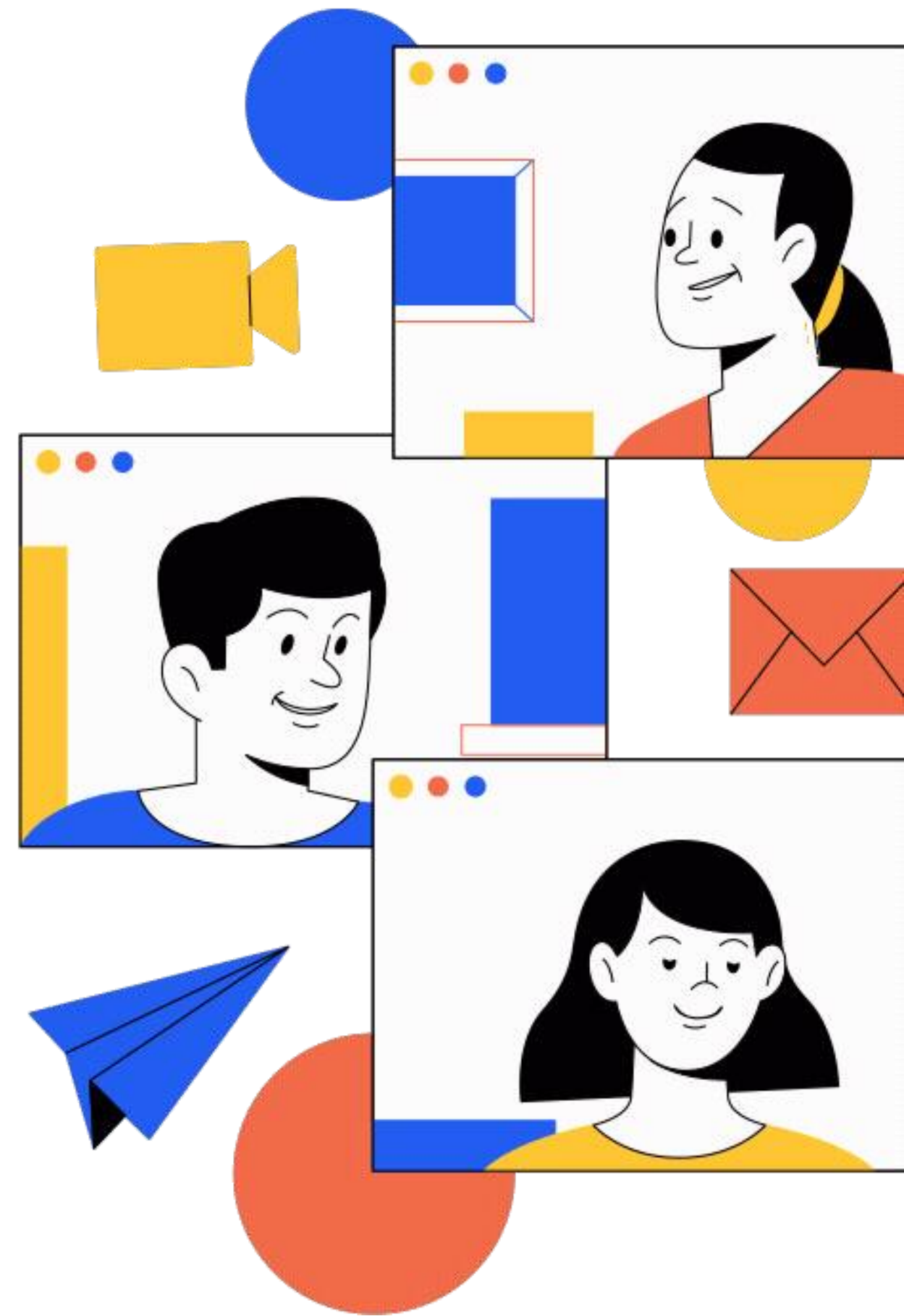


Week 3 - React

Brace yourself! We're going to travel through new pages ✈

Ahmed Fouad Lotfy

React Session Lead



Agenda

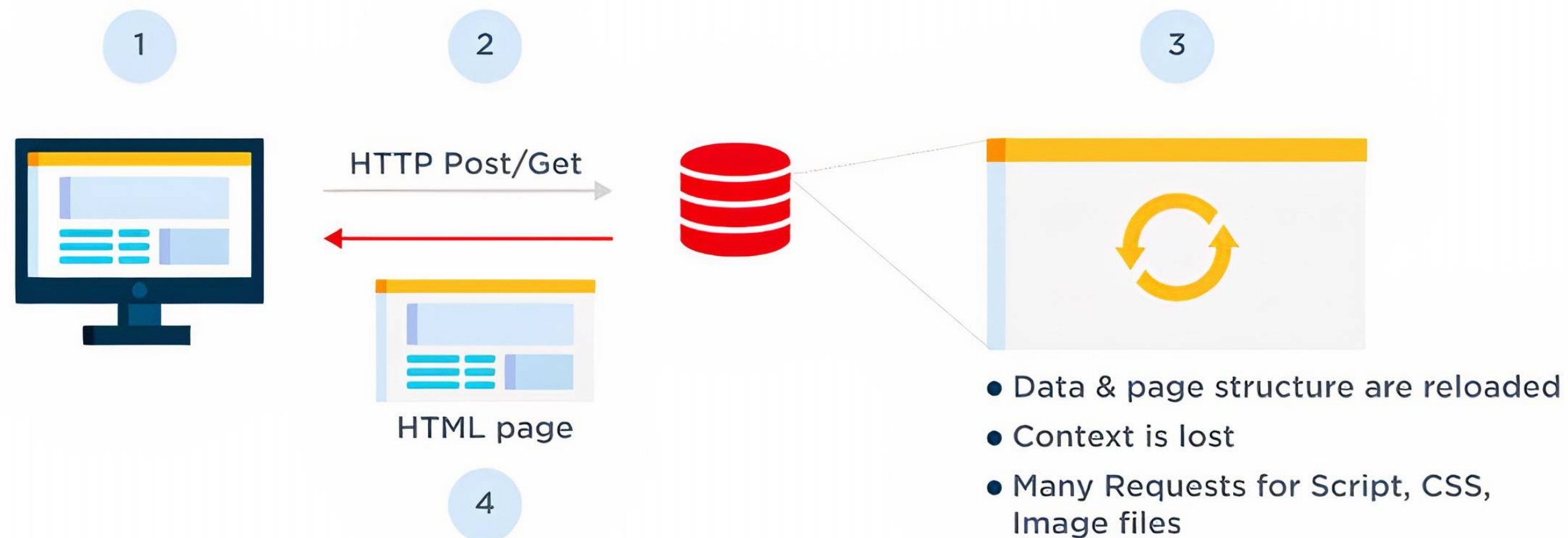


What we'll cover in this session

