

Going Multiplatform With Kotlin

Supriya Srivatsa



Kotlin





Kotlin



Kotlin

Concise



Kotlin

Concise

Safe



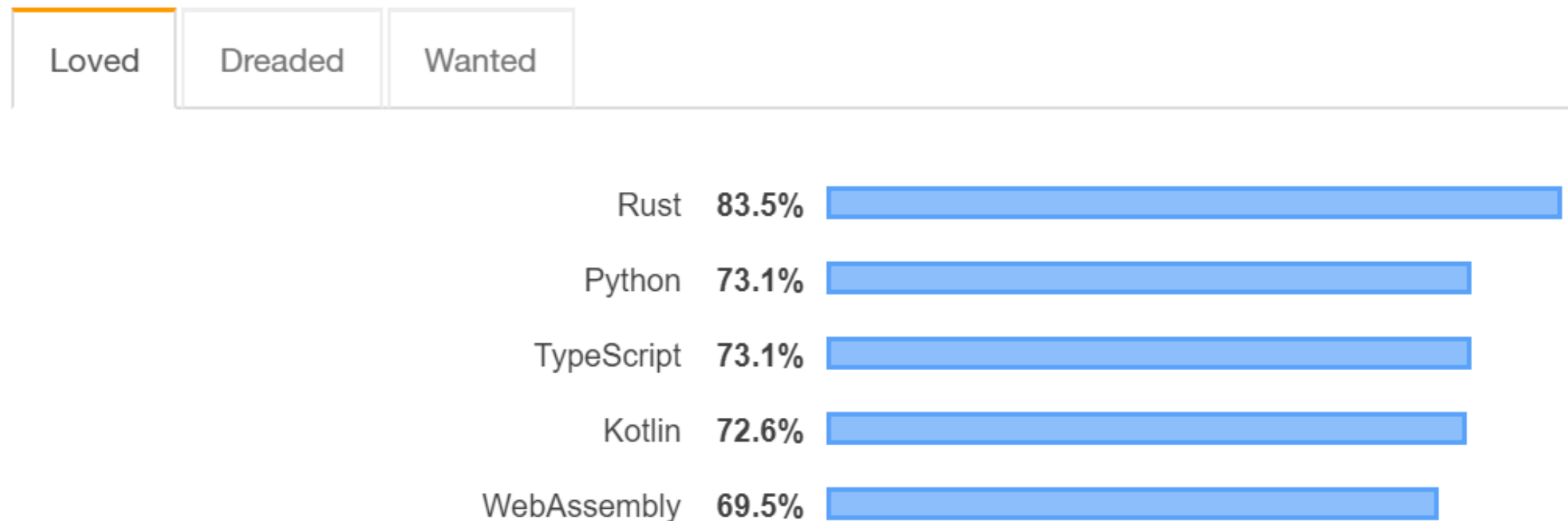
Kotlin

Concise

Safe

Interoperable

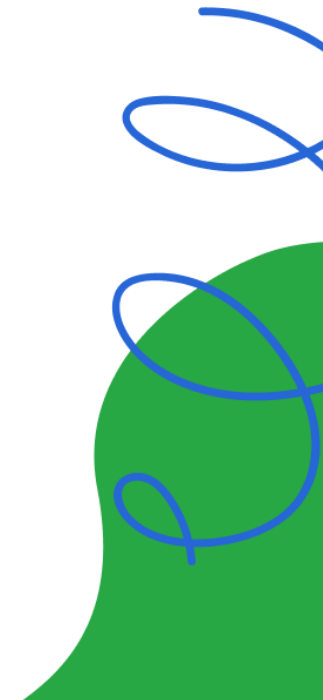
Most Loved, Dreaded, and Wanted Languages



- 
- 1 Kotlin
 - 2 HCL
 - 3 TypeScript
 - 4 PowerShell
 - 5 Rust
 - 6 CMake
 - 7 Go
 - 8 Python
 - 9 Groovy
 - 10 SQLPL

