

Asynchronously Updating React State Using Custom React Hooks

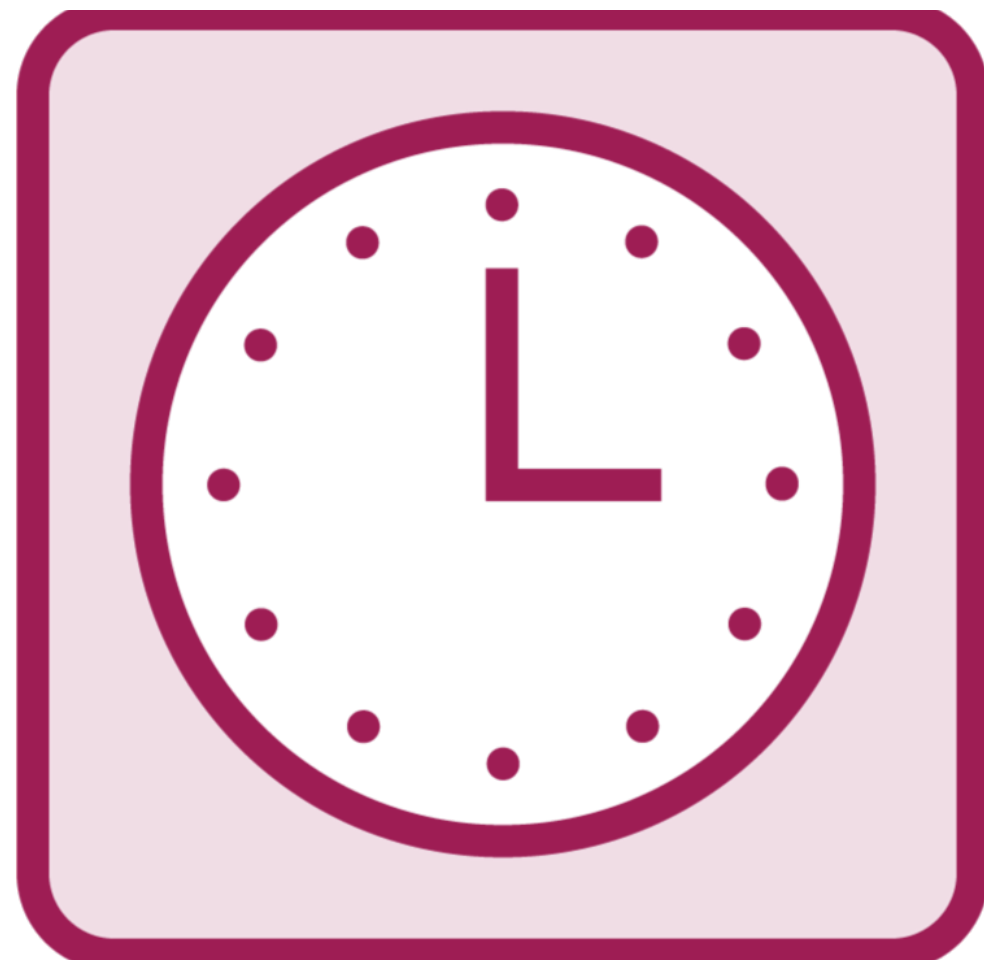


Peter Kellner

Developer, Consultant and Author

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Integrate state with React's page lifecycle events

useEffect is focus for page lifecycle events

Managing state in React is declarative

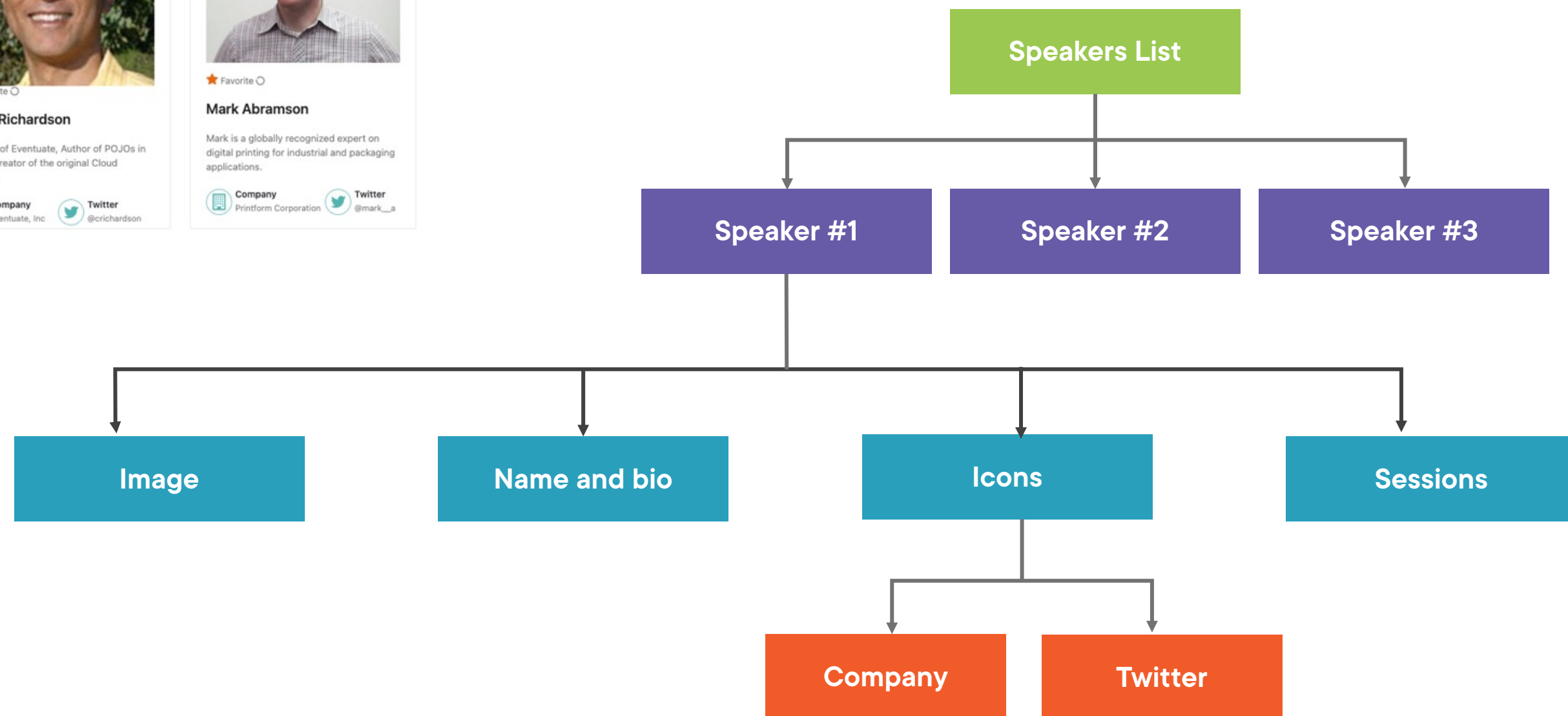
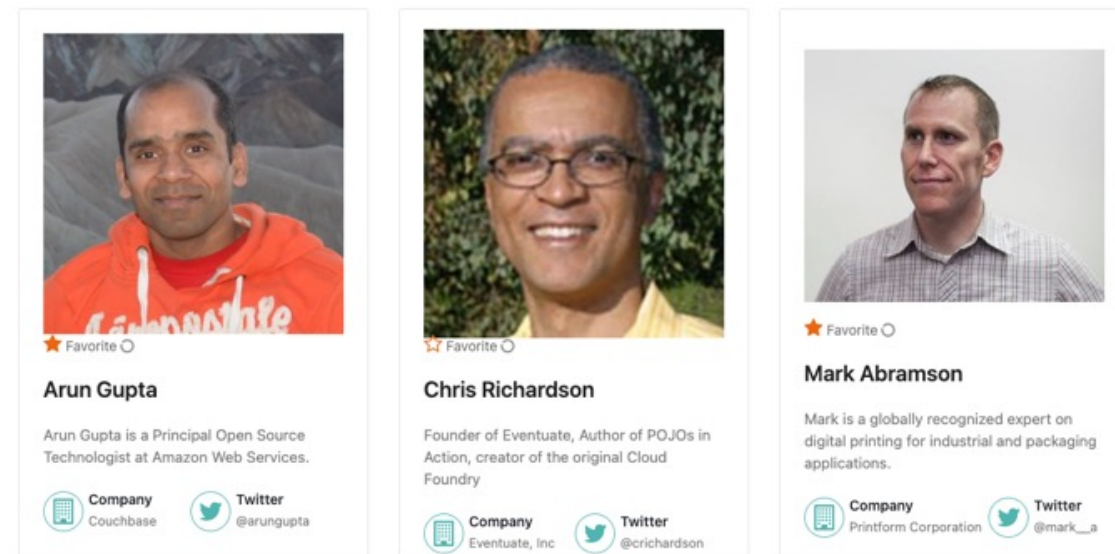
React updates UI based on declarative state changes

