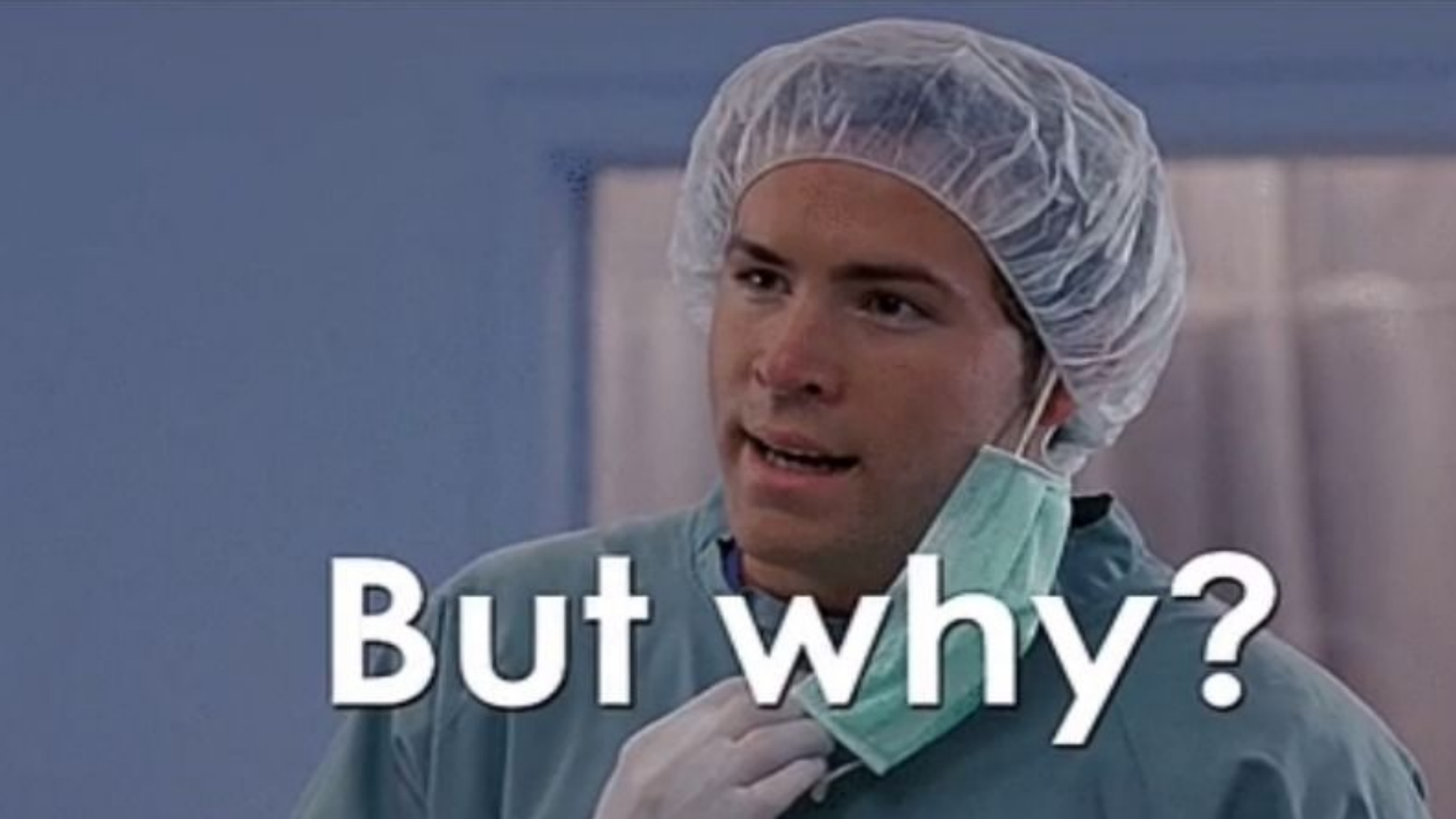
Martin Gagnon - Cofondateur et directeur du développement mobile

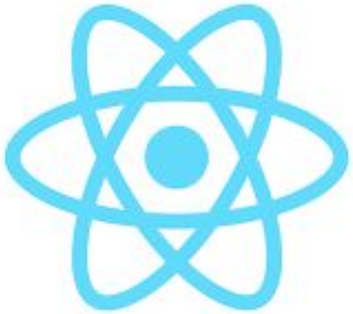

But why?