Growth in contributors

2.6x
2.2x
1.9x
1.7x
1.7x
1.6x
1.5x
1.5x
1.4x
1.4x





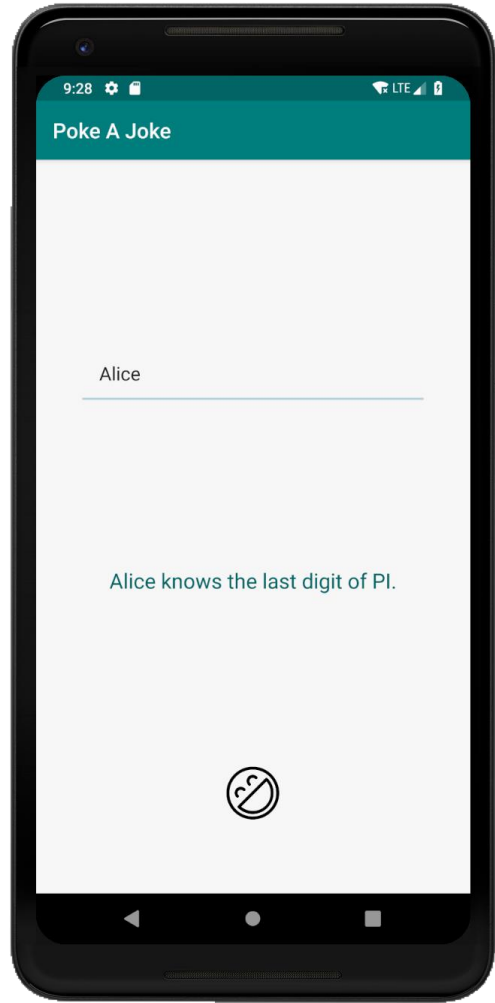
MULTIPLATFORM

4:59

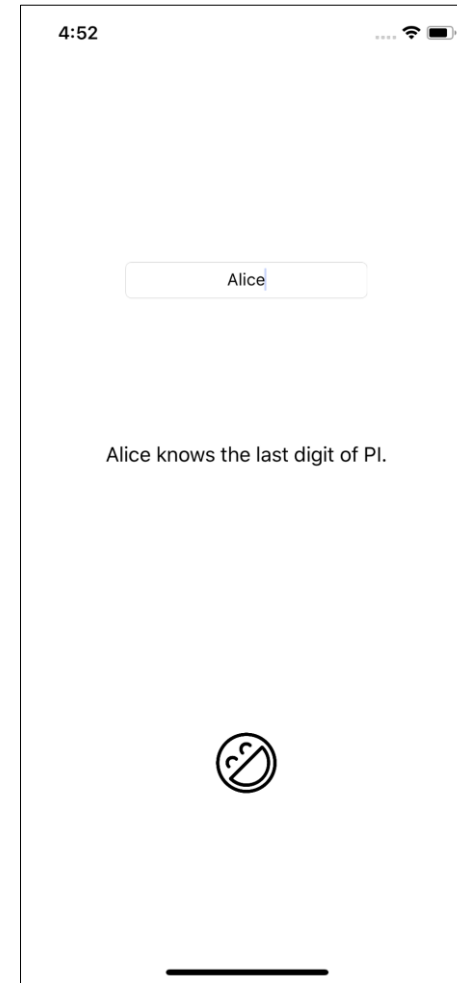


What is your name?

