

Single Page Application Architecture

A Project-Proven Approach

Jason Brown and Jeff Sallans



Introductions



Jeff Sallans

Associate Director, X by 2



Jason Brown

Senior Consultant, X by 2

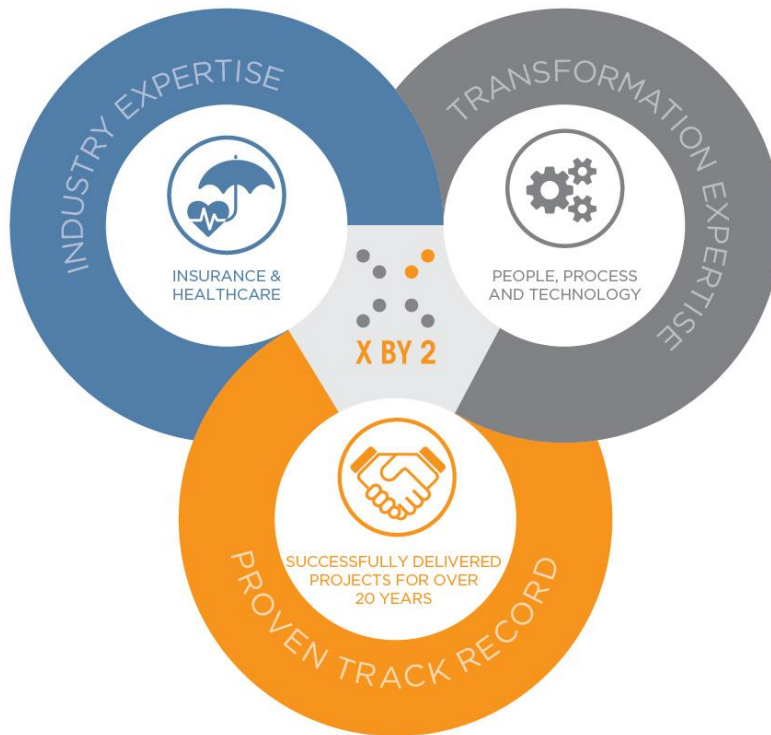
Who We Are

X by 2 develops strategies and executes transformational enterprise initiatives for insurance and healthcare clients.