- Multi-Page Application (MPA)
- Single-Page Application (SPA)
- SPA vs MPA
- What is React Router?
- React Router Main Component
- Live Demo

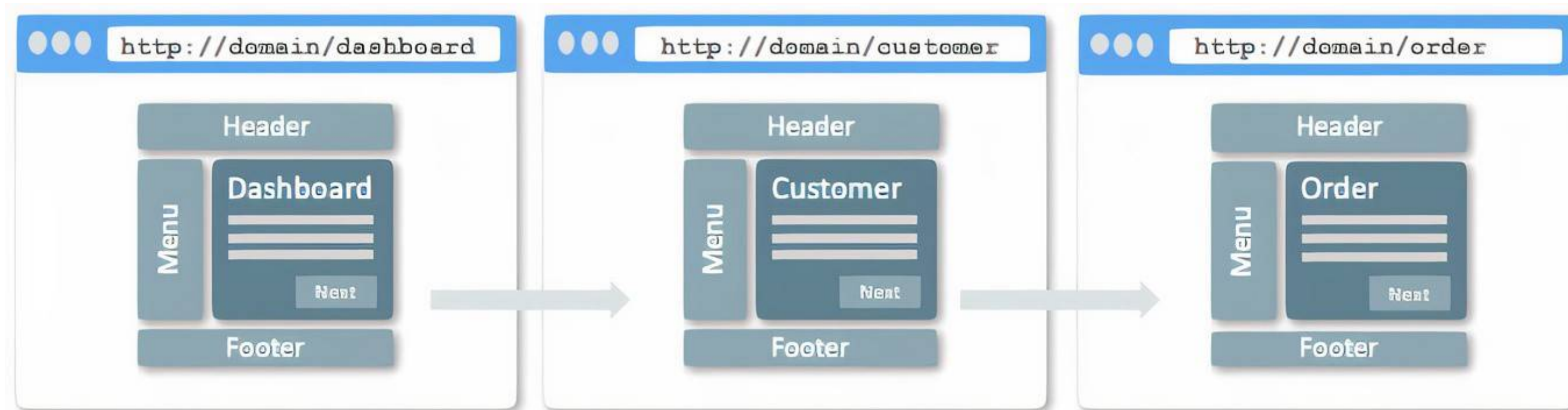
Multi-Page Application (MPA)