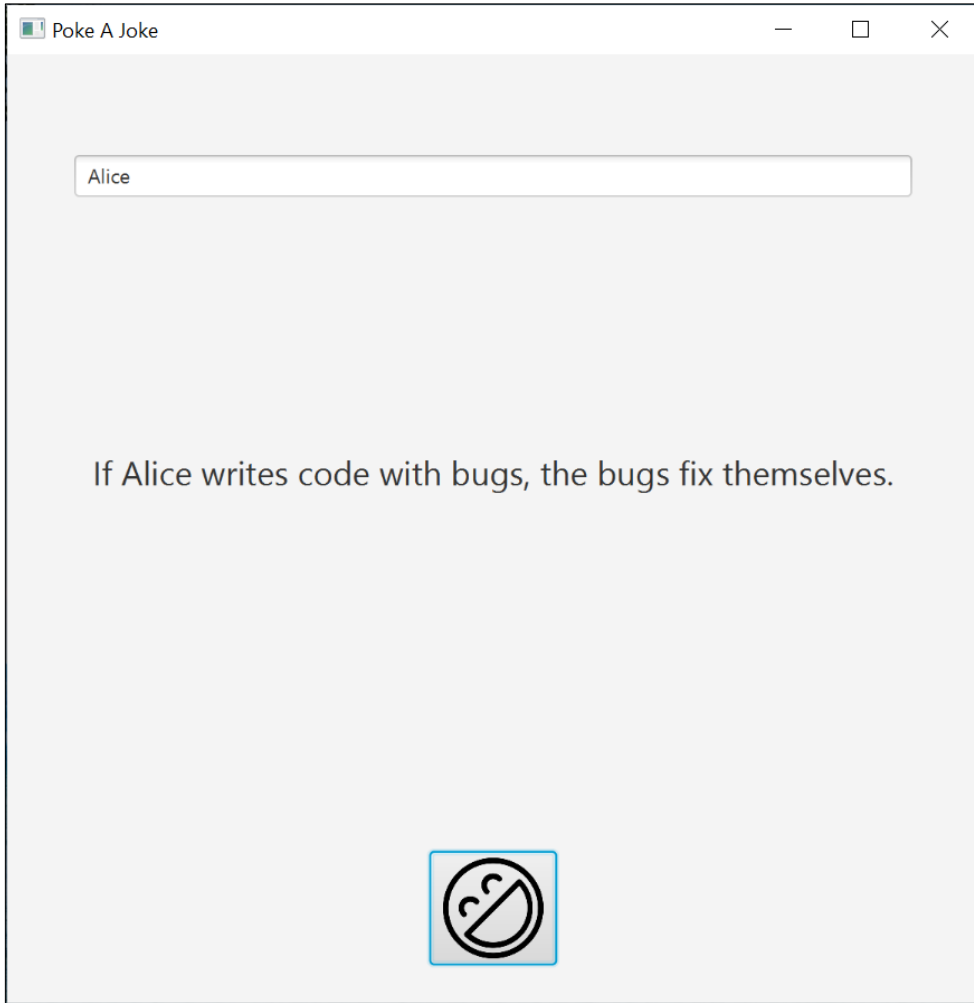




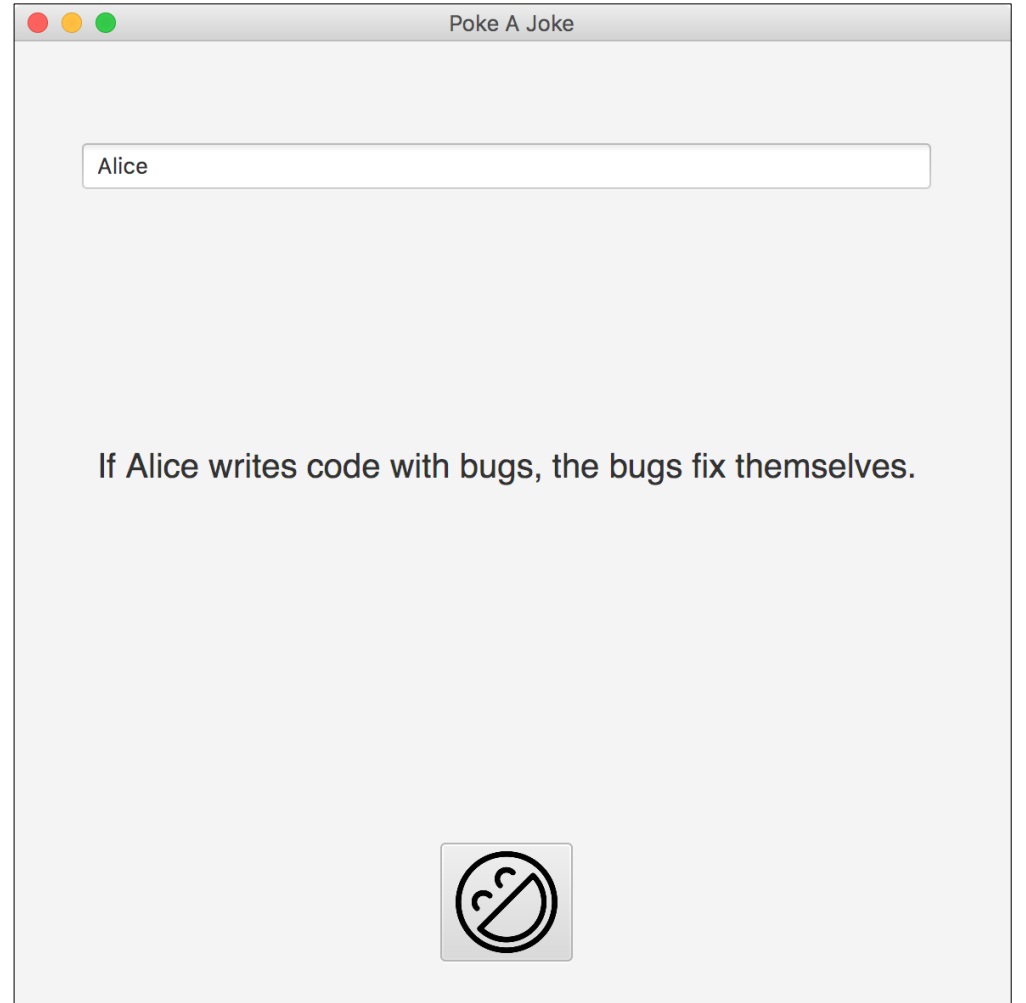
Android



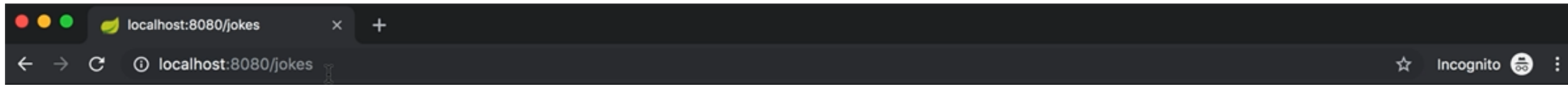
iOS



Windows desktop application



Mac desktop application



Backend Api



MULTIPLATFORM



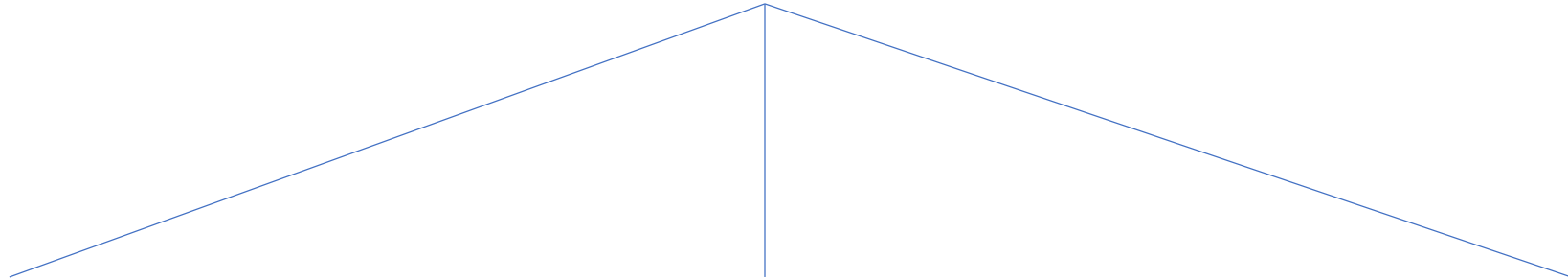
Data Classes
Network Calls