Learn to program an optimistic UI

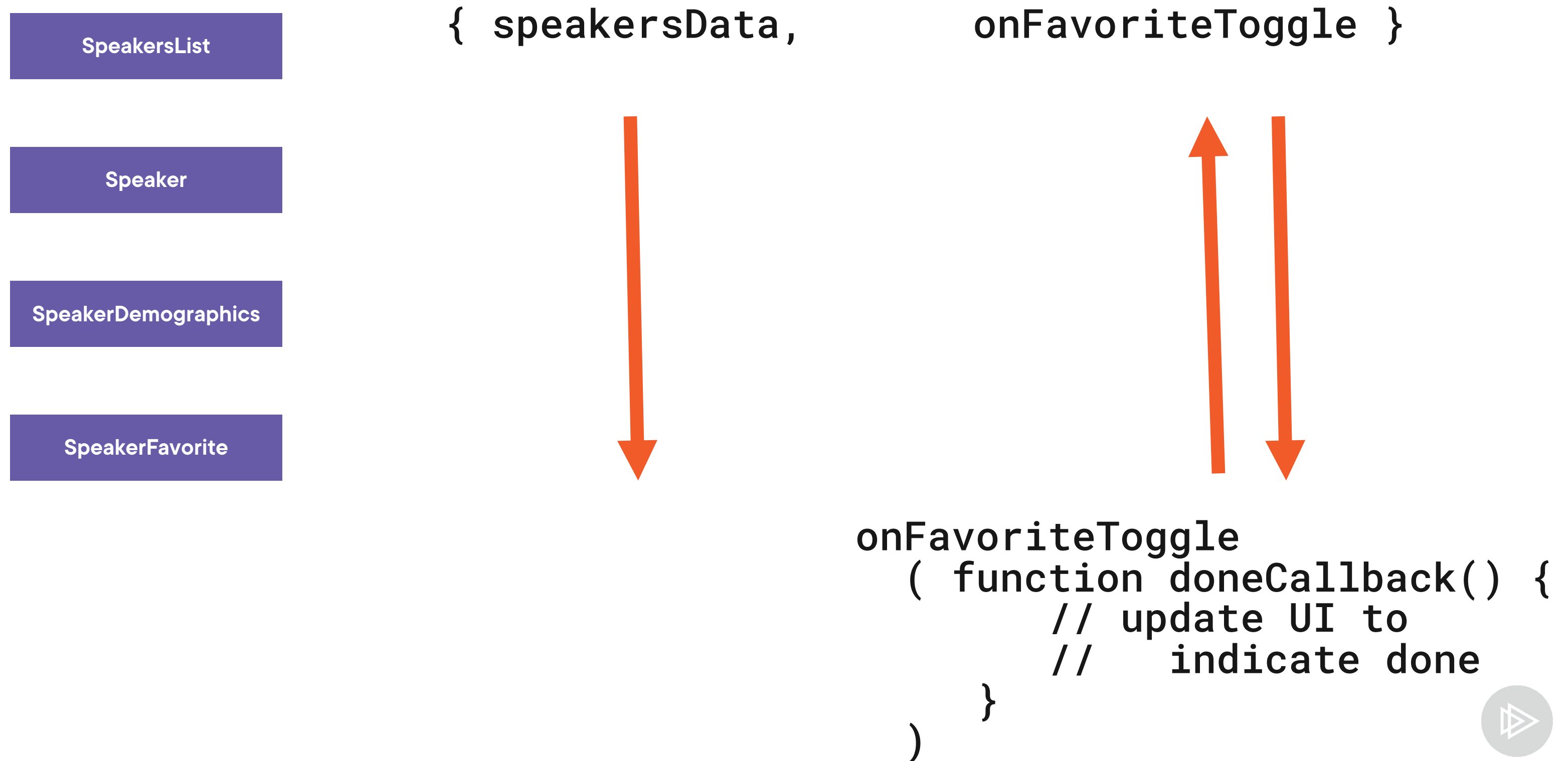
Learn the pattern custom React hooks



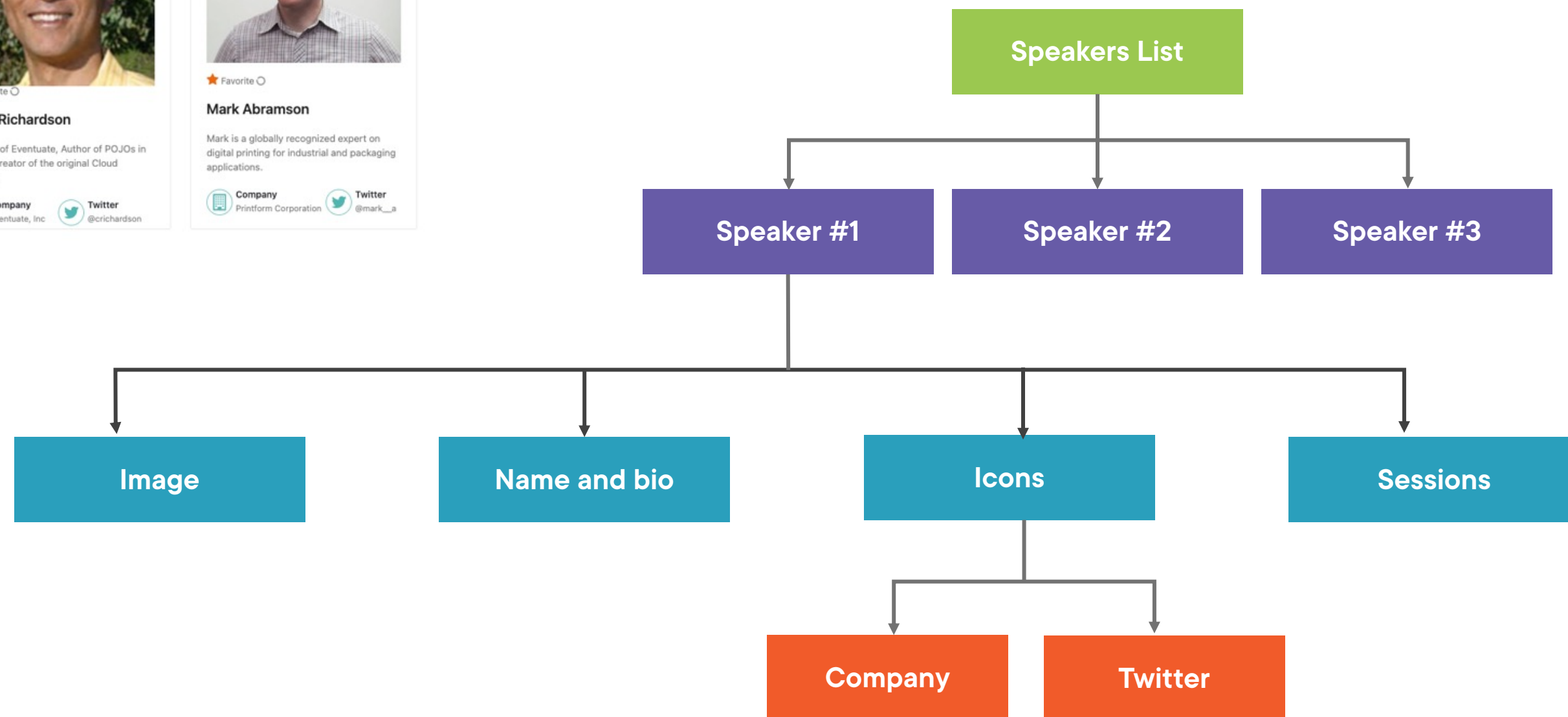
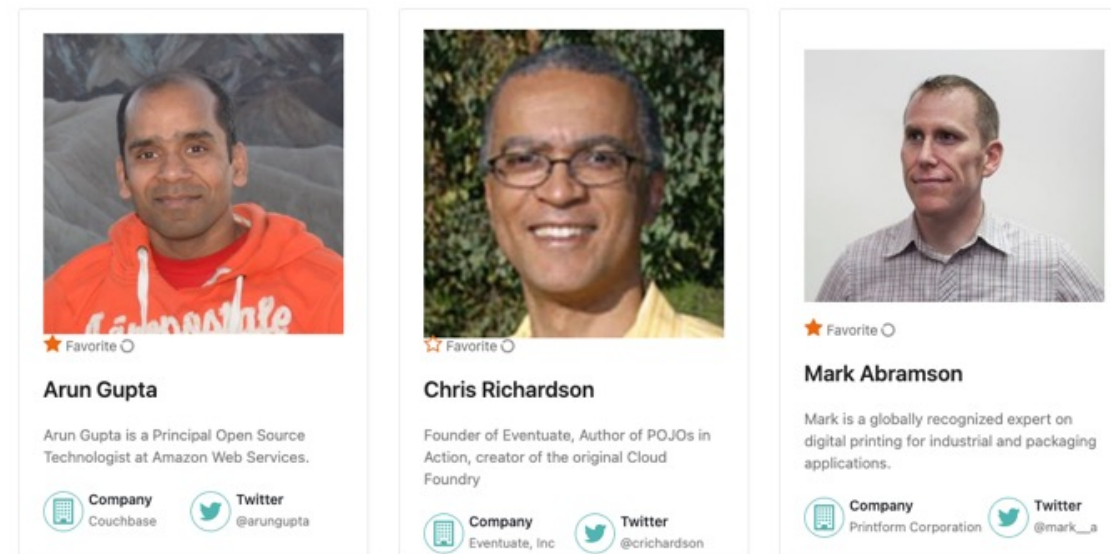
Component Hierarchy From Speakers List Down