CALL·DUTY
WORLD AT WAR
ZOMBIES
P
PANDORA
BAND
STYLE.
COM/
yelp


BRACE YOURSELF
BECAUSE WEB, WATCH
AND TV ARE COMING


titanium


PhoneGap

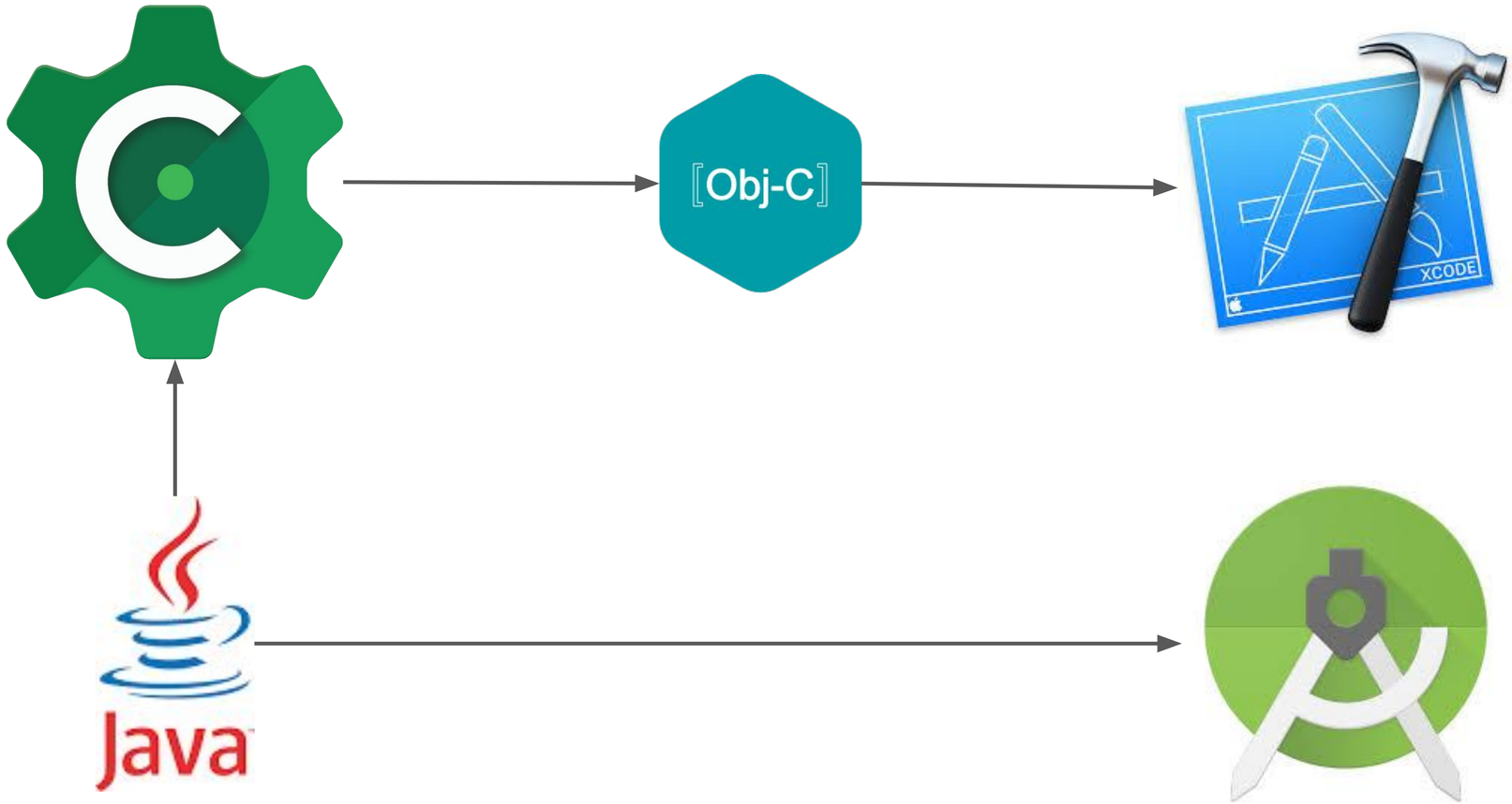


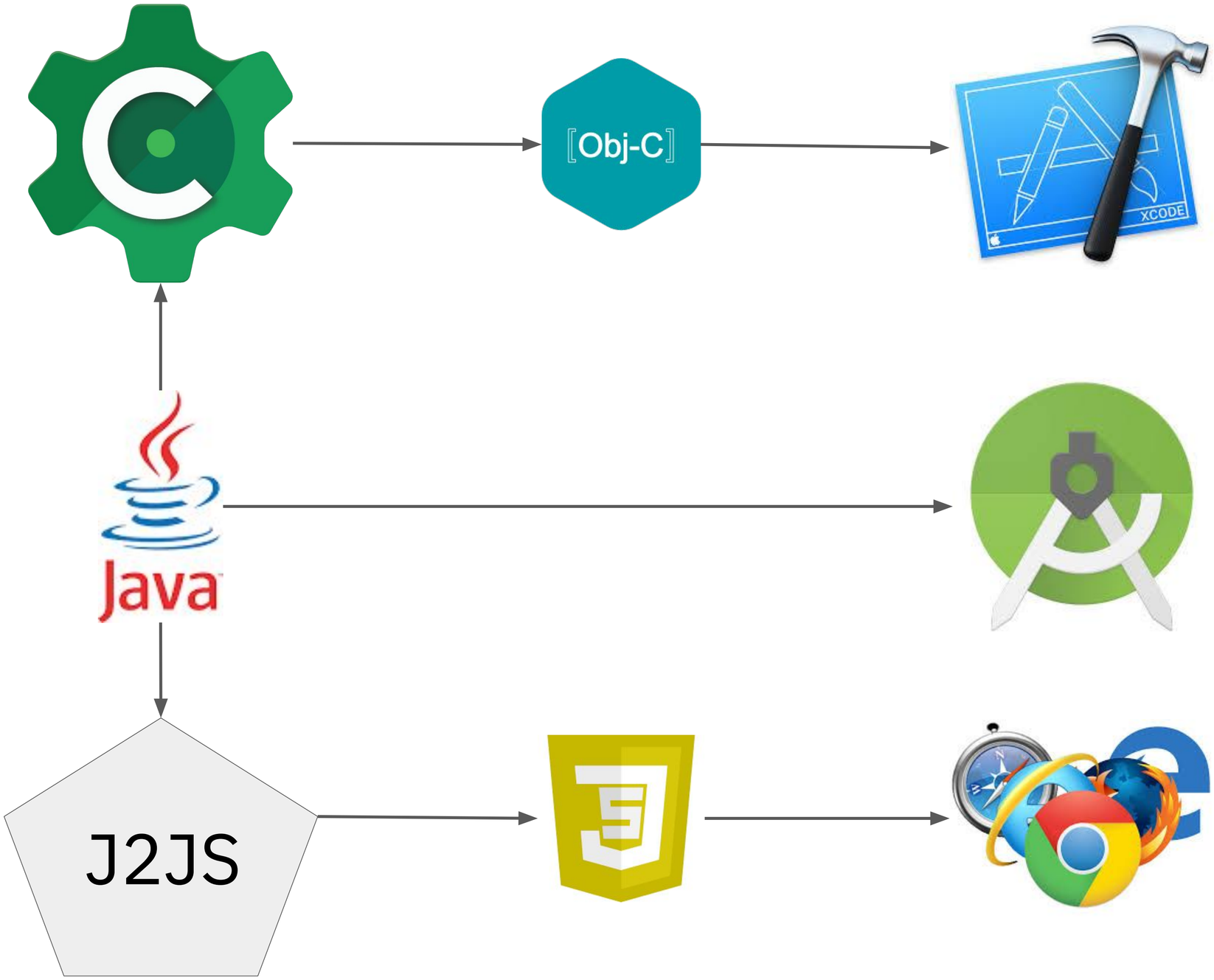

APACHE
CORDOVA™