Utils

Data Classes
Network Calls
Utils

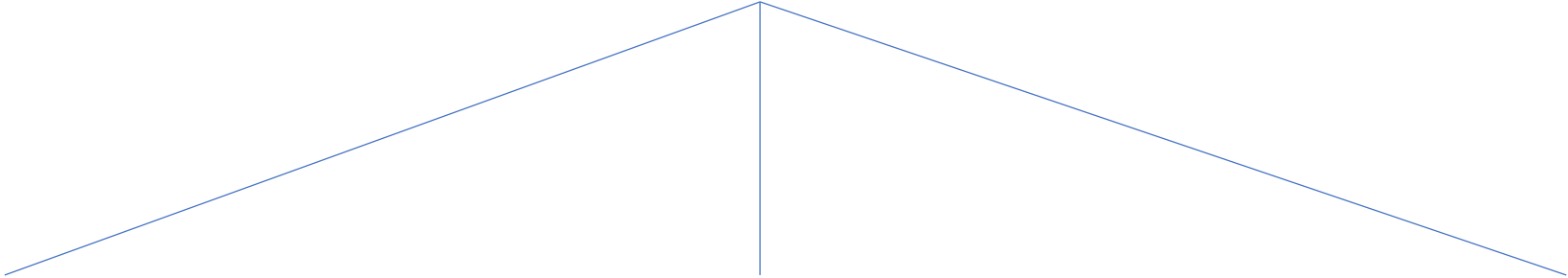
Android

iOS

Web



Common



Android

iOS

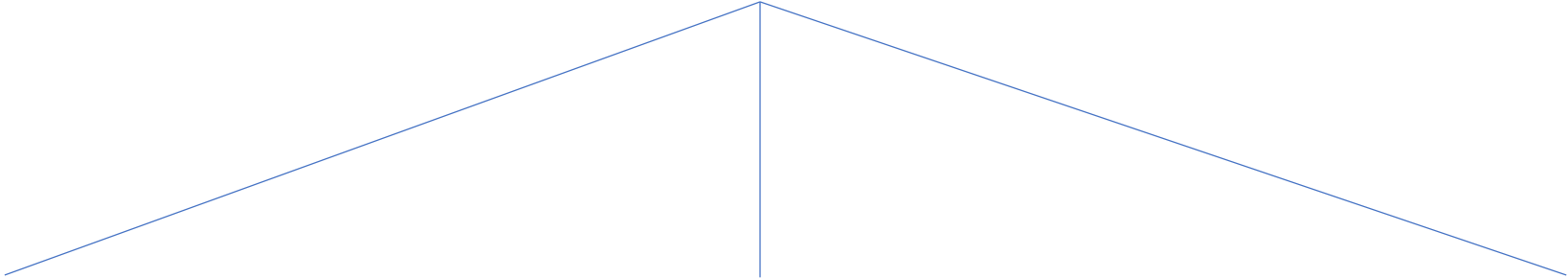
Web

Common

Common JVM

Common Native

Common JS

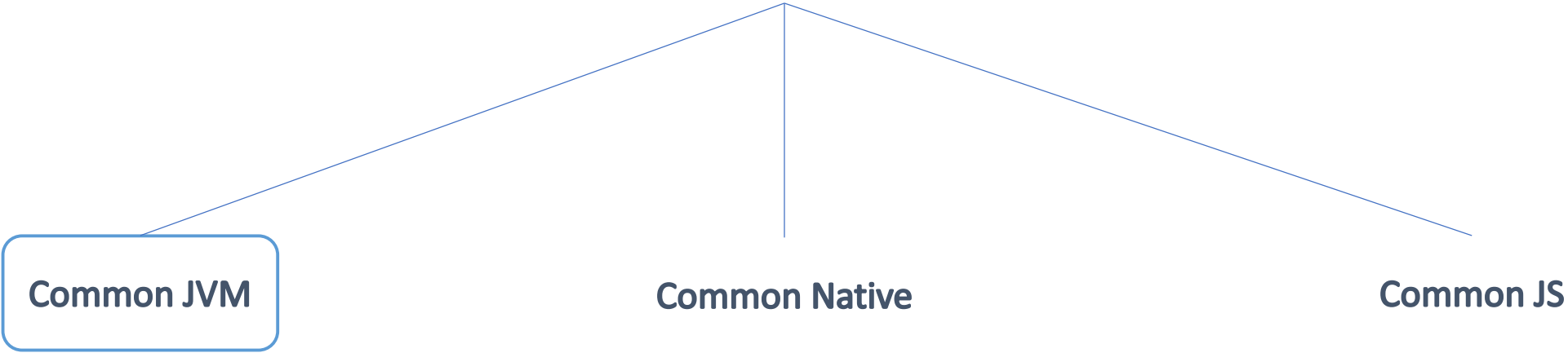


Common



Common Native

Common JS