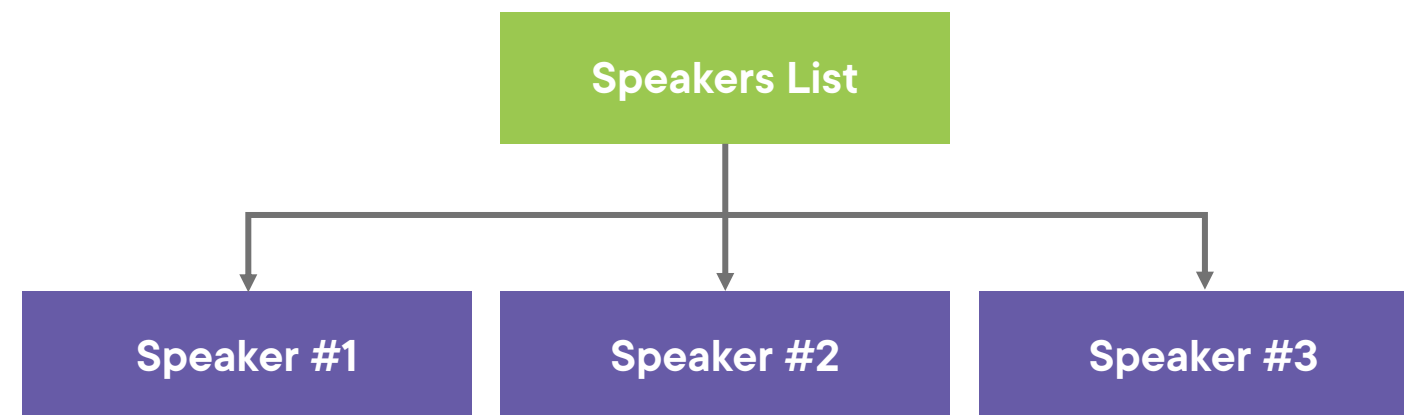
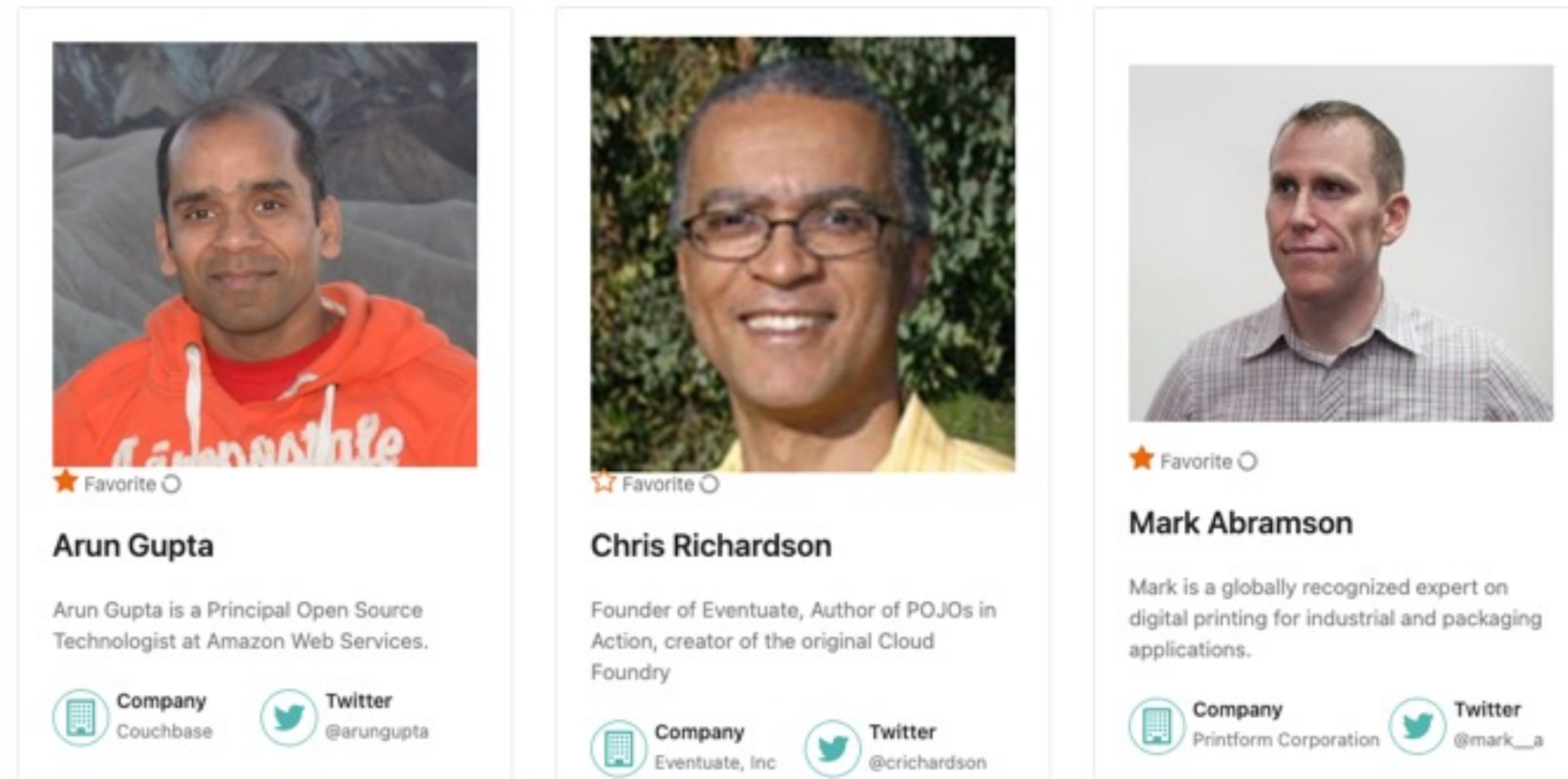
Actual Components and State