- A Multi-page Application is a web application consisting of a large number of pages completely refreshed every time when data changes on them.
- On Navigation, A whole new page is loaded from the server.
- **Examples:** Amazon, W3Schools



Single-Page Application (SPA)

- SPA is a famous type of web app where everything is loaded on start and Asynchronous JS files (that holds the data) are loaded on need.
- The main content is loaded once, And data is then transmitted back and forth.
- Does not require page reloading on navigation .
- **Examples:** Twitter



MPA



- FAST on first render.
- Better for SEO
- Ease of Scaling
- Reloads on navigation
- Frontend and Backend are tightly couples

SPA

- **SPA** is FAST on navigating.
- Improved UX
- Data Caching
- Large first rendering time

React Router ✈️

- **React Router** is a collection of *navigational components* (Library) that allows you to dynamically render pages on your website based on the current URL.
- React Router converts your React application into a Single-Page Application (SPA).



React Router

React Router

Main Components

React router has 4 different main components: **BrowserRouter**, **Link**, **Route**, and **Switch (Routes)**

- **<BrowserRouter>** is a Router components that wraps the whole applications and provide routing history and other functionalities and keeps your screen in sync with the URL.
- **<Link>** Renders a navigation link (anchor tag) that receives a url (as a prop) to redirect to on click.
- **<Route>** Renders a UI component depending on the current URL
- **<Switch>** Makes sure that only one component is rendered and no more (Looks for the first match) in the routes,

WARNING: Components names have changed since react-router-dom-v6

React Router in Action

```
1 import React from 'react';
2 import ReactDOM from 'react-dom';
3 import App from './App';
4 import { BrowserRouter } from 'react-router-dom';
5
6 ReactDOM.render(
7   <BrowserRouter>
8     <App />
9   </BrowserRouter>,
10  document.getElementById('root')
11 );
12
```

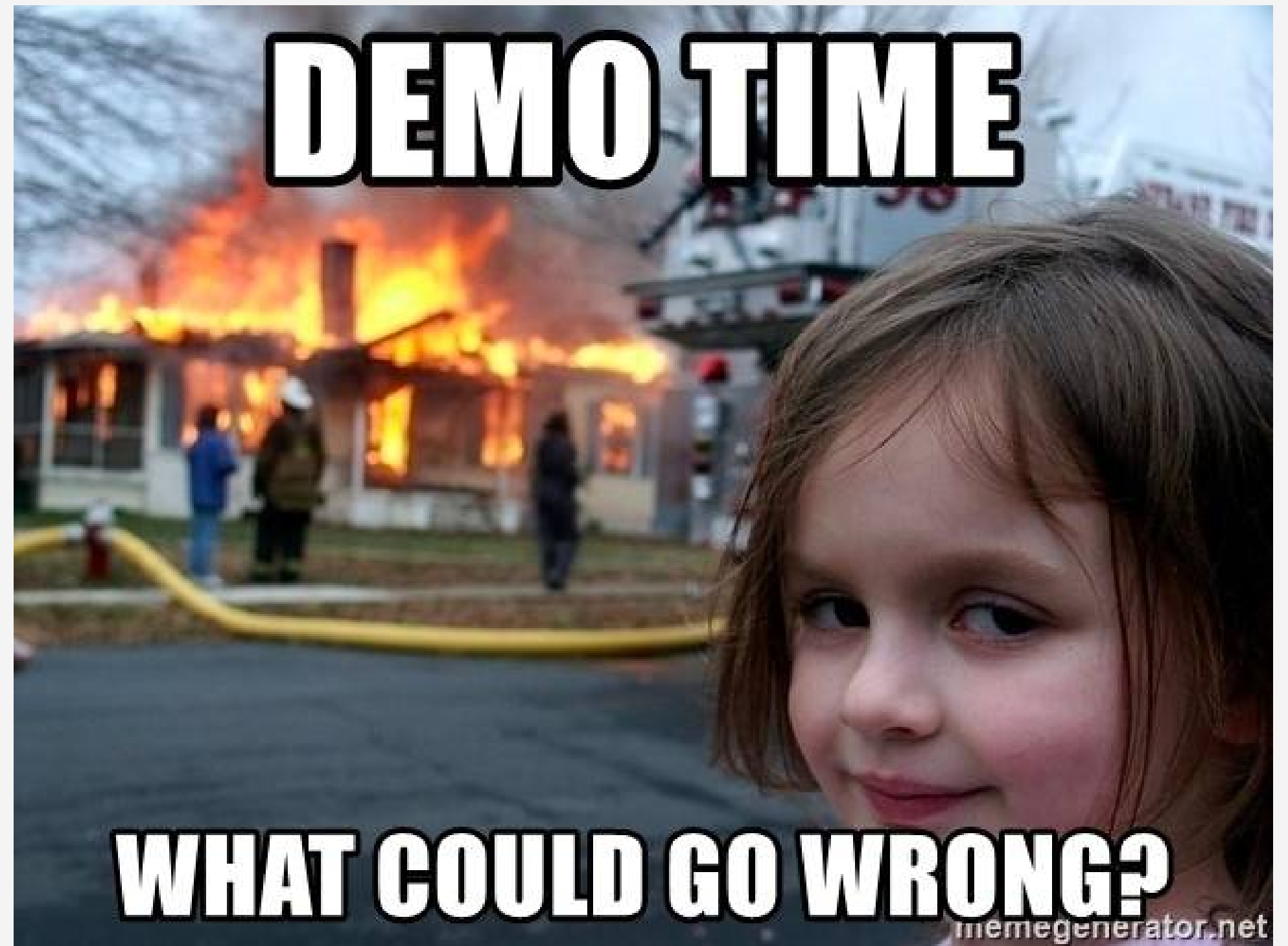
Index.js

```
1 export default function App() {
2   return (
3     <div>
4       <ul>
5         <Link to="/">Home</Link>
6         <Link to="/about">About</Link>
7       </ul>
8
9       <Switch>
10        <Route exact path="/" component={Home} />
11        <Route path="/about">
12          <About />
13        </Route>
14      </Switch>
15    </div>
16  );
17 }
```