★ **Founded in 1998**

📍 **Detroit, MI and Toronto, ON**

👥 **45 employees**



Agenda

The value a Single Page Application

High-level architecture

Finding the right SPA developer

Unnoticed tech debt

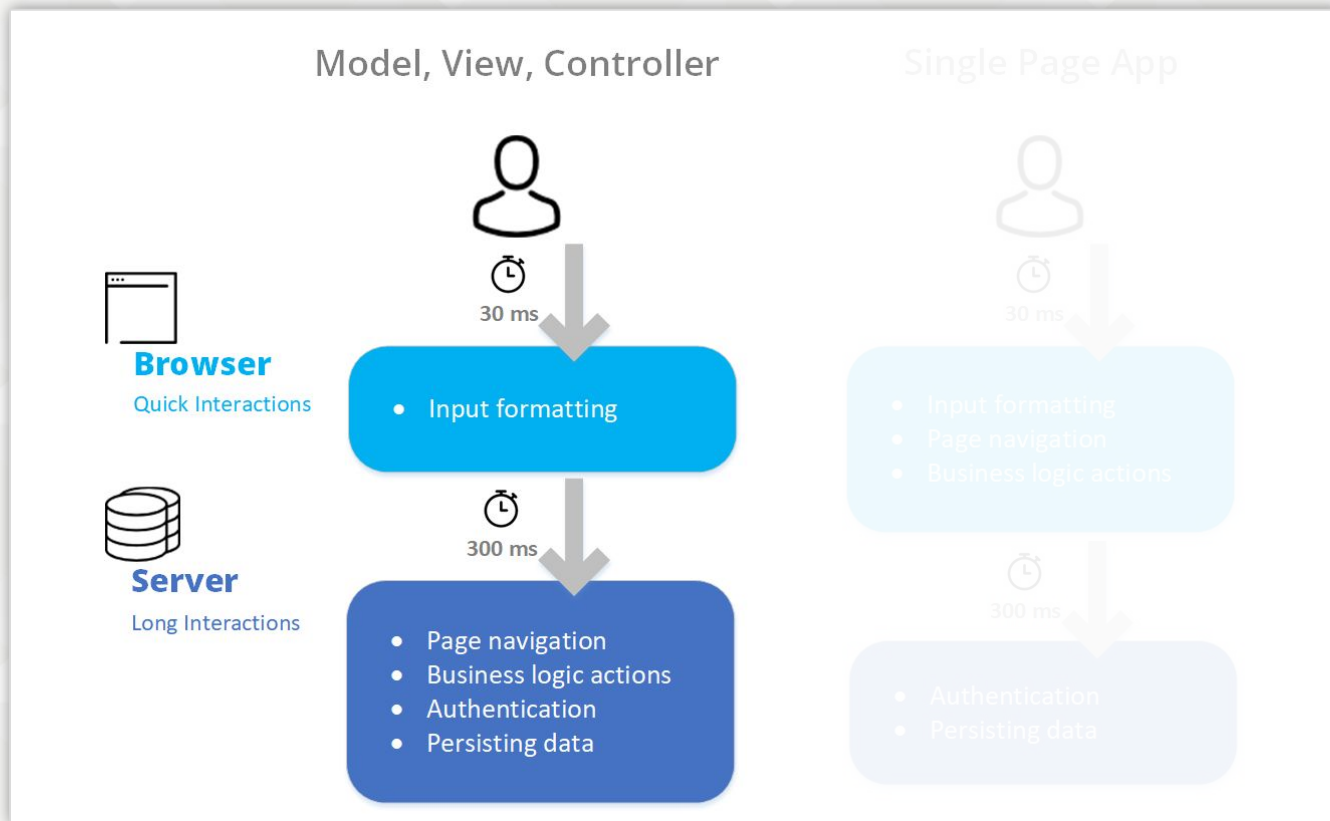
Flux architecture

The value of a Single Page Application

- Seamless user experience
- Removes full page reloads
- Rich user interactions



How do we make the web feel like mobile?



High-level Architecture

Layers of Abstraction

Render View

Page Interactions

Business Logic & State

Angular

Template

Component

Service

Angular covers the full front-end stack

React

Dumb Component

Smart Component

Redux
not part of react

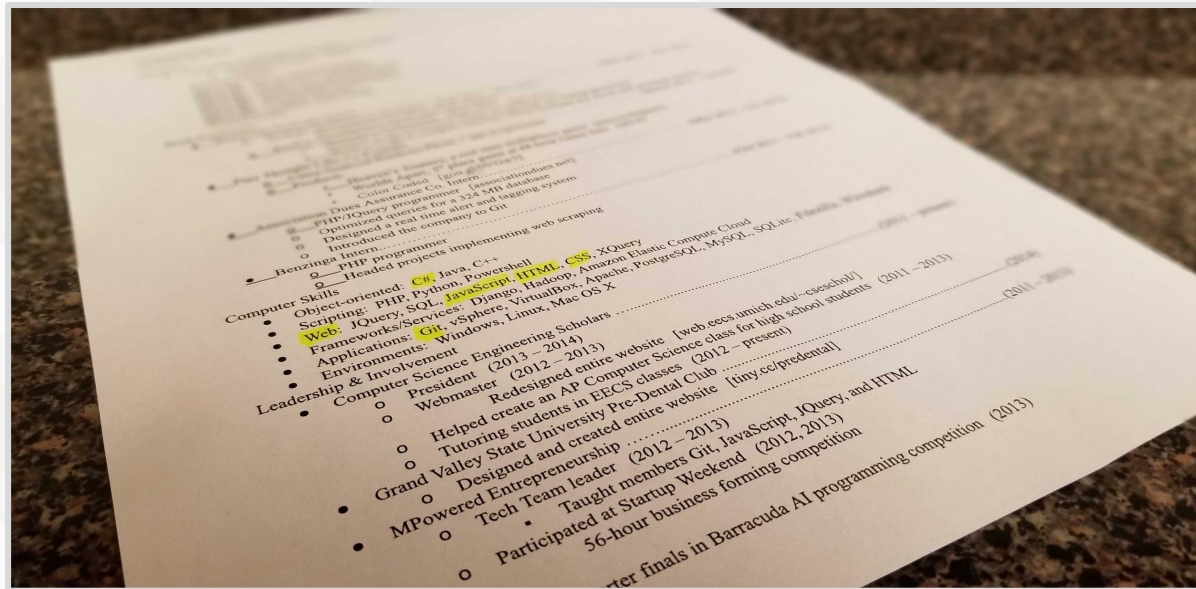
React is de-coupled from the business logic

