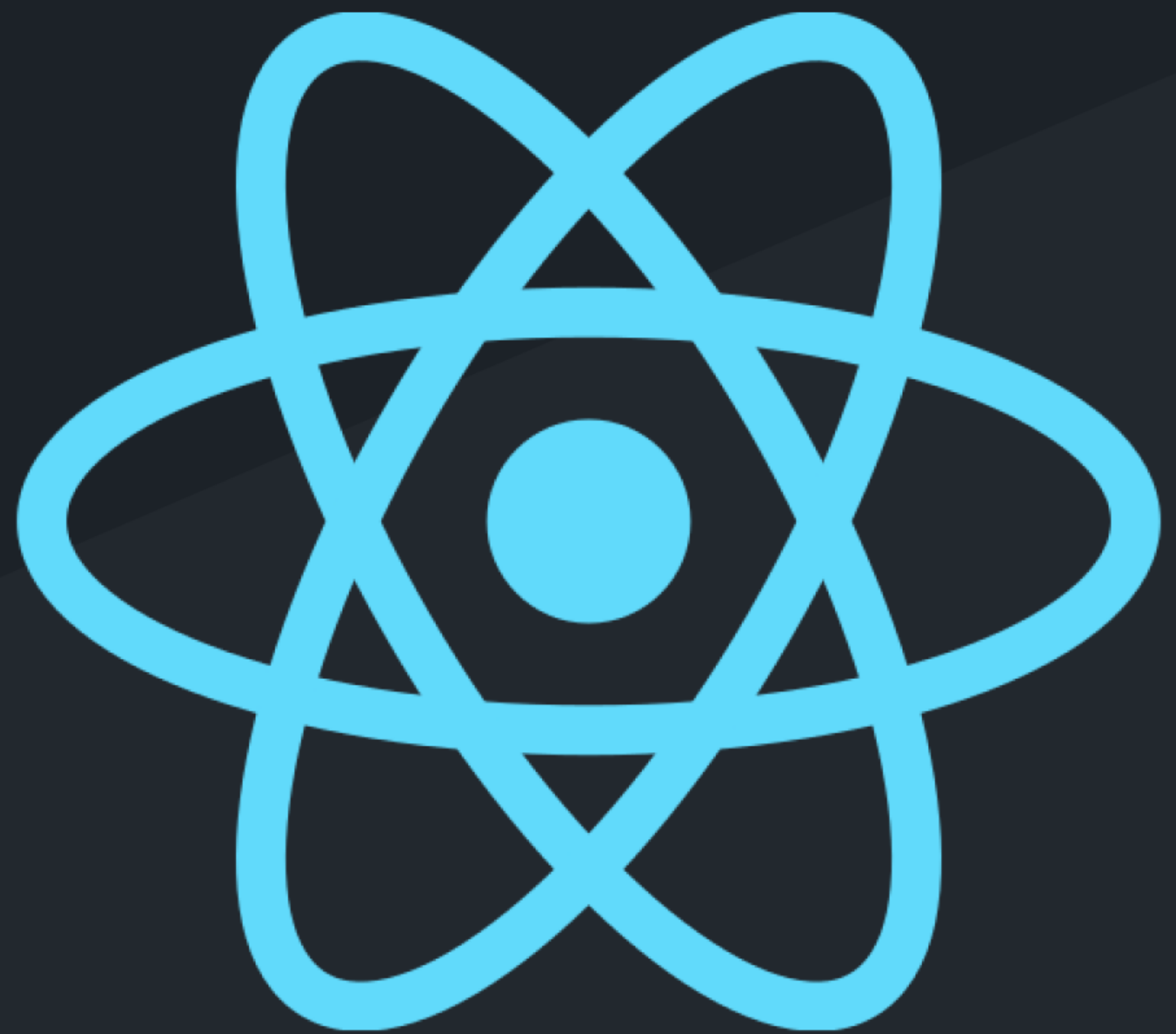