Component Dive into the Speaker Component



Building a Component Hierarchy in React





Component Dive into the Speaker Component



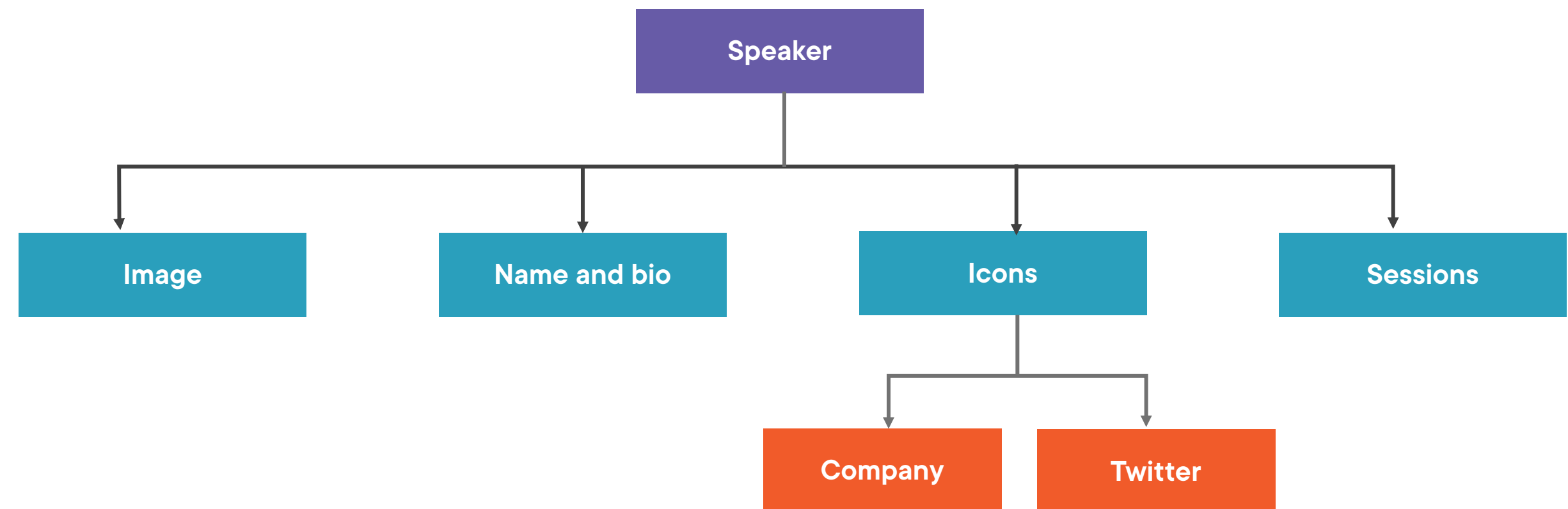
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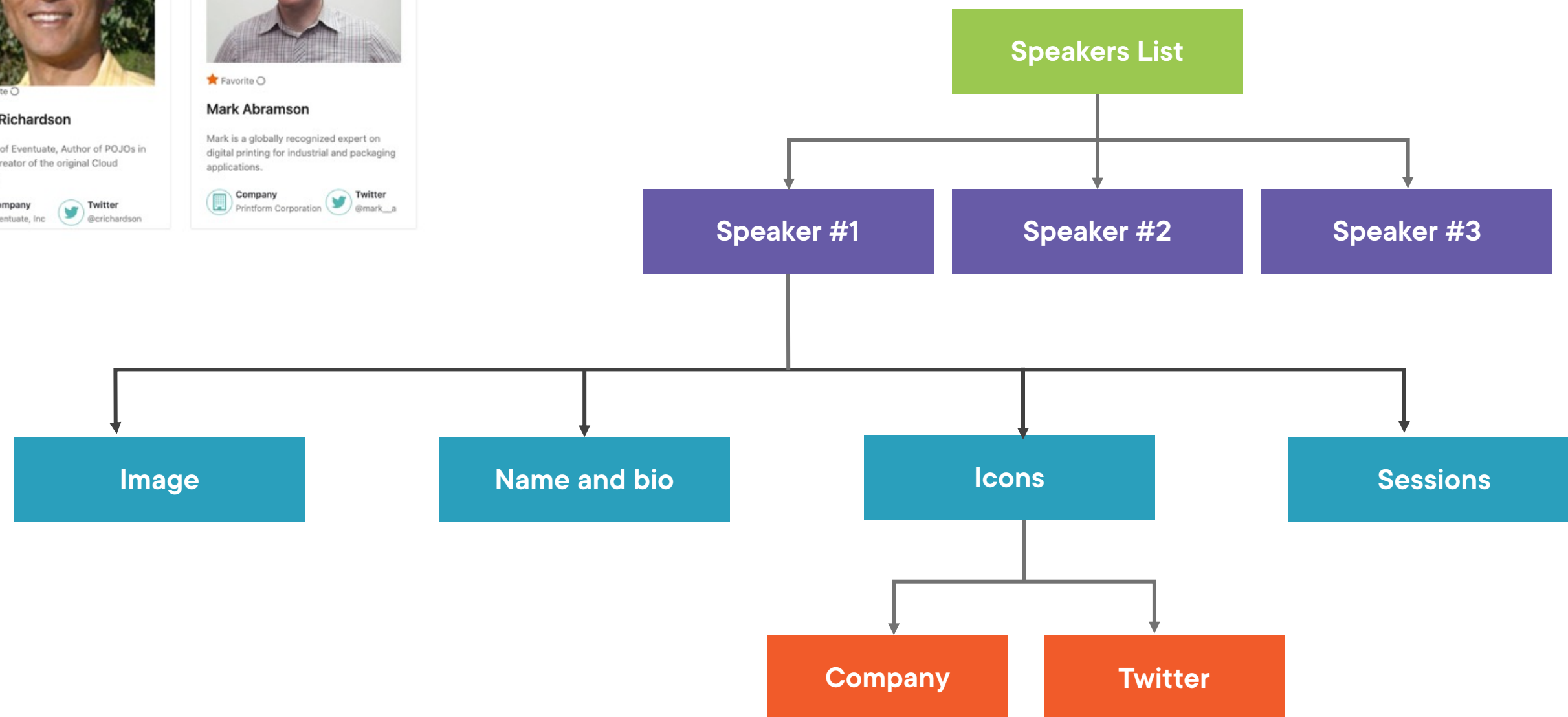
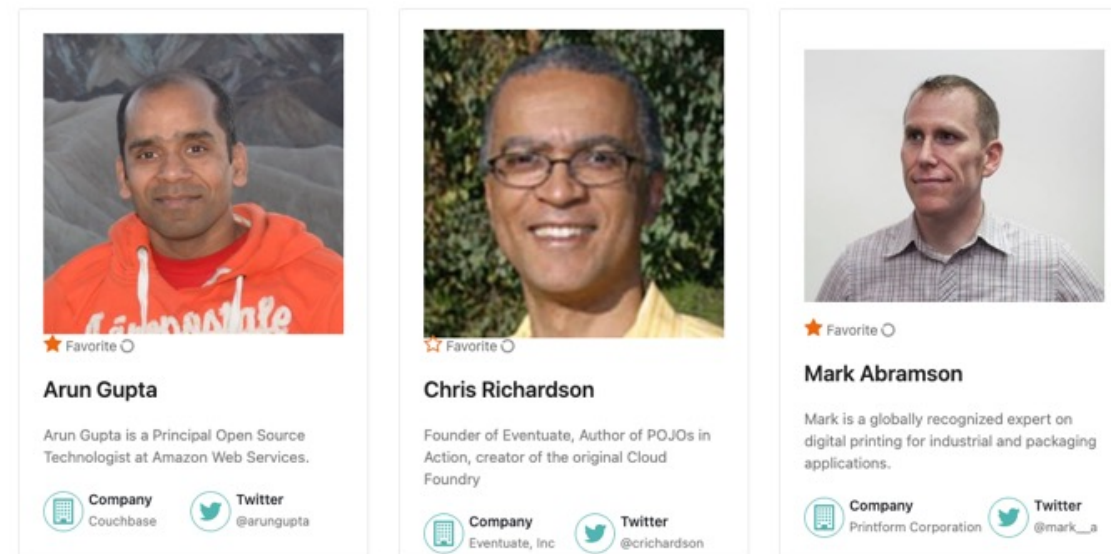
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Component Dive into the Speaker Component