Finding the Right SPA Developer

What I have seen in large companies

Keyword Resume Search

Interacting with Human Resources Department



How did it turn out

- Additional training
- Unnoticed tech debt
- Smaller scope for tasks

My preferred strategy

X by 2 interviewing method

- Do they have enterprise experience
- Do they understand core concepts
- Do they have a process

Why should I train a developer on a technology?

Training


- Typically 2-3 weeks
- Activities include:
 - Reviewing technical videos
 - Reviewing project documentation
 - Environment setup
 - Testing a pattern in a skeleton project
 - Pair programming



You might have already hired
your best SPA developer

Unnoticed Tech Debt

MockOverflow

Jason  2

What are common pitfalls when working on SPAs?

Jeff 1:00pm

Zafer 2:06pm
Be careful of prop drilling

Eric 2:43pm
Be mindful of how you create your layers of abstraction


Add a comment

Remember to keep your components lean |

Post

Unnoticed Tech Debt

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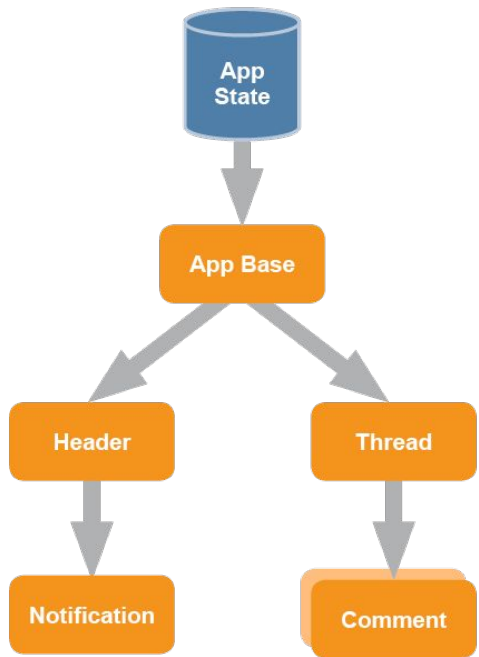
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Rember to keep your components lean. Most of your logic should go in the business logic layer

Add a comment

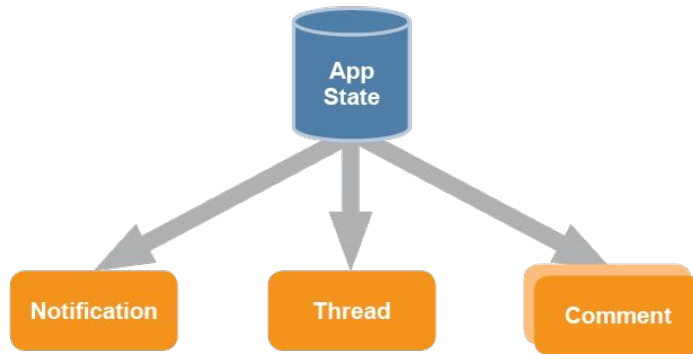
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Prop Drilling