Kotlin -> JVM

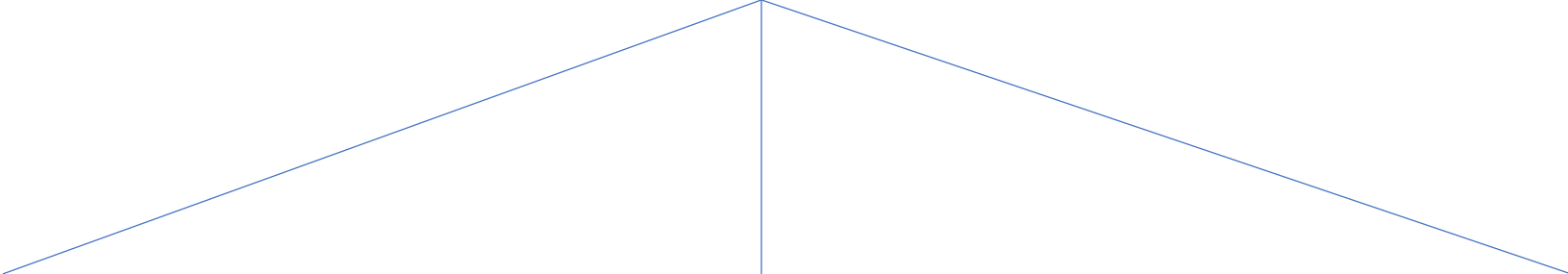
Kotlin compiles to java byte code.

Common

Common JVM



Common JS



Kotlin/Native

Kotlin/Native and iOS

Kotlin/Native and iOS

- Interoperability with Swift and Objective C frameworks
- Generate an Apple framework

Common

Common JVM

