Write a React Component Like a Pro

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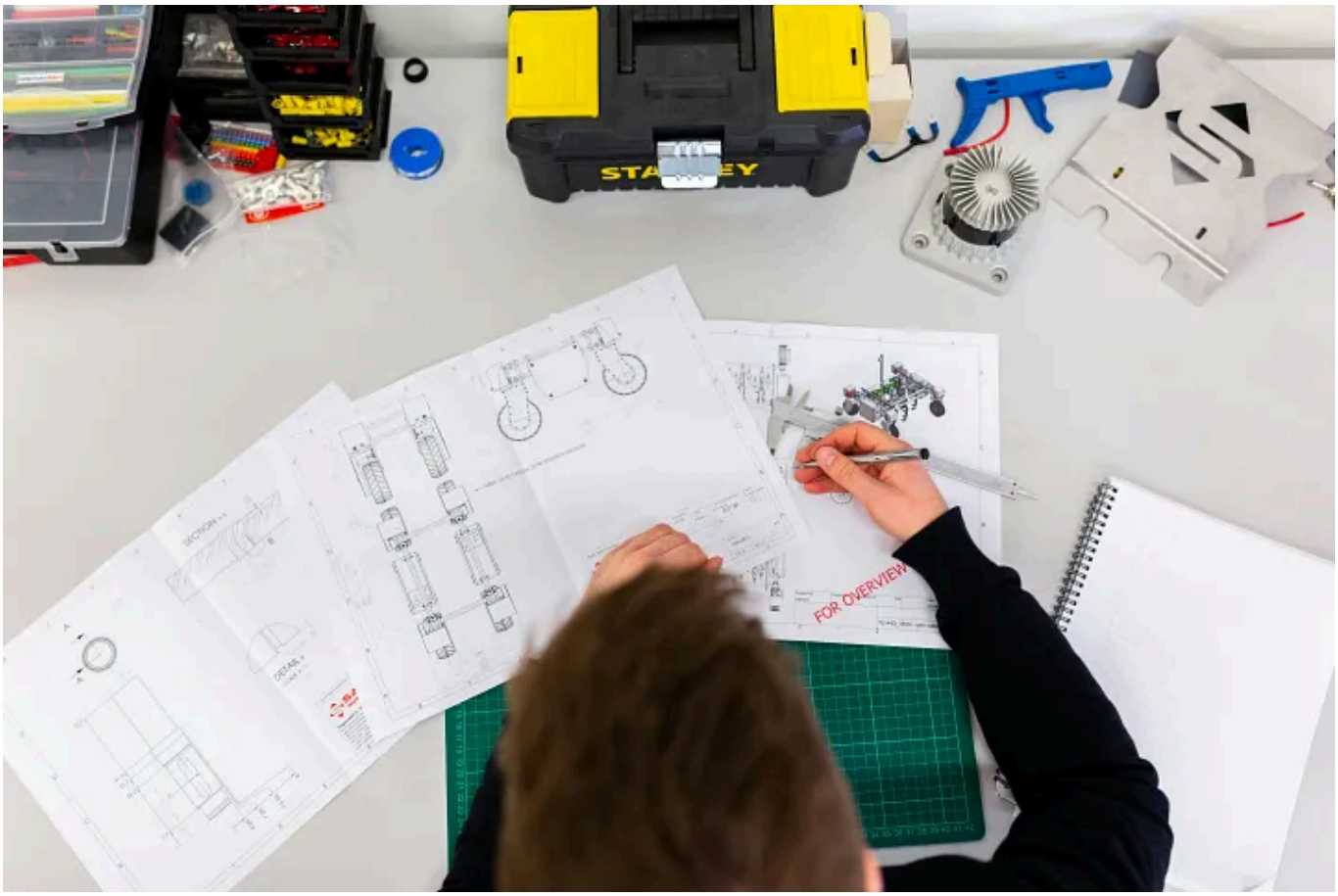

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In the world of React, writing components is an art. It's not just about making them work — it's about making them work well. Today, we're going to look at how to craft your components like a pro, focusing on readability, reusability, and efficiency.