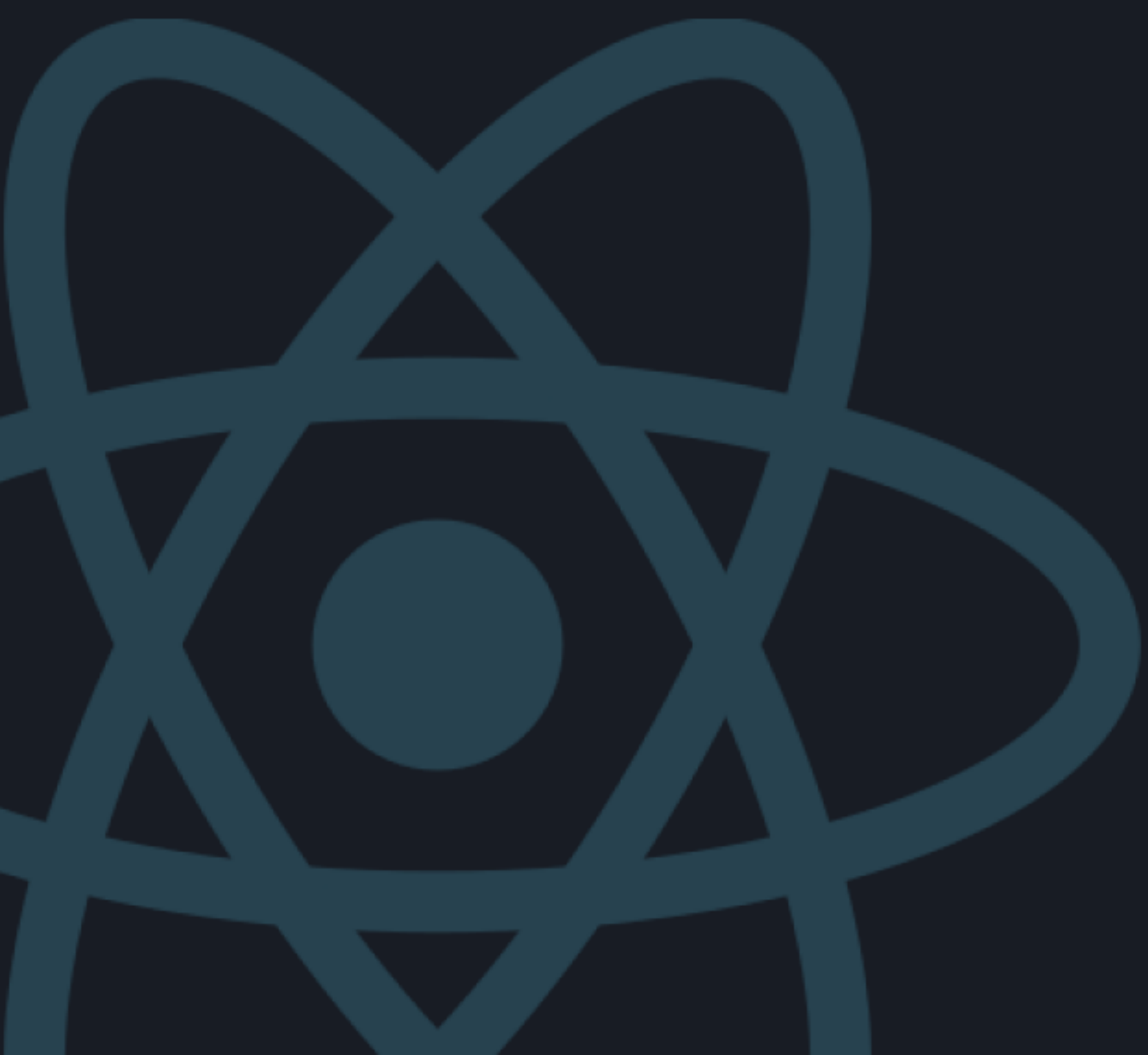# Virtual DOM