No compromise on the product

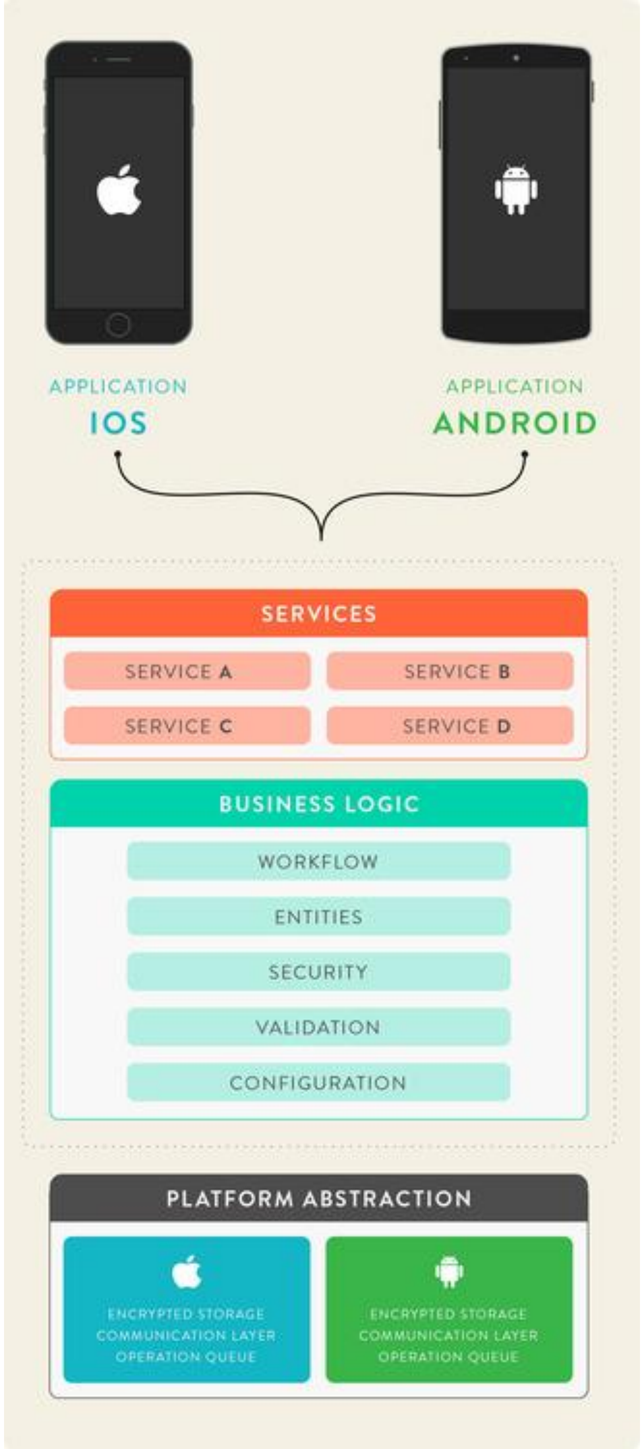
Platform is king

In house solution: SCRATCH


[Obj-C]
XCODE
Java

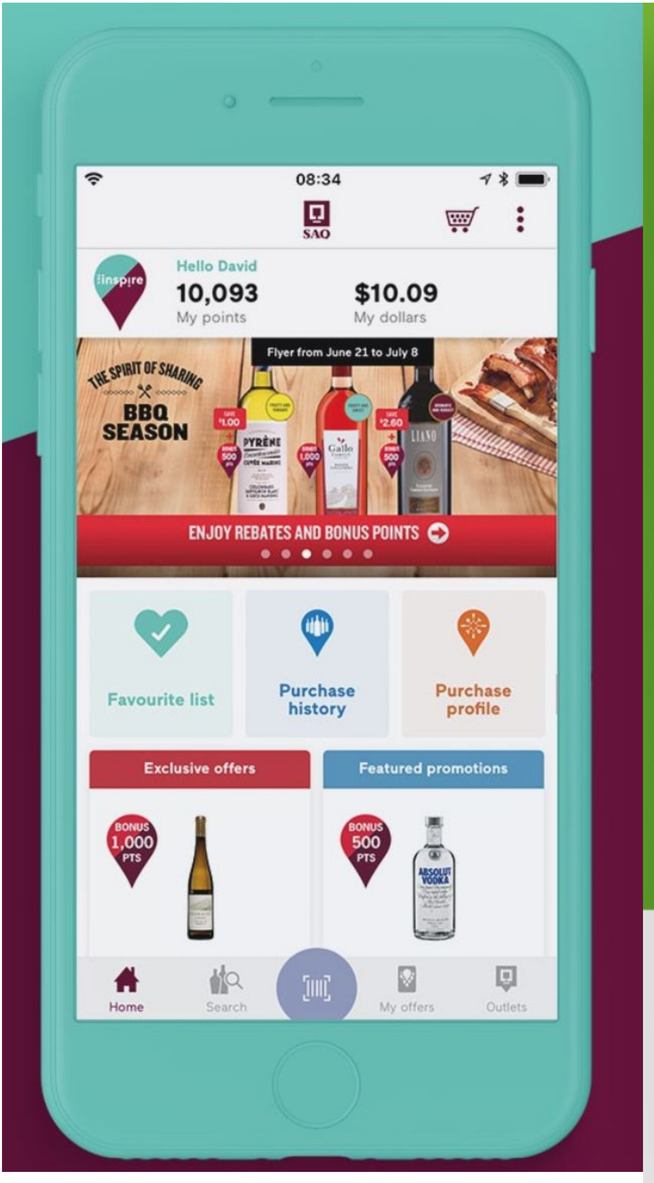

[Obj-C]
XCODE
Java
J2JS

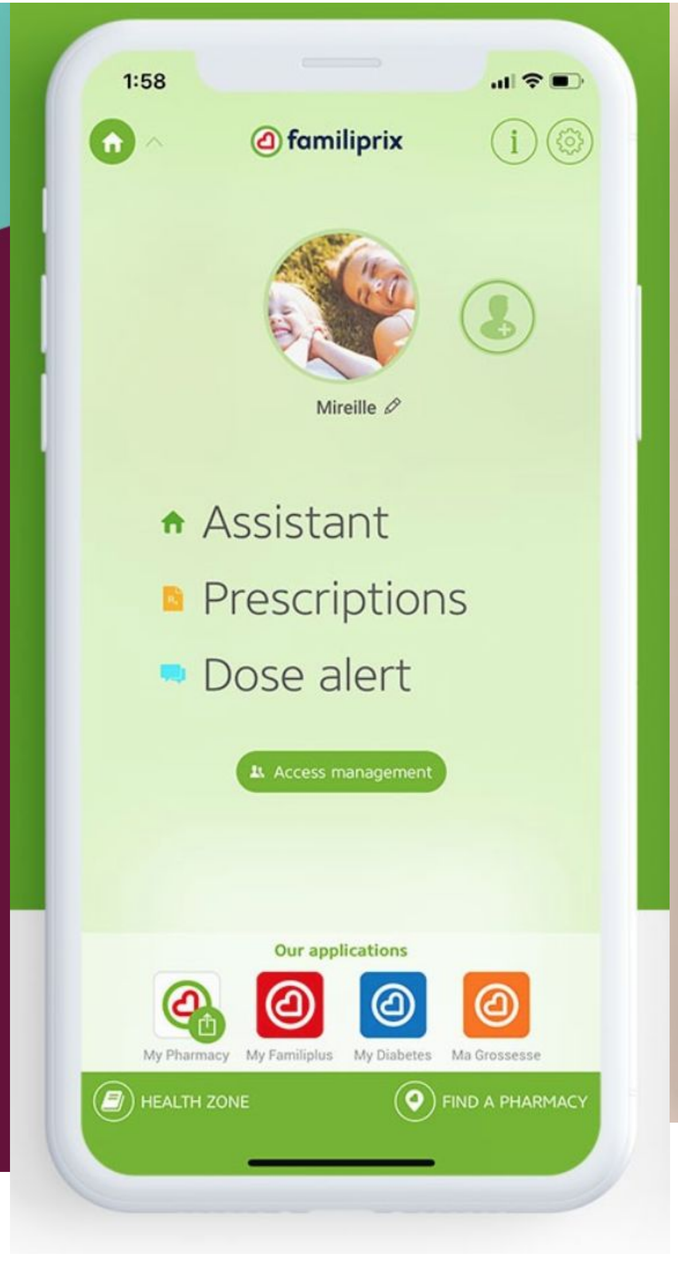