Speakers List



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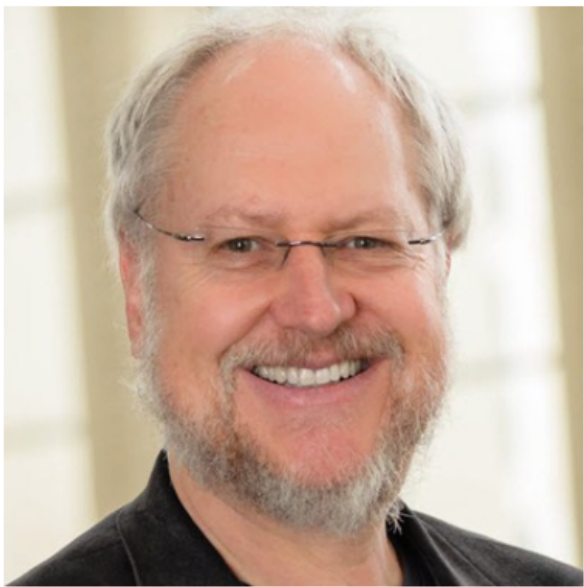
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Douglas Crockford

Douglas Crockford discovered the JSON Data Interchange Format. He is also the author of _JavaScript: The Good Parts_. He has been called a guru, but he is actually more of a mahatma. PayPal notatweeter

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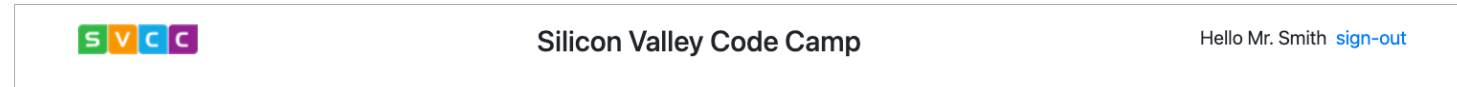
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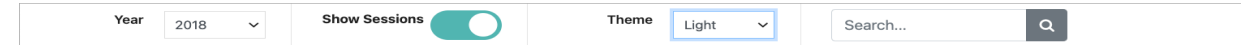
App

Header

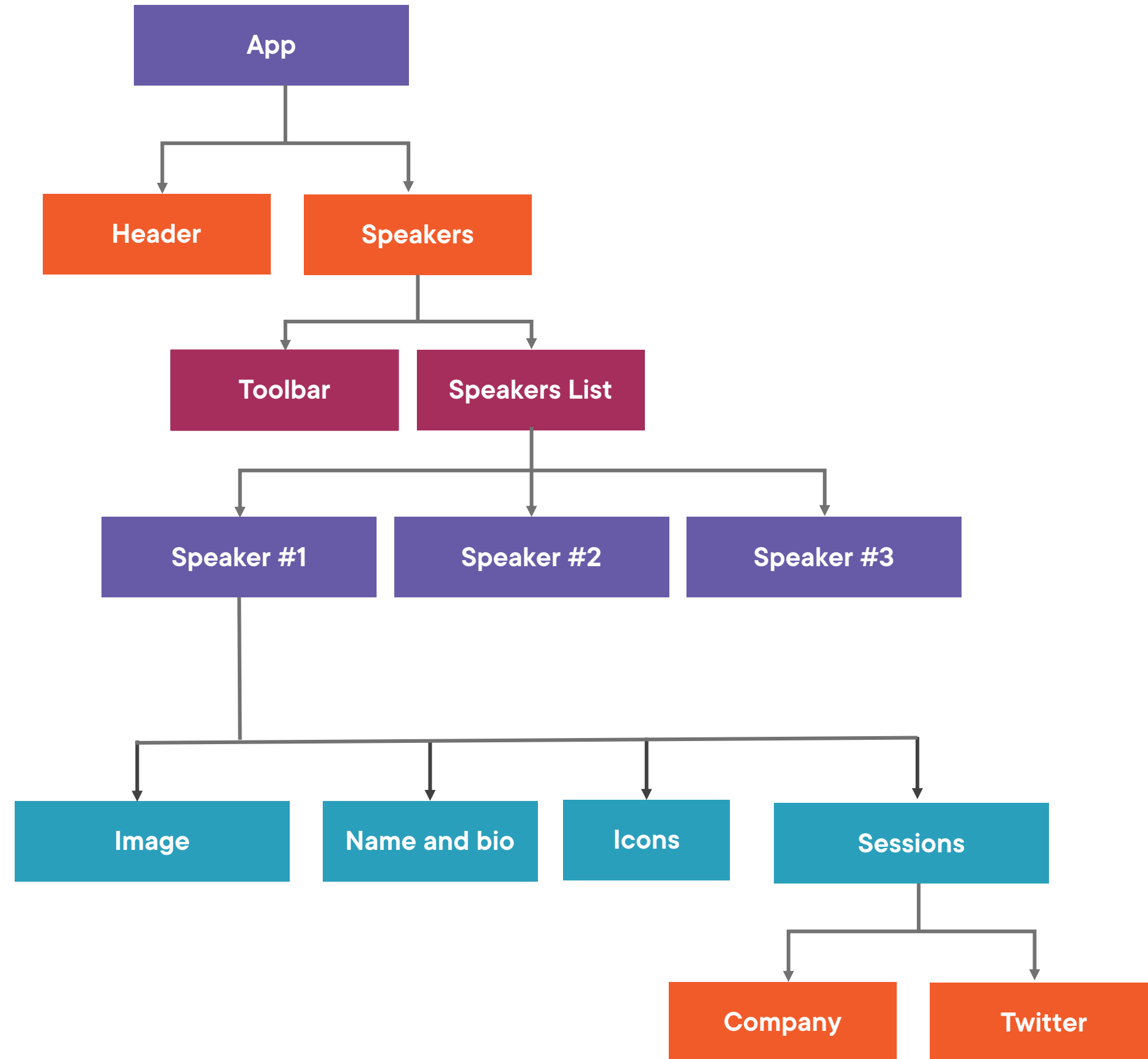
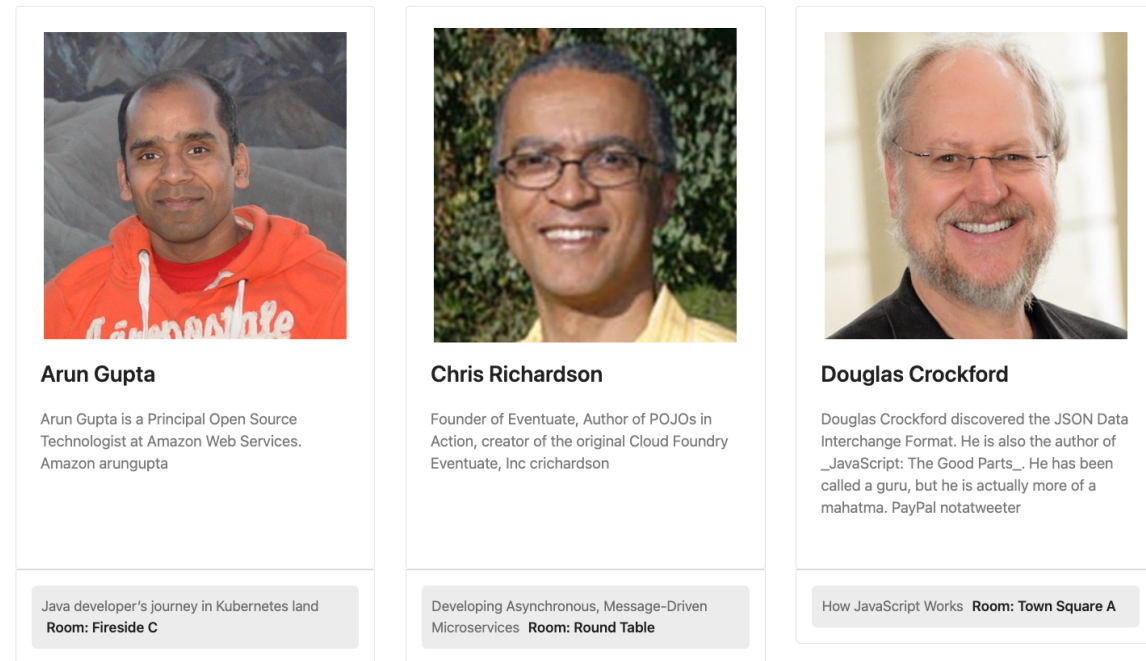