What Developers Fall Into

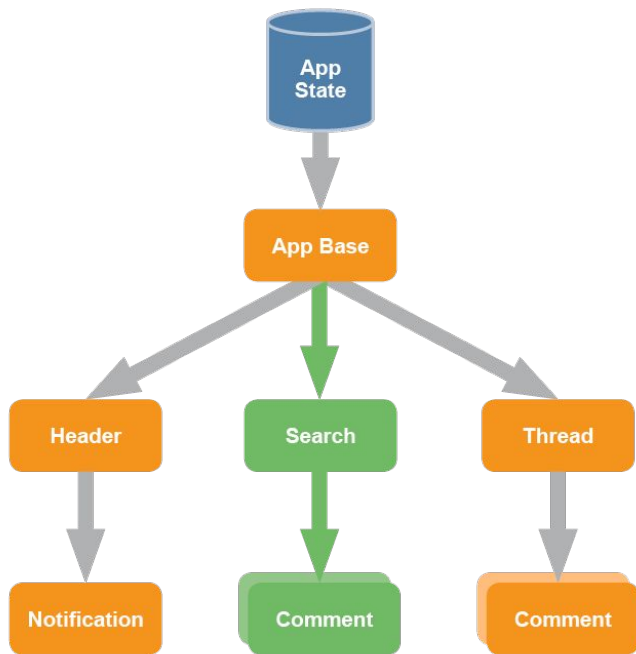


What Makes Development Faster

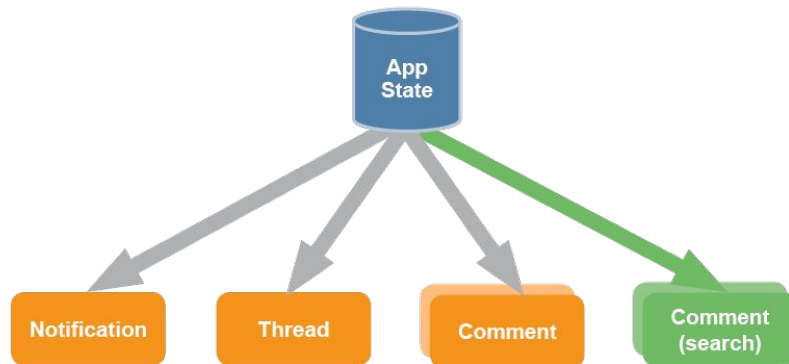


Another feature

Prop Drilling



Without Prop Drilling



Flux Architecture

How does data flow through this architecture?


Who is responsible for this?

Developer

Library



Unnoticed Tech Debt

MockOverflowJason  2

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Flux Architecture

How does data flow through this architecture?



Who is responsible for this?