- UI/UX
- Animations

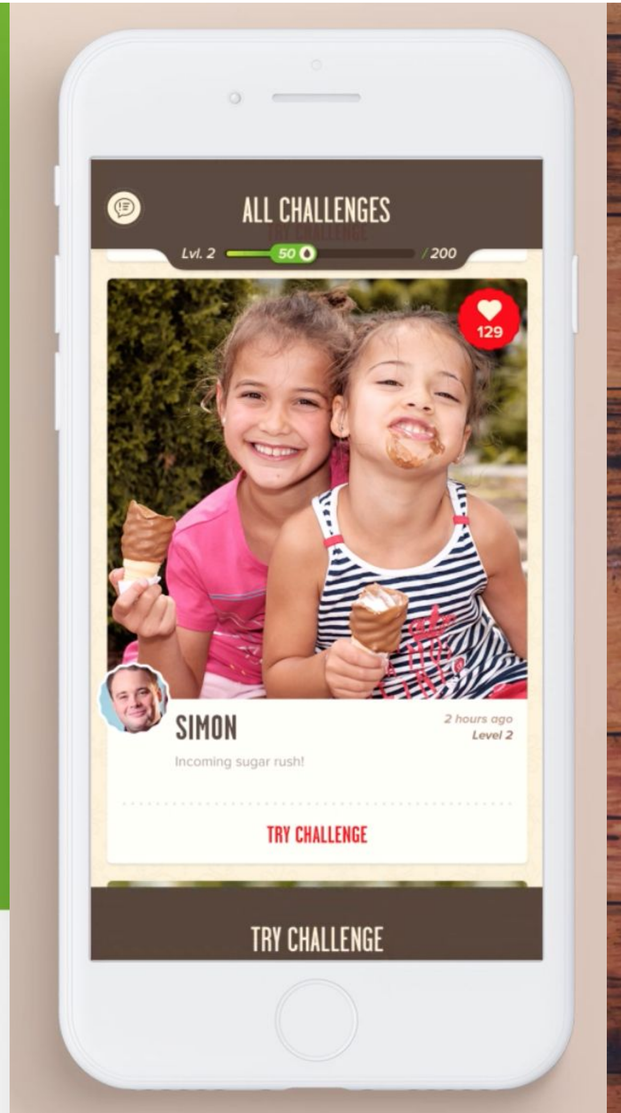


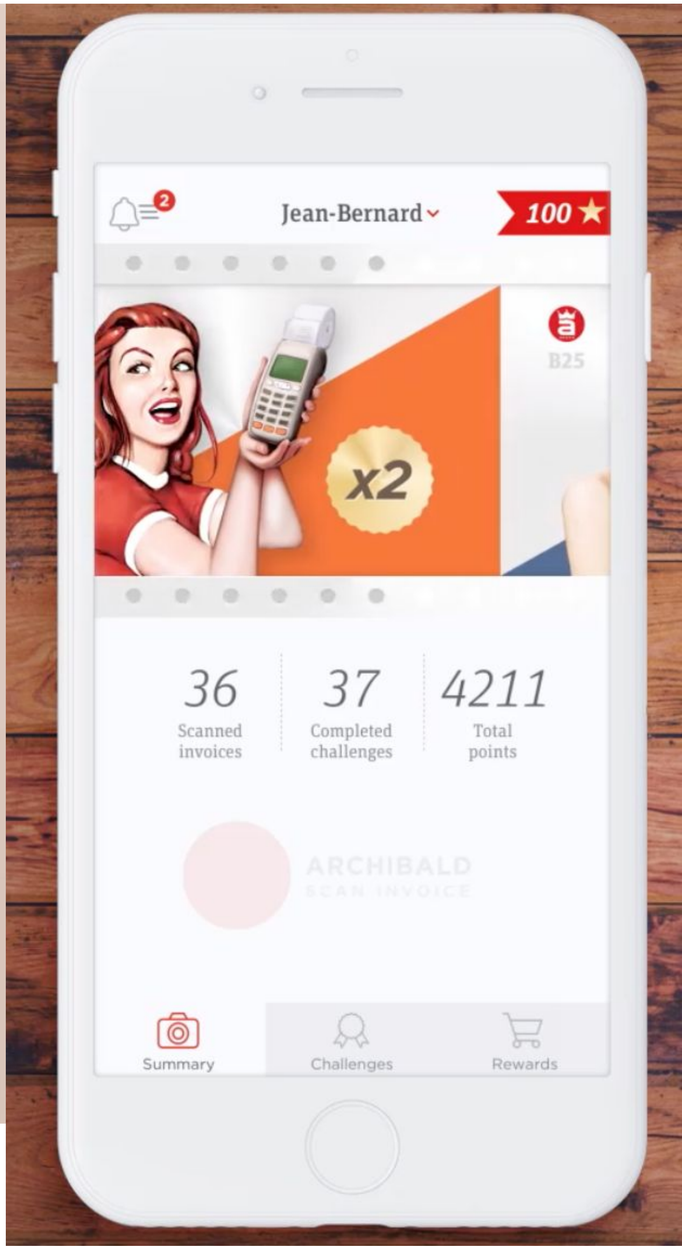
- Business Logic
- Models
- API Logic

- HttpRequest
- Timers
- I/O


08:34
SAO
Hello David
10,093
My points
$10.09
My dollars
Flyer from June 21 to July 8
THE SPIRIT OF SHARING
BBQ SEASON
ENJOY REBATES AND BONUS POINTS
Favourite list
Purchase history
Purchase profile
Exclusive offers
Featured promotions
BONUS 1,000 PTS
BONUS 500 PTS
Home
Search
My offers
Outlets