Create a List Component

Let's start with a basic List component:

```
// src/components/List.js
import React from 'react';

const List = ({ data }) => {
  return (
    <ul>
      {data.map((item, index) => (
        <li key={index}>{item}</li>
      ))}
    </ul>
  );
};

export default List;
```

This component takes an array of `data` and renders it as a list.

Enhancing Components with HOCs

Higher-Order Components (HOCs) are a powerful pattern for reusing component logic. They essentially wrap a component to extend its functionality without altering its structure.

For example, a `withLoading` HOC can be used to display a loading state:

```
// src/hocs/withLoading.js
import React, { useState } from 'react';

function withLoading(Component) {
  return function WithLoading({ isLoading, ...props }) {
    if (isLoading) {
      return <div>Loading...</div>;
    }
    return <Component {...props} />;
  };
}

export default withLoading;
```

This HOC checks the `isLoading` prop. If it's true, it renders a "Loading..." message. Otherwise, it renders the wrapped component, allowing for a seamless user experience during data fetching.

Similarly, `withErrorHandling` is another HOC that can manage error states:

```
// src/hocs/withErrorHandling.js
import React from 'react';

function withErrorHandling(Component) {
  return function WithErrorHandling({ error, ...props }) {
    if (error) {
      return <div>Error: {error.message}</div>;
    }
    return <Component {...props} />;
  };
}

export default withErrorHandling;
```

When an error occurs, `withErrorHandling` displays an error message. Otherwise, it renders the component as usual. This HOC is particularly useful for handling fetch errors or issues within the component lifecycle.

By combining `withLoading` and `withErrorHandling`, we can create a robust component that handles both loading and error states elegantly. This approach promotes code reuse and separation of concerns, making our components more maintainable and easier to understand.

Fetching Data with Hooks

React hooks allow us to use state and other React features without writing a class. **useFetch** is a custom hook that fetches data from an API:

```
// src/hooks/useFetch.js
import { useState, useEffect } from 'react';

const useFetch = (url) => {
  const [data, setData] = useState([]);
  const [isLoading, setLoading] = useState(false);
  const [error, setError] = useState(null);

  useEffect(() => {
    const fetchData = async () => {
      setLoading(true);
      try {
        const response = await fetch(url);
        if (!response.ok) {
          throw new Error('Network response was not ok');
        }
        const json = await response.json();
        setData(json);
      } catch (error) {
        setError(error);
      } finally {
        setLoading(false);
      }
    };

    fetchData();
```

```
    // Cleanup function
    return () => {
      // Cleanup logic if needed
    };
  }, [url]);

  return { data, isLoading, error };
};

export default useFetch;
```

It handles the fetching state, data storage, and errors, making it easy to fetch and display data in our components.

Assembling the App

Finally, we bring everything together in the `App` component:

```
// src/App.js
import React from 'react';
import withLoading from './hocs/withLoading';
import withErrorHandling from './hocs/withErrorHandling'; // Yeni HOC eklendi
import useFetch from './hooks/useFetch';
import List from './components/List';

const ListWithLoading = withLoading(List);
const ListWithErrorHandling = withErrorHandling(ListWithLoading); // ListWithLoa

const App = () => {
  const { data, isLoading, error } = useFetch('https://api.example.com/data');

  return (
    <div>
      <h1>List Component</h1>
      <ListWithErrorHandling data={data} isLoading={isLoading} error={error} />
    </div>
```

```
export default App;
```

We use our `useFetch` hook to load data and pass it to our `List` component, which is enhanced with loading and error handling capabilities through our HOCs.

Conclusion

Writing components like a pro means thinking about the bigger picture. It's about creating components that are easy to read, maintain, and reuse. By using patterns like HOCs and hooks, we can create a clean and efficient codebase that stands the test of time.

Happy coding!