In Detail

Gagan Saini

Virtual DOM

The **Virtual DOM** is a concept in React that **enhances** the performance of **rendering updates** by using an in-memory **representation of the actual DOM**.

It acts as a middleman between the components and the real DOM, optimizing the way changes are applied to the user interface.
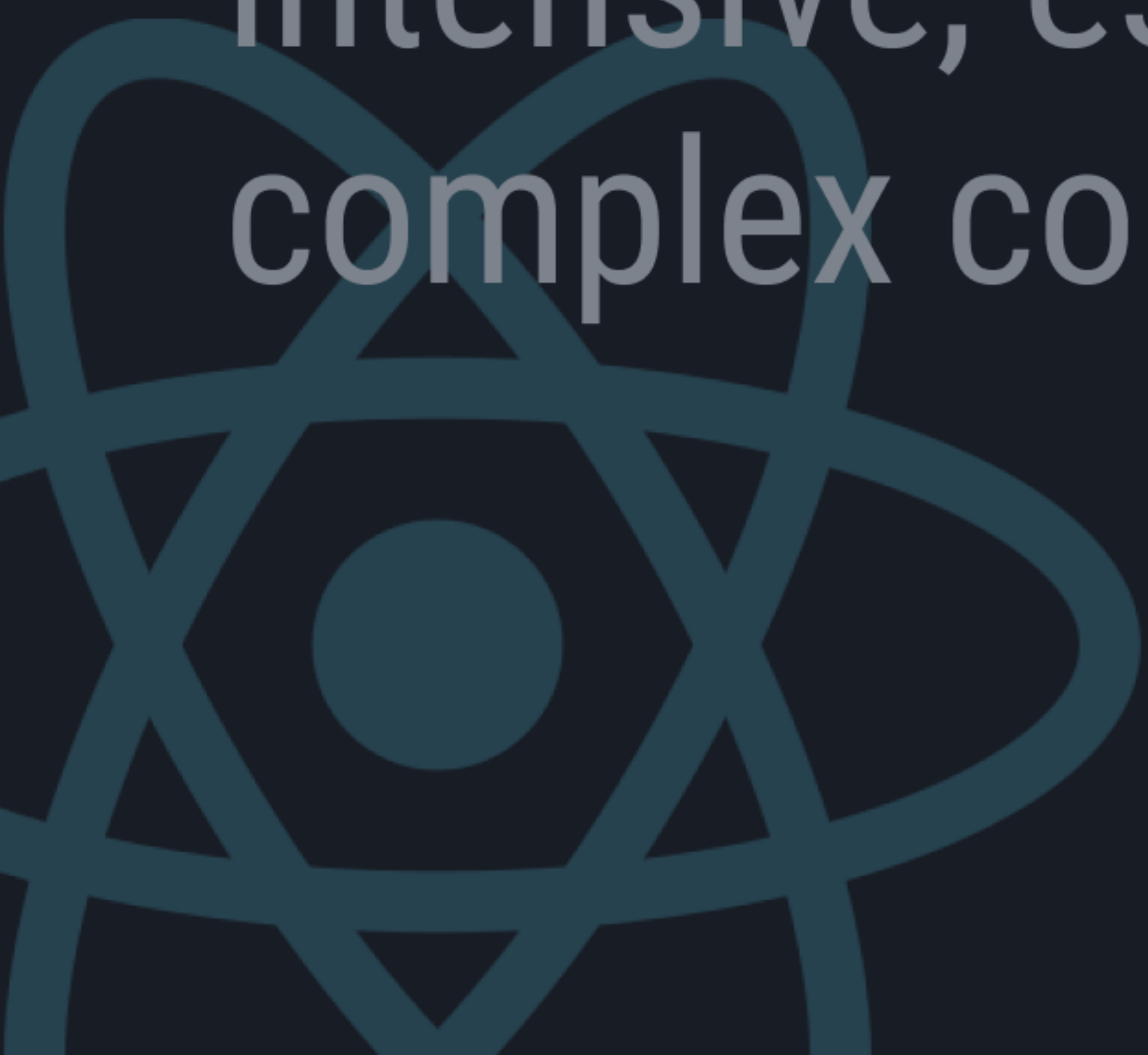
Without Virtual DOM

In the absence of a Virtual DOM, every time the something changes in component, then the entire HTML structure of the component is recreated from scratch.