1:58
familiprix
Mireille
Assistant
Prescriptions
Dose alert
Access management
Our applications
My Pharmacy
My Familiplus
My Diabetes
Ma Grossesse
HEALTH ZONE
FIND A PHARMACY


ALL CHALLENGES
Lvl. 2
50
/ 200
129
SIMON
2 hours ago
Level 2
Incoming sugar rush!
TRY CHALLENGE
TRY CHALLENGE


Jean-Bernard
100
x2
B25
36
Scanned invoices
37
Completed challenges
4211
Total points
ARCHIBALD
SCAN INVOICE
Summary
Challenges
Rewards


Bell
Home
Guide
On Demand
Recordings
Popular TV shows
Popular movies
Popular kids shows


Trending Live
Recent recordings
Continue enjoying
CTV News On Demand
Recently added
CTV NEWS
MLB - Toronto Blue Jays at Tampa Bay Rays


KOTLIN MP
ME
SCRATCH

Common module

```
package com.myapp.logger

expect class ConsoleLogger {
  fun log(string: String)
}
```

JS module

```
package com.myapp.logger

actual class ConsoleLogger {
  actual fun log(valueToLog: String) {
    console.log(valueToLog)
  }
}
```

JVM module

```
package com.myapp.logger

actual class ConsoleLogger {
  actual fun log(valueToLog: String) {
    Logger.getGlobal()
      .log(Level.INFO, valueToLog)
  }
}
```

```
ConsoleLogger().log(“Damn I Love MP”)
```