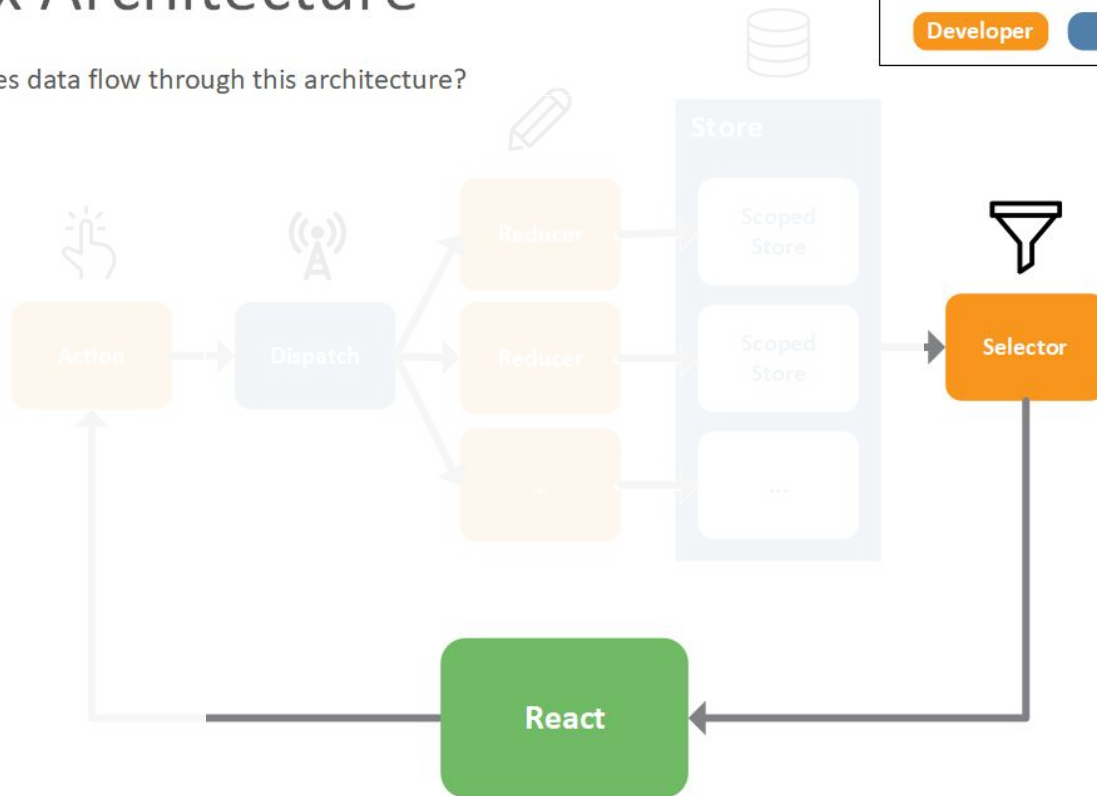
Developer

Library



Flux Architecture

How does data flow through this architecture?