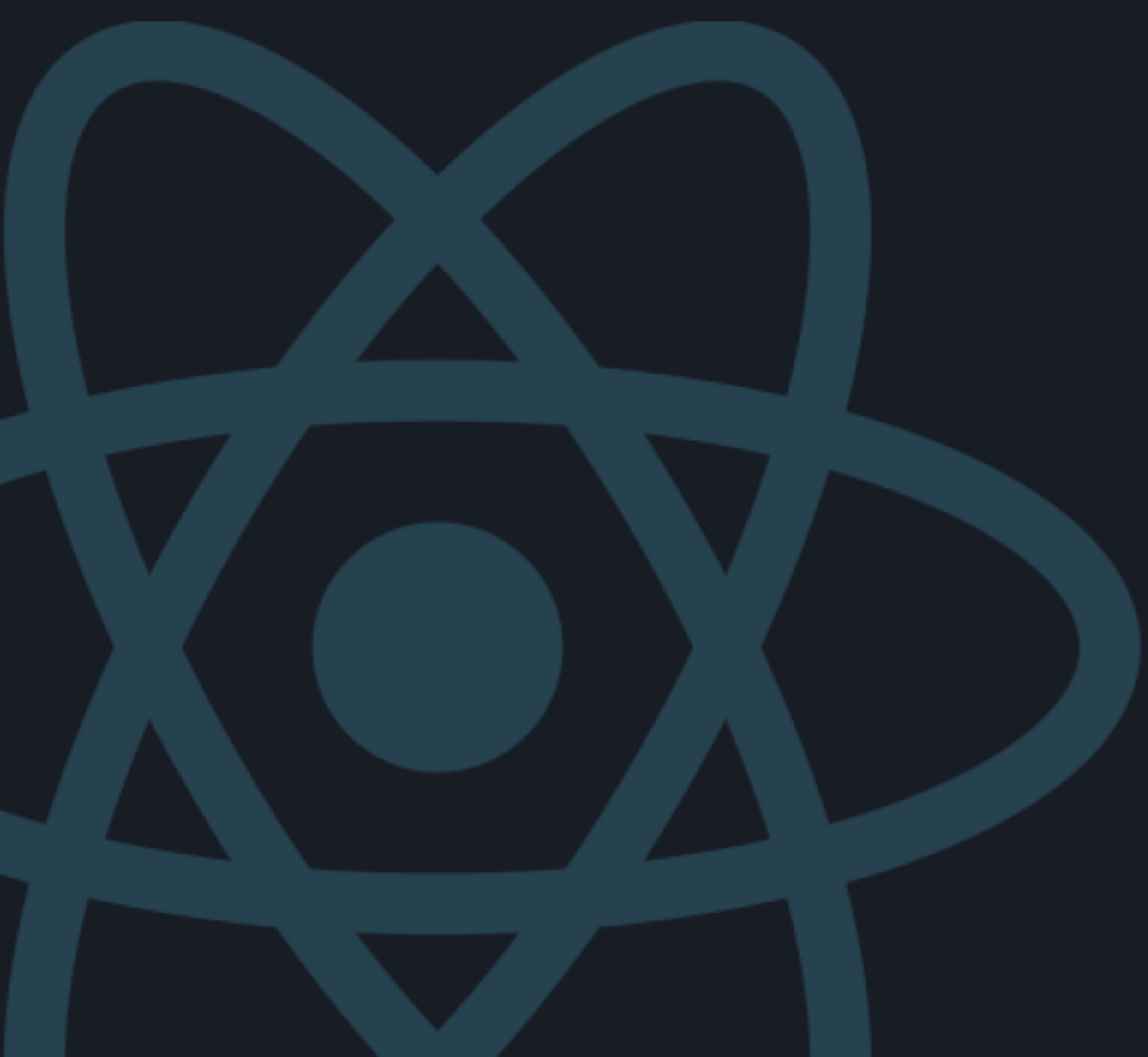This includes **removing the old DOM** elements and **appending new ones**.
This process can be slow and resource-intensive, especially for larger and more complex components.

With Virtual DOM

With the Virtual DOM, things work differently. When the something changes, React creates a virtual representation of the updated component's structure and compares it with the previous virtual representation.
It identifies the **minimal set** of changes needed to update the real DOM to match the new virtual representation.

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