Common

Native

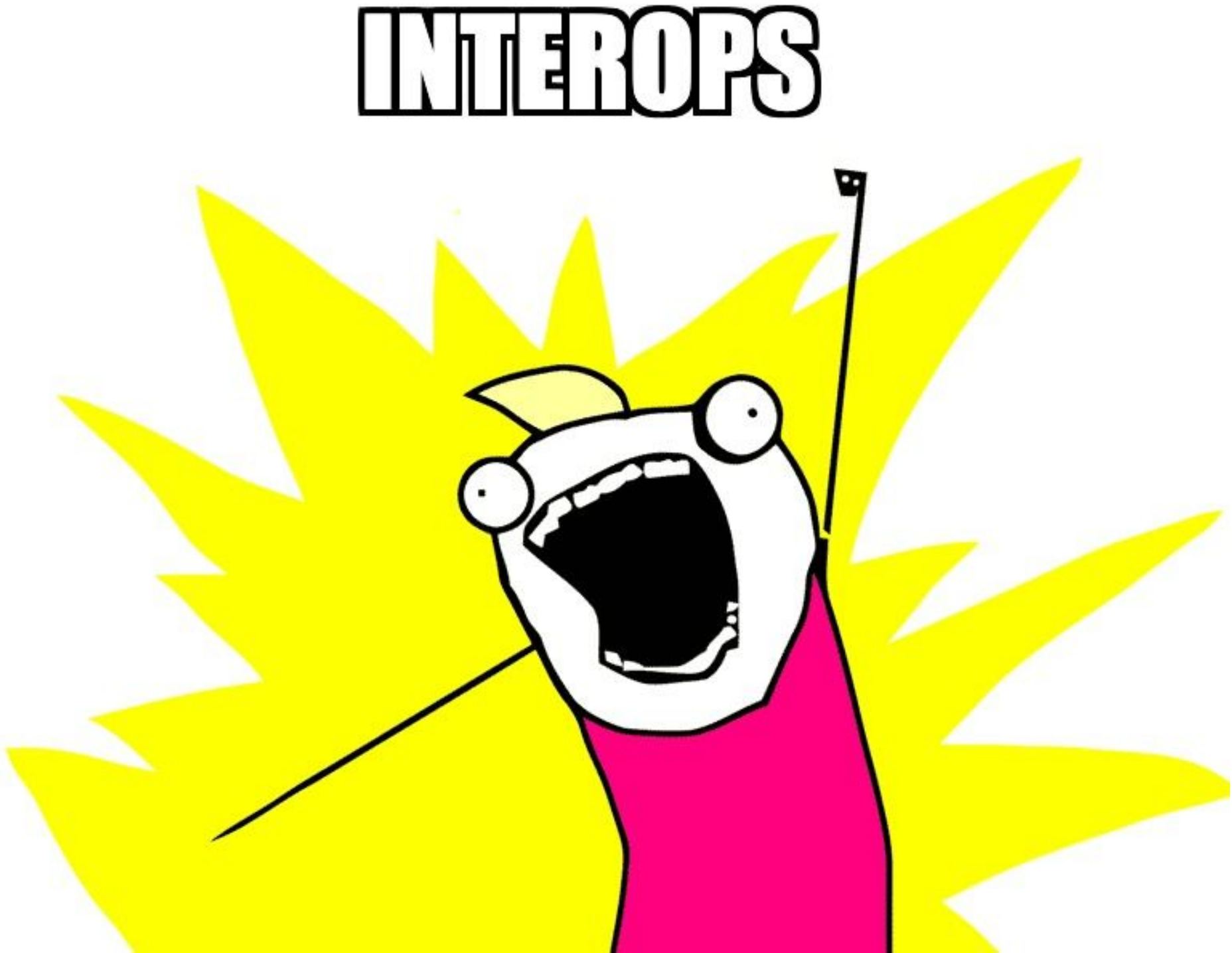
Objective-C framework

Jvm

JAR

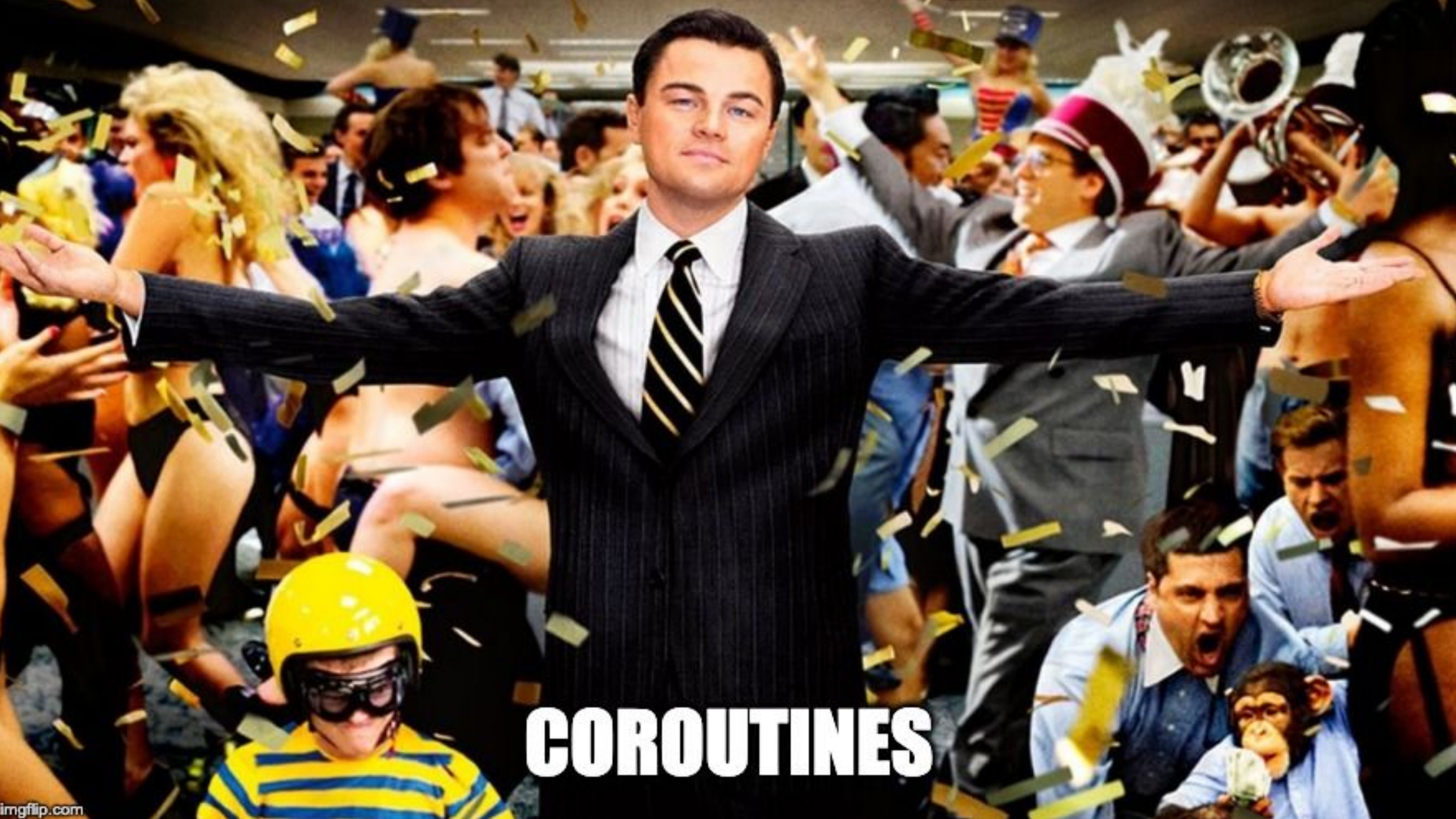
JS

CommonJs


INTEROPS

```
import {FooBar} from 'path/to/generated-library';

const {foo, bar} = FooBar.getFooBar();

console.log(foo)
console.log(bar)
```

```
import GeneratedFramework

func printFooBar() {
  val fooBar = FooBar().getFooBar()

  print(fooBar.foo)
  print(fooBar.bar)
}
```


