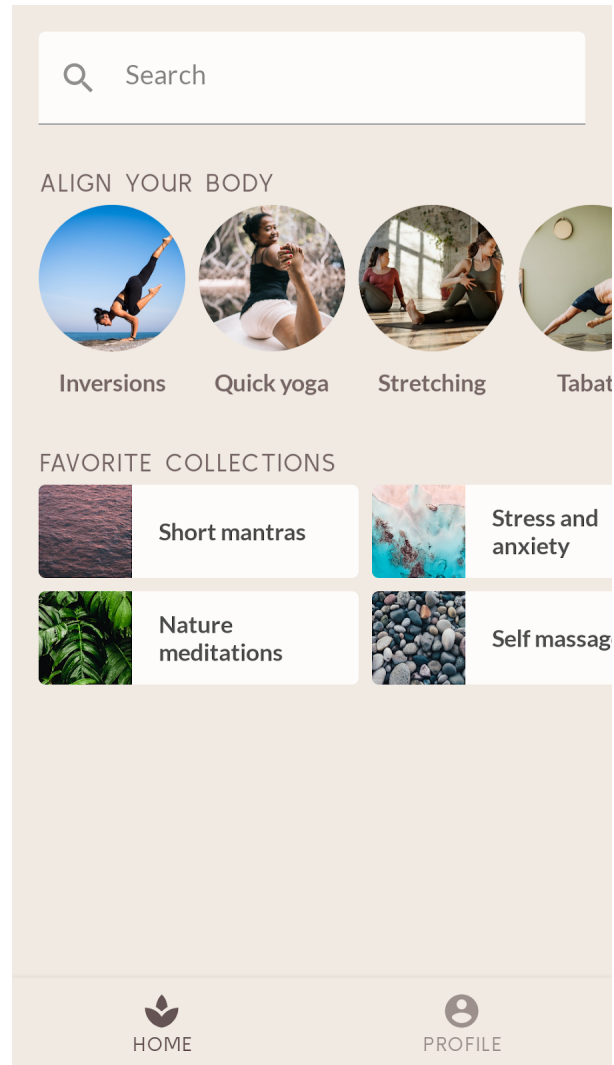# Jetpack Compose Basic

What you'll learn

- How modifiers help you augment your composables.

- How standard layout components like Column and LazyRow position child composables.

- How alignments and arrangements change the position of child composables in their parent.

- How Material composables like Scaffold and Bottom Navigation help you create comprehensive layouts.

- How to build flexible composables using slot APIs.

What you'll need

- Have Android Studio Chipmunk or later installed.

- Basic experience with Compose.

- Basic knowledge of what a composable is, and what modifiers are.

What you'll build

Q1: Why do we need Jetpack Compose?

-> The view gets more dynamic currently

-> syncing data between fragment and layout can cause troubles

Q2: Compose versus Databinding?

-> Similar, but databinding mostly work on attributes, while compose can change the UI under different condition easily

```kotlin
@Composable
fun MessageList(messages: List<String>) {
  Column {
    if (messages.size == 0 {
      Text("No messages")
    } else {
      messages.forEach { message ->
        Text(text = message)
      }
    }
  }
}
```

Q3. Declarative UI?

You completely describe your UI for a given state
The framework updates your UI when the state changes

Q4. UI is immutable vs. Recomposition

- When state change, you regenerate the entier UI
    - Solve the problem of syncing

- If we want it to change, the code must reflect that
    - compare to view, you cannot hold a reference to it and query it later

```kotlin
@Composable
fun MessageList(message: List<String>) {
  Column {
    var selectAll by remember { mutableStateOf(false) }
    Checkbox(
      checked = selectAll,
      onCheckChange = { checked ->
        selectAll = checked // this is essential to update checkbox visually
      }
    )
  }
}
```

Go to this link to start the codelab

Issues you might encounter

- Error says that it require Android 2021.2.1
  - As stated in the requirement, you will need Android Studio Chipmunk to follow this codelab
- Cannot import centain component correctly (`Image` , `Icon` , `lazy.items` , `lazy.grid.items`)
  - Manually import these dependencies will solve this issue