ANDROID BLOGGING GUIDE

Exploring LaunchedEffect in Jetpack Compose

A deep dive into the powerful side effect handler for Jetpack Compose.

Mr Umbrella · Follow

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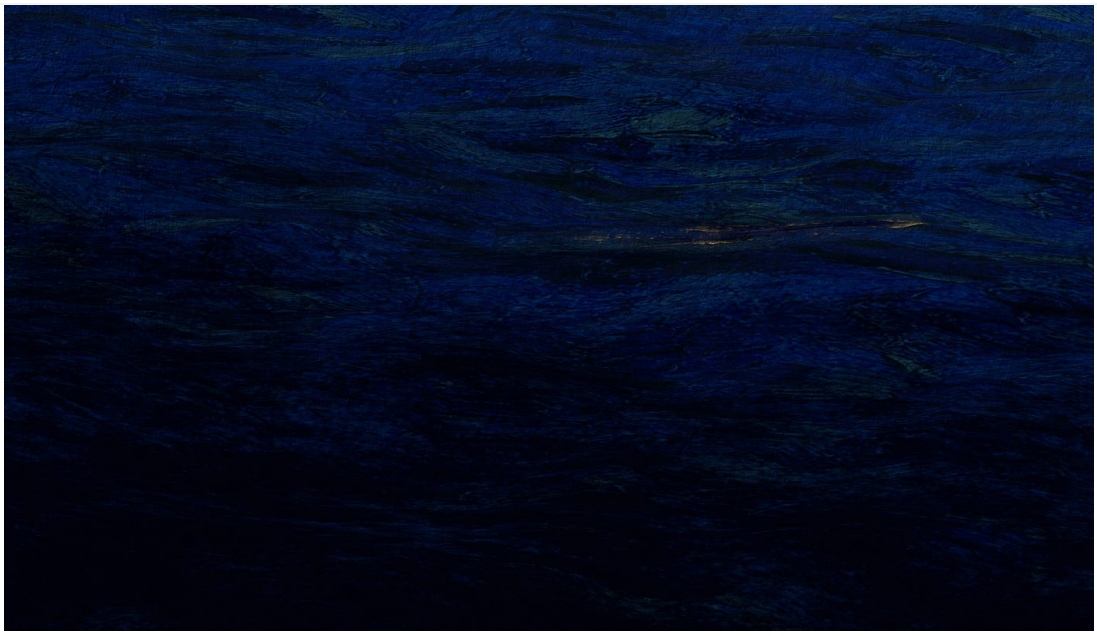

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Introduction

LaunchedEffect is a powerful feature in Jetpack Compose that allows developers to perform side effects during the composition process. This feature is particularly useful for asynchronous operations, such as network calls or database queries, where the result needs to be displayed in the UI.

In this article, we will take a deep dive into LaunchedEffect and explore how it works, its benefits, and how to use it in your Jetpack Compose projects.

What is LaunchedEffect?

> LaunchedEffect is a side effect that allows you to launch a coroutine in response to a composition.

It is similar to the standard `launch` function in Kotlin coroutines, but it is designed specifically for use in Jetpack Compose.

LaunchedEffect is a suspending function that takes a lambda as its parameter. This lambda represents the coroutine that will be launched when the composition is recomposed. The coroutine can be used to perform asynchronous operations, such as network calls or database queries, and update the UI when the result is available.

How does LaunchedEffect work?

When a composition is recomposed, Jetpack Compose calls the lambda passed to LaunchedEffect. This lambda should contain the code that performs the asynchronous operation. Once the operation is complete, the coroutine should update the UI using the `MutableState` or `MutableStateFlow` objects.

One of the key benefits of LaunchedEffect is that it automatically cancels the coroutine when the composition is no longer active. This helps to prevent memory leaks and ensures that the app remains responsive.

Benefits of LaunchedEffect

LaunchedEffect has several benefits over other methods of performing side effects in Jetpack Compose:

1. **Automatic cancellation**: LaunchedEffect automatically cancels the coroutine when the composition is no longer active. This helps to prevent memory leaks and ensures that the app remains responsive.
2. **Simplified code**: LaunchedEffect allows you to perform asynchronous operations and update the UI in a single lambda. This simplifies the code and makes it easier to read and maintain.
3. **Improved performance**: LaunchedEffect is designed to work seamlessly with Jetpack Compose, ensuring that the app remains responsive even during long-running operations.

How to use LaunchedEffect

To use LaunchedEffect in your Jetpack Compose project, you need to follow these steps:

Import the `LaunchedEffect` function from the `androidx.compose.runtime` package:

```
import androidx.compose.runtime.LaunchedEffect
```

Use LaunchedEffect in your composition, passing in the coroutine to be launched:

```
LaunchedEffect(someState) {
  // Perform asynchronous operation
}
```

Update the UI using `MutableState` or `MutableStateFlow` objects:

```
val resultState = remember { mutableStateOf<Result?>(null) }

LaunchedEffect(someState) {
  val result = performAsynchronousOperation()
  resultState.value = result
}

if (resultState.value != null) {
  // Display the result in the UI
}
```

In this example, `someState` is a variable that is used to trigger the recomposition of the composition. When `someState` changes, the LaunchedEffect is triggered, and the coroutine is launched. Once the asynchronous operation is complete, the result is stored in the `resultState` variable, which is then used to update the UI.

Conclusion

LaunchedEffect is a powerful feature in Jetpack Compose that allows developers to perform asynchronous operations and update the UI in a single lambda. It simplifies the code and ensures that the app remains responsive, even during long-running operations.

If you are developing a Jetpack Compose app that requires asynchronous operations, LaunchedEffect is the recommended approach.

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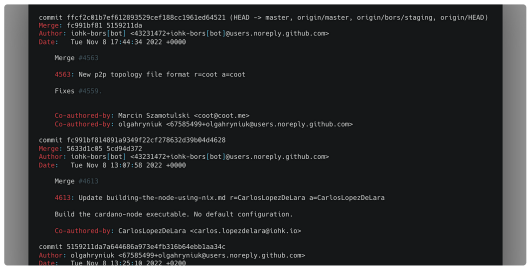

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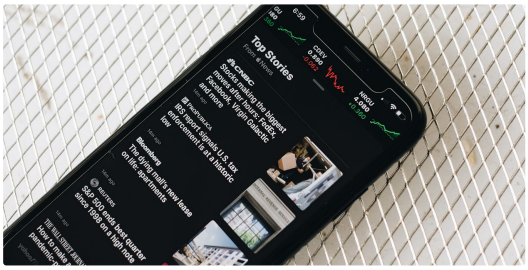

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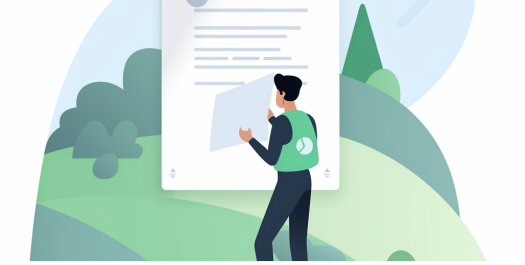

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