Speakers

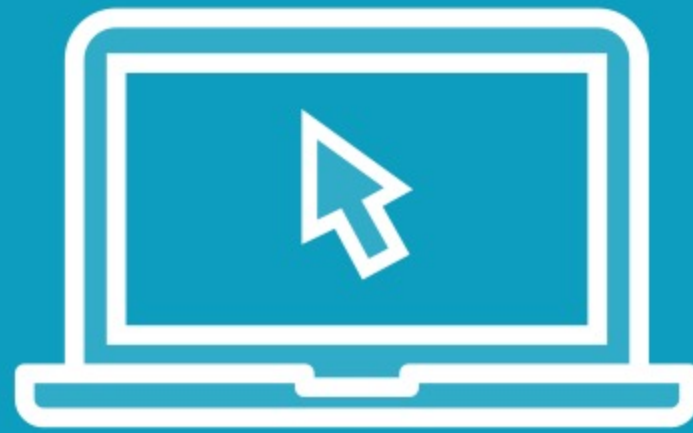
Toolbar



Speakers List



Demo



Code our new Header, and a Toolbar including a dropdown selection for choosing a theme, and a toggle for whether to show speaker sessions.



Demo



Back to our toolbar example to lift our theme state



Demo



**Code moving state from the Toolbar
component up to the App component**



Demo

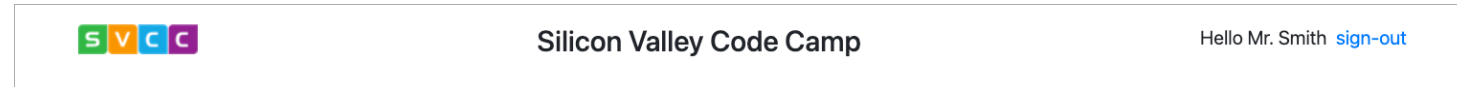


Code lifting state from Toolbar component to new Speakers component for sharing state with SpeakersList component



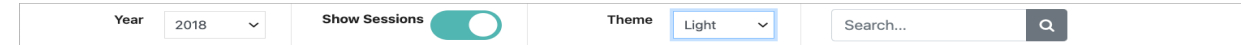
App

Header

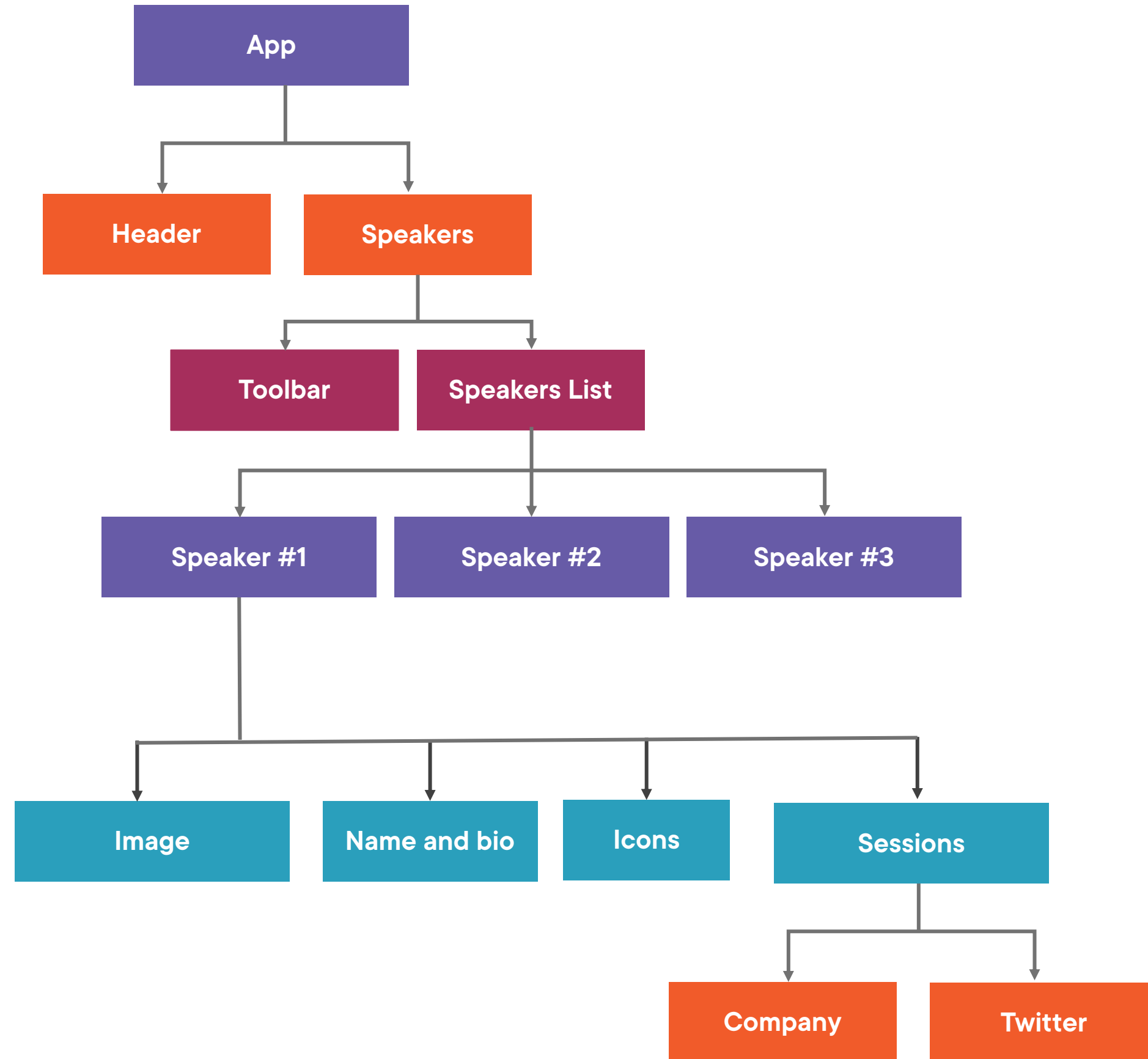
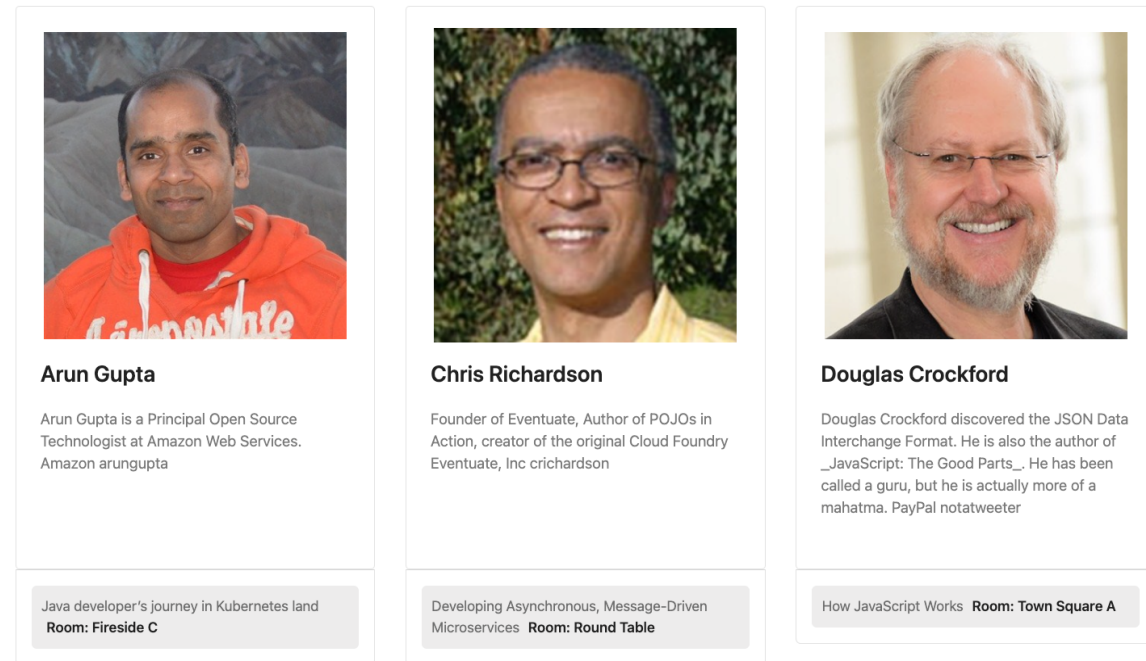