Common Native

Common JS

Kotlin JS

- Kotlin code is transpiled to Javascript.

```
export function Welcome(props) {  
    return <h1>Hello, {props.name}</h1>;  
}
```

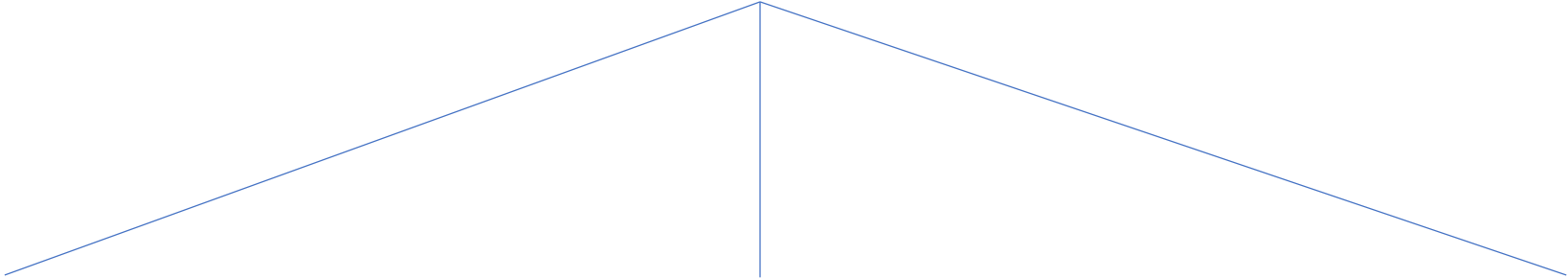
```
fun RBuilder.hello(name: String) {  
    h1 {  
        +"Hello, $name"  
    }  
}
```