App.js

WARNING: Components names have changed since react-router-dom-v6

**Its Demo
Time**

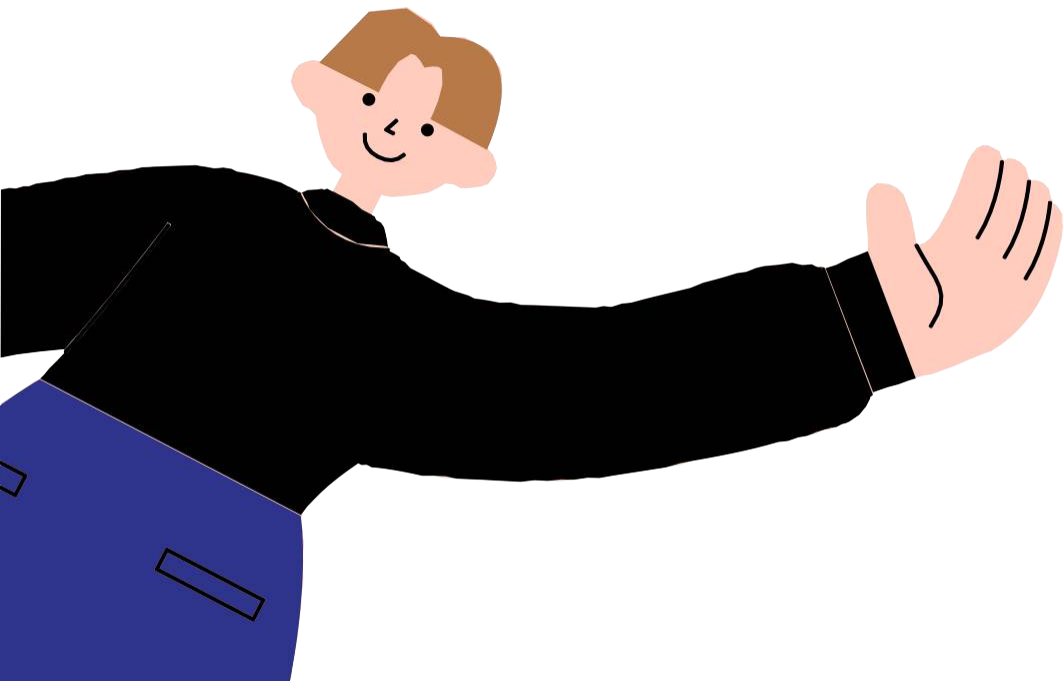


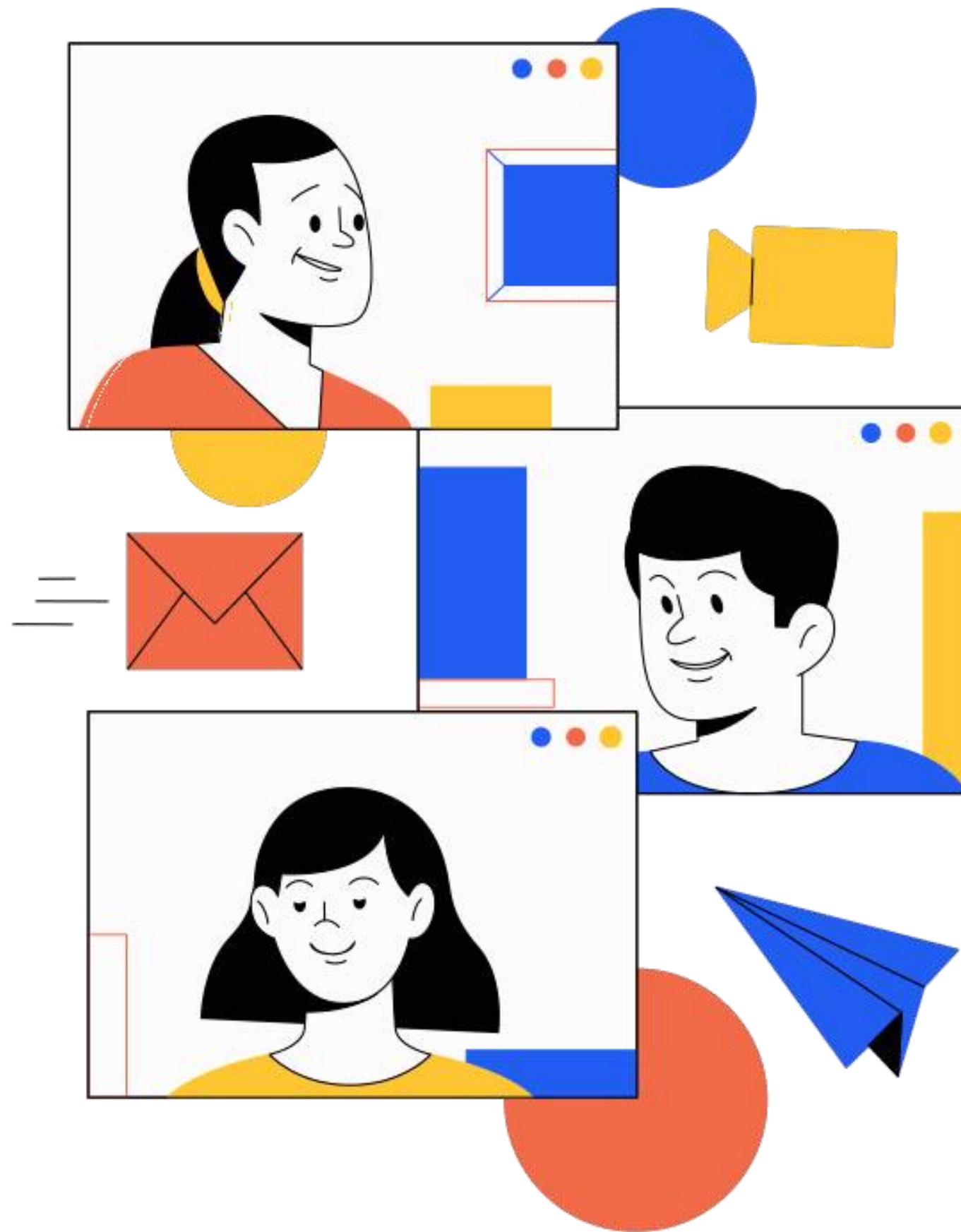
Next Session: React and Redux





Any Questions?





Thank you for attending!

Feel free to email at a.lotfy@fci-cu.edu.eg or reach me at circle anytime for any questions or clarifications!



Follow me on Github [@ahmeddxfoad](https://github.com/ahmeddxfoad)
code and slides are found at this [github repo](#)