Speakers

Toolbar




Speakers List






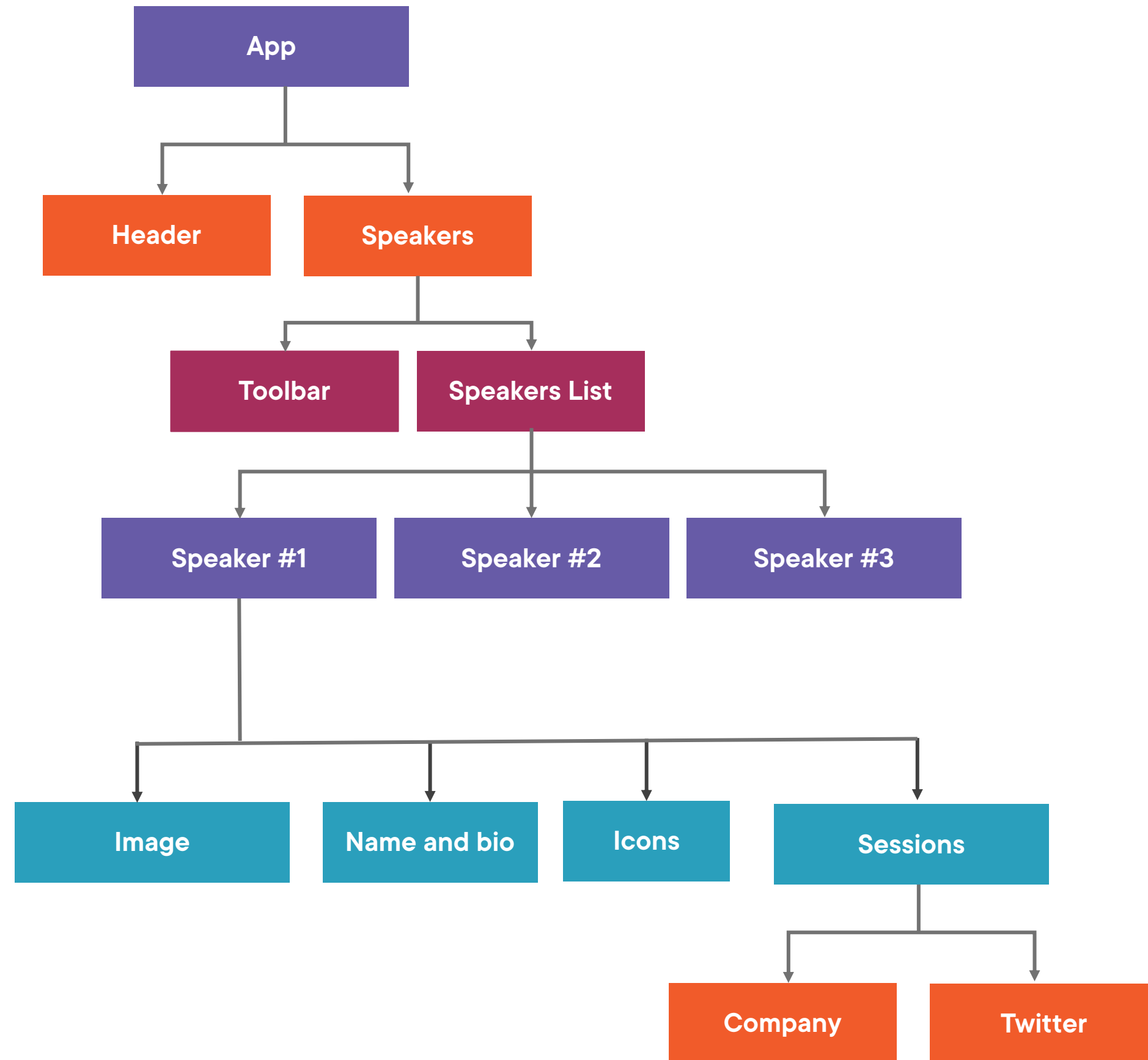
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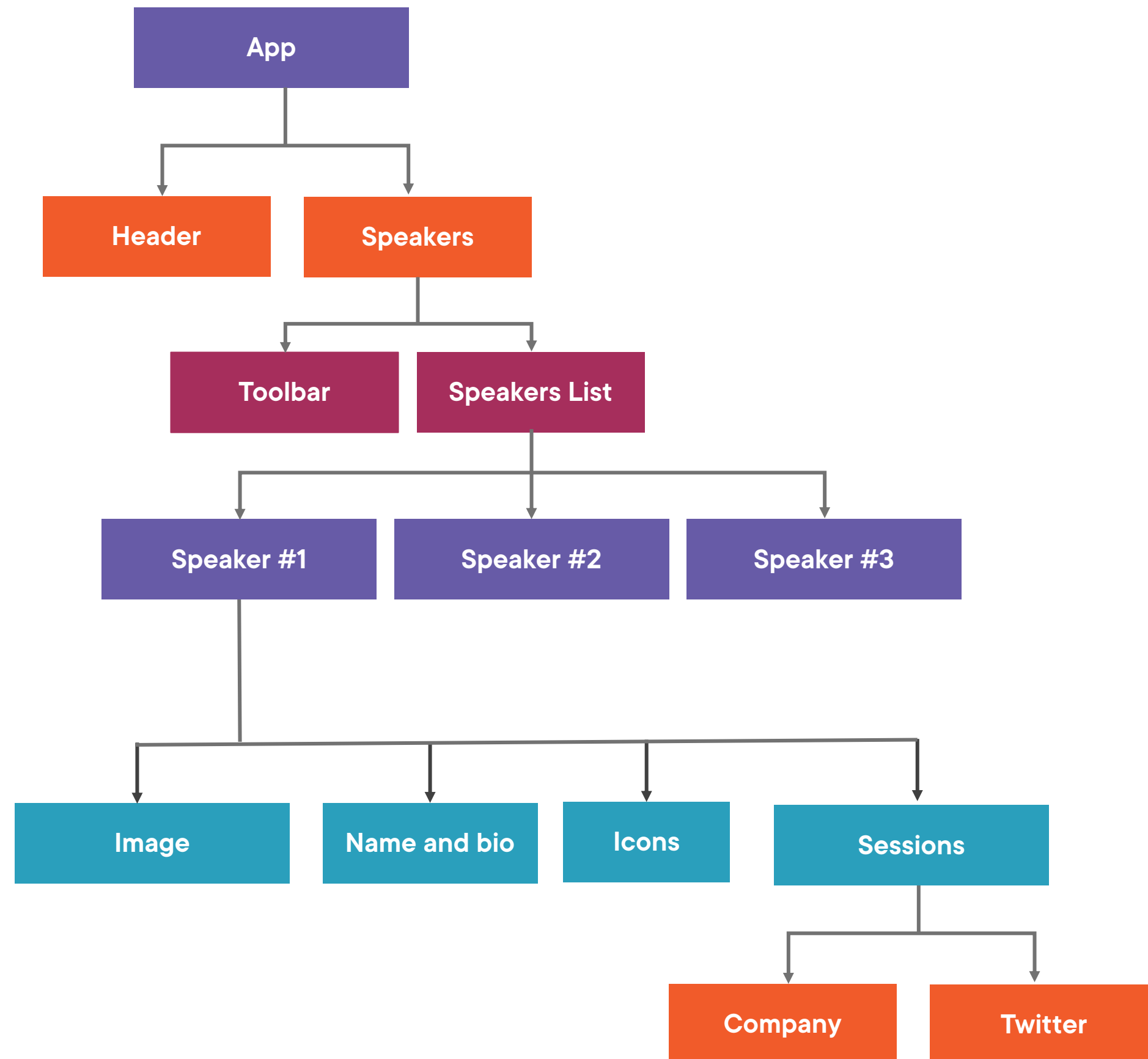
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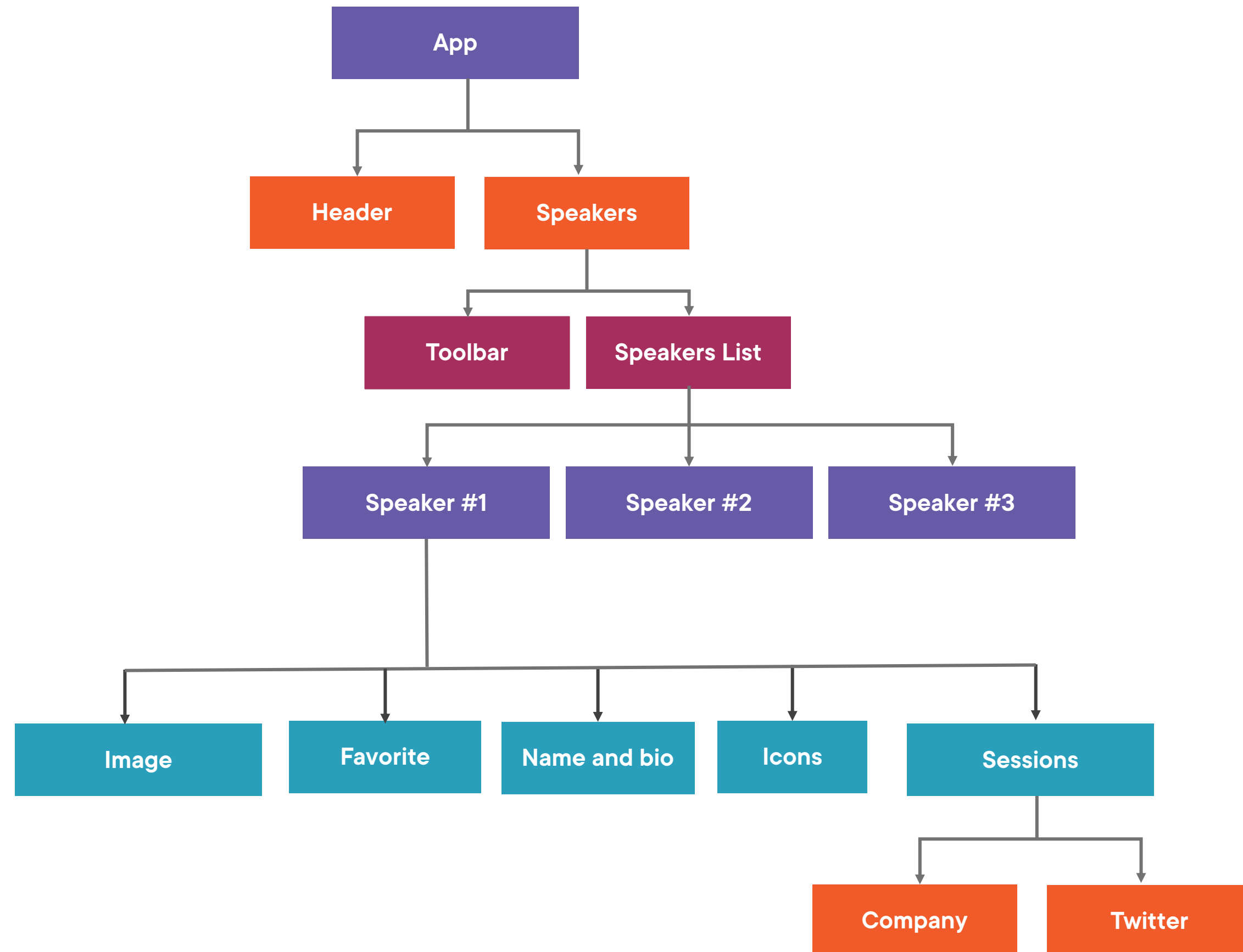