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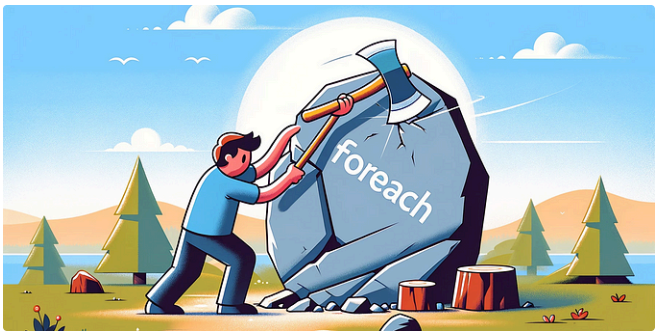

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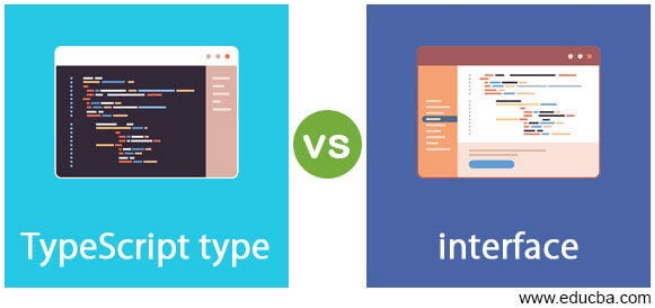

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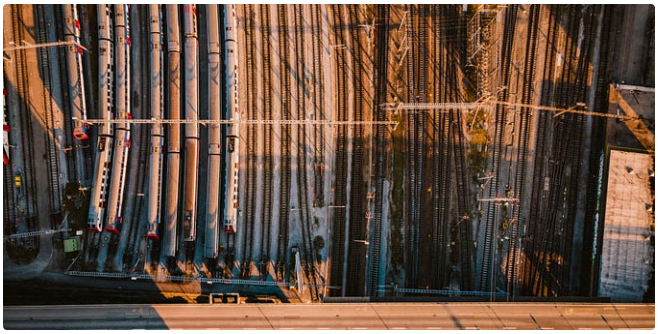

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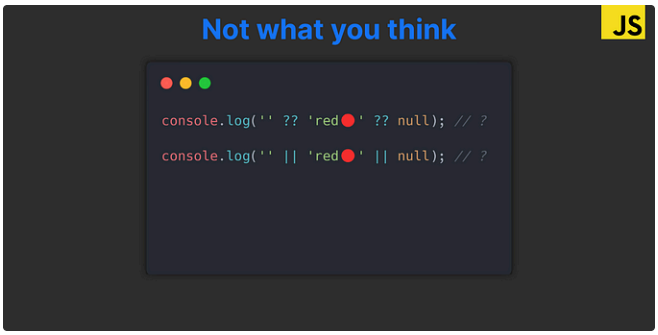

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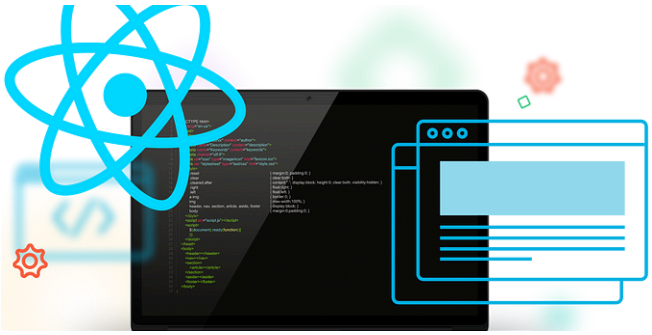

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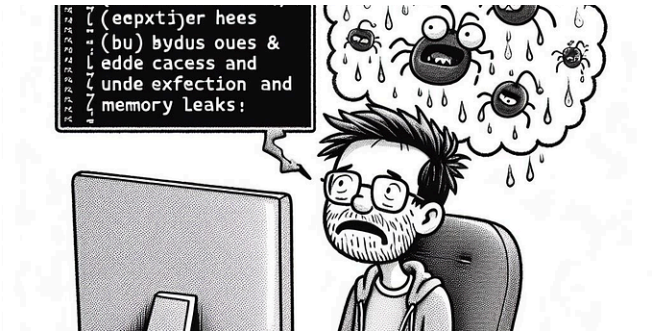

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