Common

Common JVM

Common Native

Common JS



Common

Common JVM

Common Native

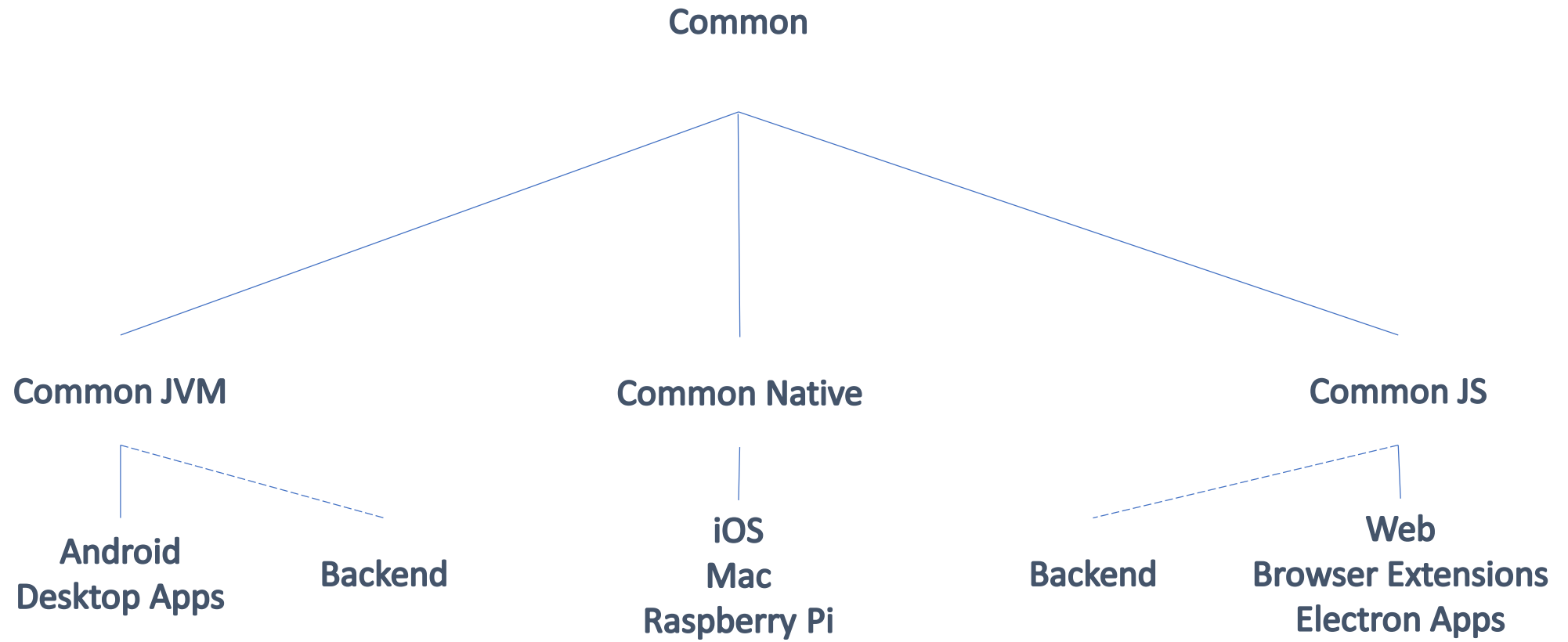
Common JS

Android
Desktop Apps

iOS
Mac
Raspberry Pi

Web
Browser Extensions
Electron Apps

Backend?



Data Classes
Network Calls
Utils

Common JVM

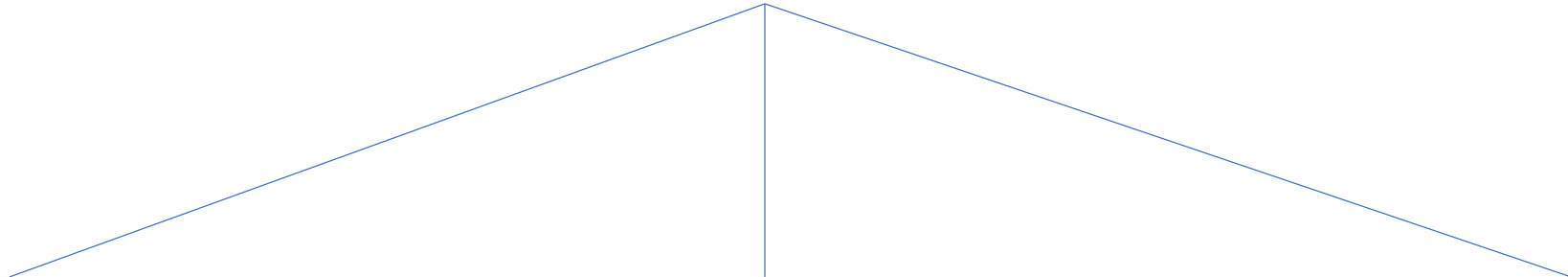
Android
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Common Native

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**Common
Data Classes
Utils**