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Demo



**Code our new speaker favorite button
lifting and converting speaker data to
component state**



Needing to Add a Progress Indicator for Updates



Reduce user uncertainty

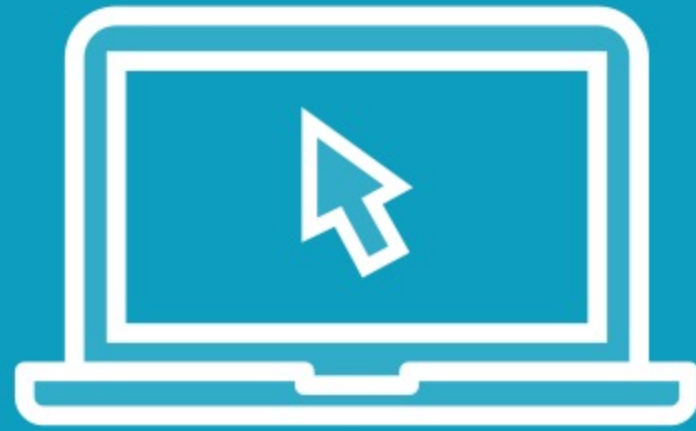
Let the user know that something is happening based on their action



Reduce user's perception of time

Give the user something to look at while they are waiting for something to finish

Demo



Add a progress indicator icon to our speaker favorite update functionality



Optimistic UI

When a user performs some action, and the UI updates with the expected result immediately, even though there may be some back-end processing still pending



Optimistic UI Processing Flow

Without optimistic UI

Click event fired

Progress indicator started

External service or timer called

Service completes

Progress indicator stopped

UI updates showing new value

With optimistic UI

Click event fired

Copy of original data created*

UI updates showing new value

Progress indicator starts (optional)

External service or timer called

Service completes

Progress indicator stops (optional)

** If external service fails, rollback update*



Optimistic UI Found on Many Top Websites



Facebook



Twitter

That's it for the components tab. In the full course, the next module is about the profiler tab. The goal there will be to find and fix components that render too many times (something that happens quite often and slows down your app).

If you want to see the rest of this course, and you don't have a Pluralsight subscription, you can grab a free trial from this URL and watch it! (you will need to enter a credit card though, sorry, not my rules).

Designing React Components

Course Overview [Autogenerated] Hi, I'm Peter Kellner and welcome to my course designing react components. I'm a part...

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Demo



Implement in code our optimistic UI by only changing code in useRequestDelay custom React hook



Takeaways



- Understand the concept of state updates being imperative
- React page lifecycle events are an important part of state management
- Following best practices techniques including how to program an optimistic UI and custom React hooks is important
- It's all about JavaScript best practices and specific patterns that will help you