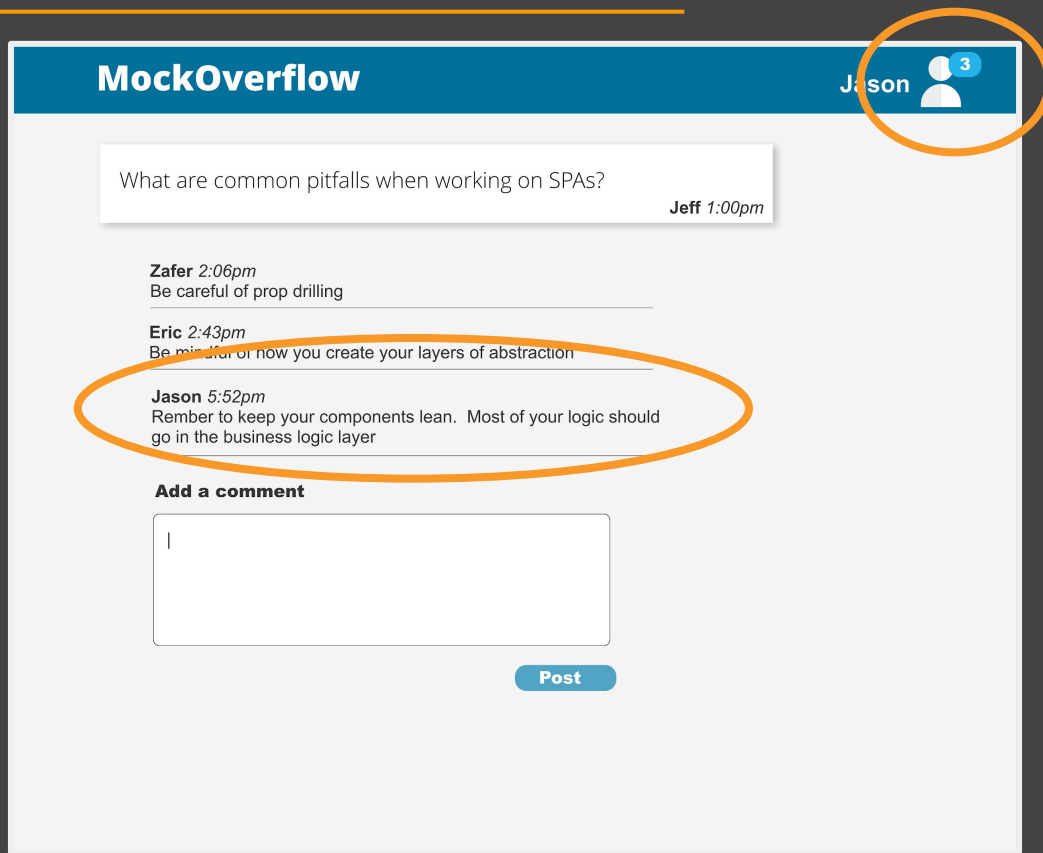



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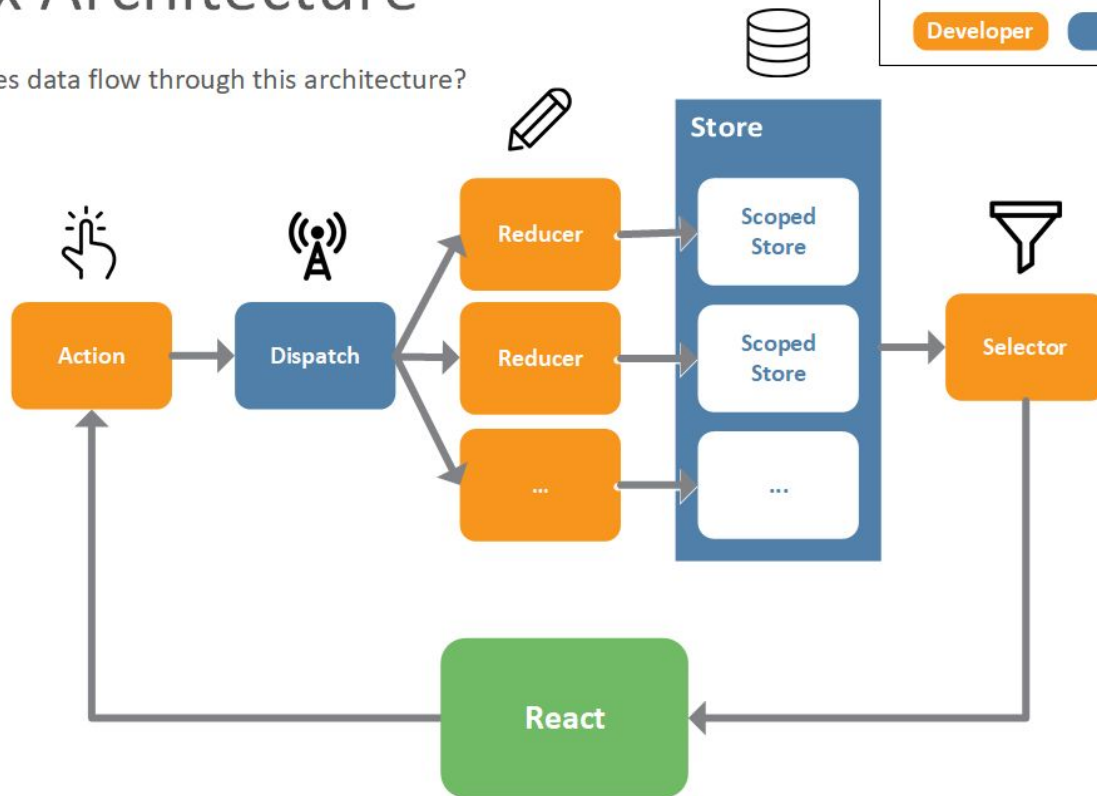
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Flux Architecture

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Flux Architecture

- Separates “page interaction” from “business logic”
- More maintainable and flexible
- Easier to test

Q & A

Thank you and let's continue the conversation

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React vs
Angular

API Gateways

Testing

Single
Sign-on

Micro
Frontends

Server-Side
Rendering