Common-Client

Common JVM

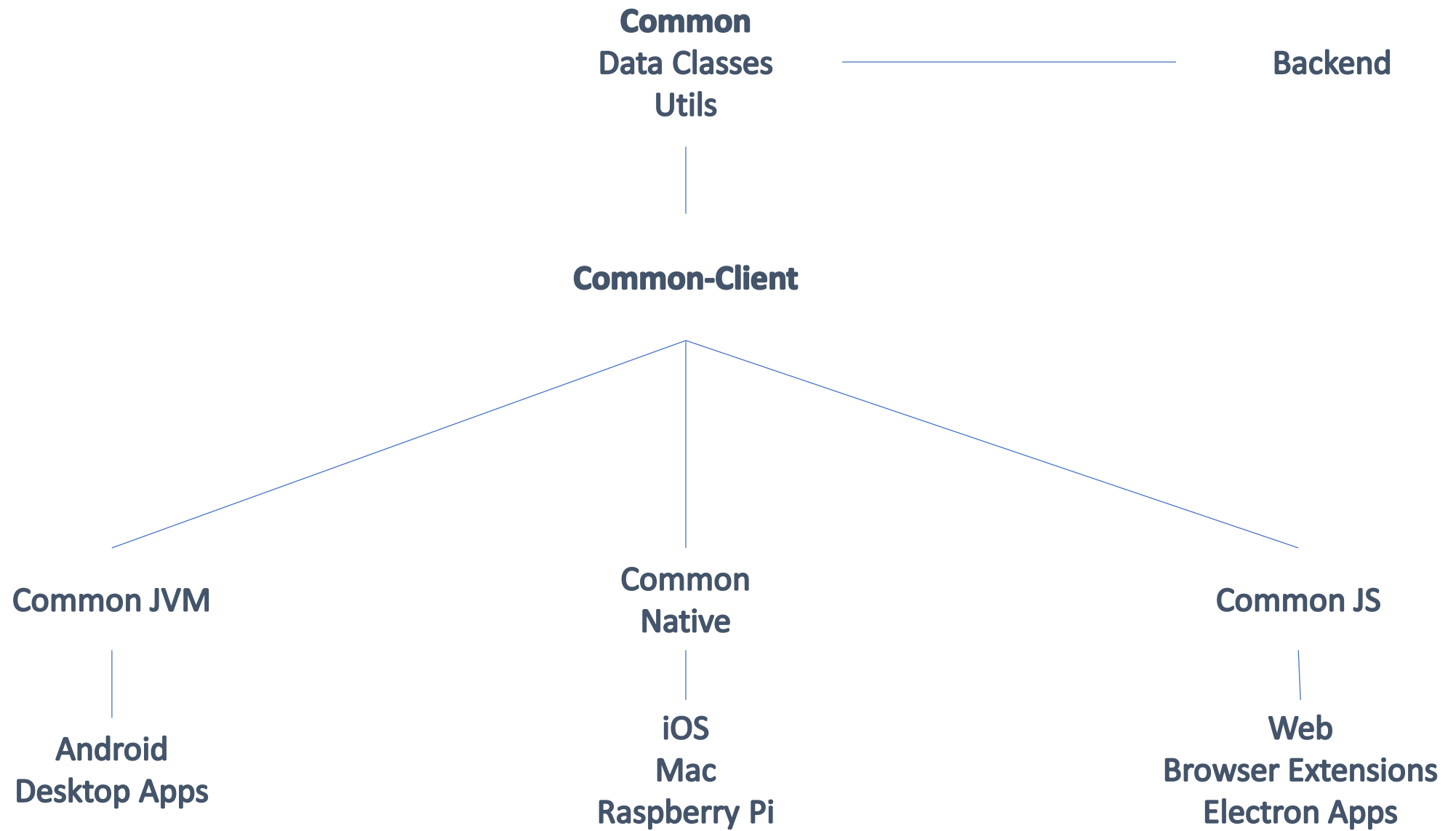
**Android
Desktop Apps**

**Common
Native**

**iOS
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Raspberry Pi**

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The Expect/Actual Mechanism

The Expect/Actual Mechanism

expect fun getUrl()

actual fun getUrl()

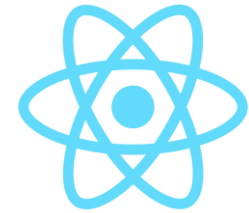
Configuring a Kotlin Multiplatform Project

```
plugins {  
    id("kotlin-multiplatform")  
}
```

```
plugins {  
    id("kotlin-multiplatform")  
}
```

```
targets {  
    jvm()  
    js()  
    iosX64("ios") {  
        compilations.main.outputKinds("framework")  
    }  
}
```



Kotlin Multiplatform vs Cross-platform apps



And More...

Caveats

Caveats

- How much is too much?
- Every platform is different
- Experimental 

Thank You

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