COROUTINES
imgflip.com


WHEN YOU HAVE GARBAGE COLLECTION
AND YOUR AN IOS DEVELOPER
imgflip.com

Our first KMPP

Common Mobile

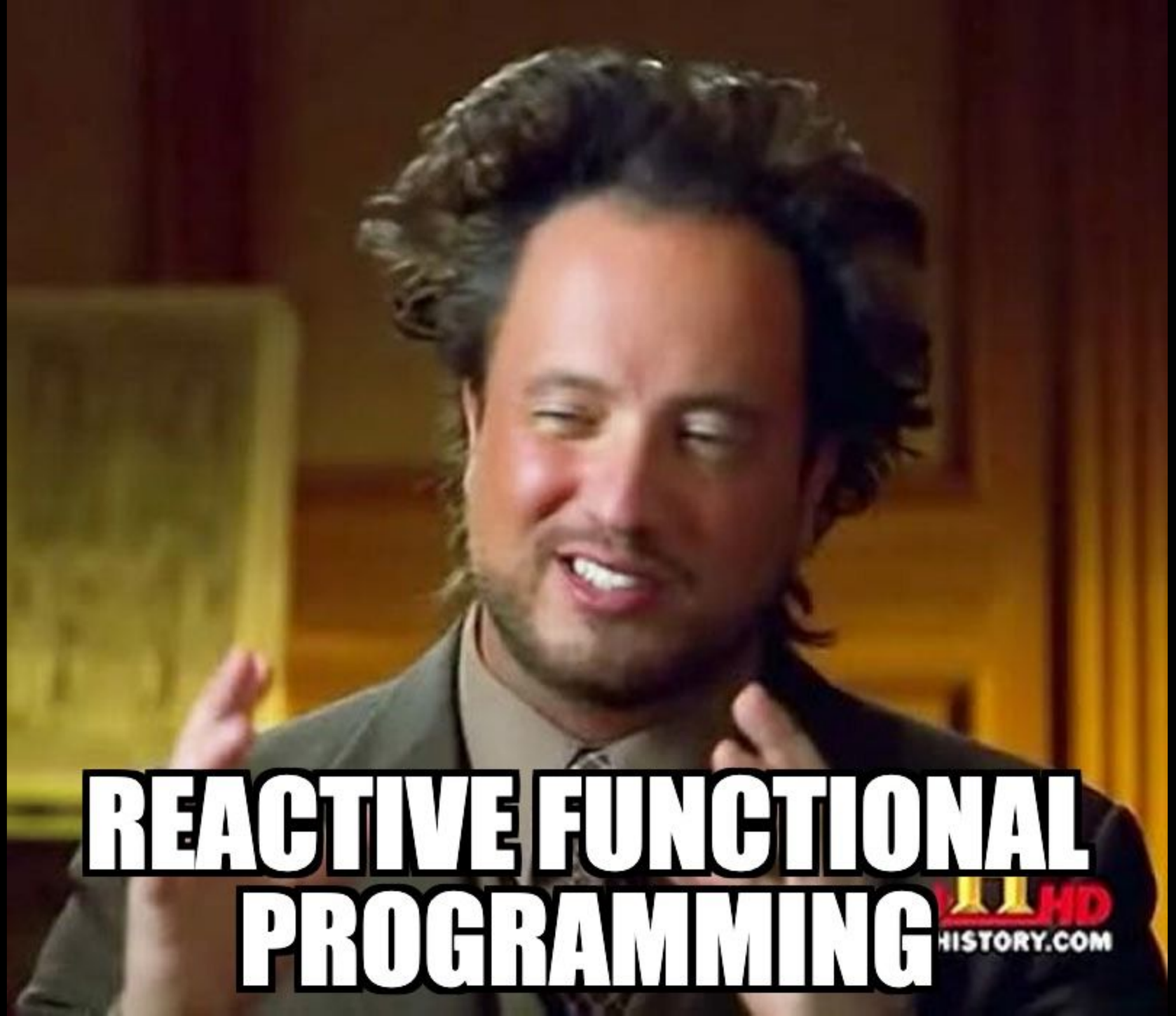
Common


Mommy, have I done something to upset daddy?
No, no. Daddy isn't angry with you...
Daddy is just angry because he started using Kotlin/Native before it was ready.
K/N ERROR
QUICKBIRD STUDIOS

Kotlin/Native implements **strict mutability checks**, ensuring the important invariant that the object is either **immutable** or accessible from the **single thread** at that moment in time (mutable XOR global).

Class `AtomicReference` can be used to publish the changed frozen state to other threads, and so build patterns like shared caches.

```
class Foo {
  val mutableString = AtomicReference<String>()

  …

  fun mutateString(newValue: String) {
    val oldValue = mutableString.value
    mutableString.compareAndSet(oldValue, freeze(newValue))
  }
}
```


REACTIVE FUNCTIONAL
PROGRAMMING
HISTORY.COM

```
val currentUser = storage.getAccessToken()
  .map { network.getCurrentUser(it) }


val isUserOldEnoughToDriveCar = currentUser
  .filter { it.data.user != null }
  .map { it.data.user.age > 16 }


val canDriveCarLabel = isUserOldEnoughToDriveCar
  .map { if (it) “Can drive” else “NO!” }
```


I USUALLY DON'T
TELL DEVS HOW TO CODE
BUT WHEN I DO, I TELL
THEM HOW TO WRITE TESTS
imgflip.com

```
val currentUser = storage.getAccessToken()
  .map { network.getCurrentUser(it) }


val isUserOldEnoughToDriveCar = currentUser.filter {
it.data.user != null }
  .map { it.data.user.age > 16 }


val canDriveCarLabel = isUserOldEnoughToDriveCar
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```

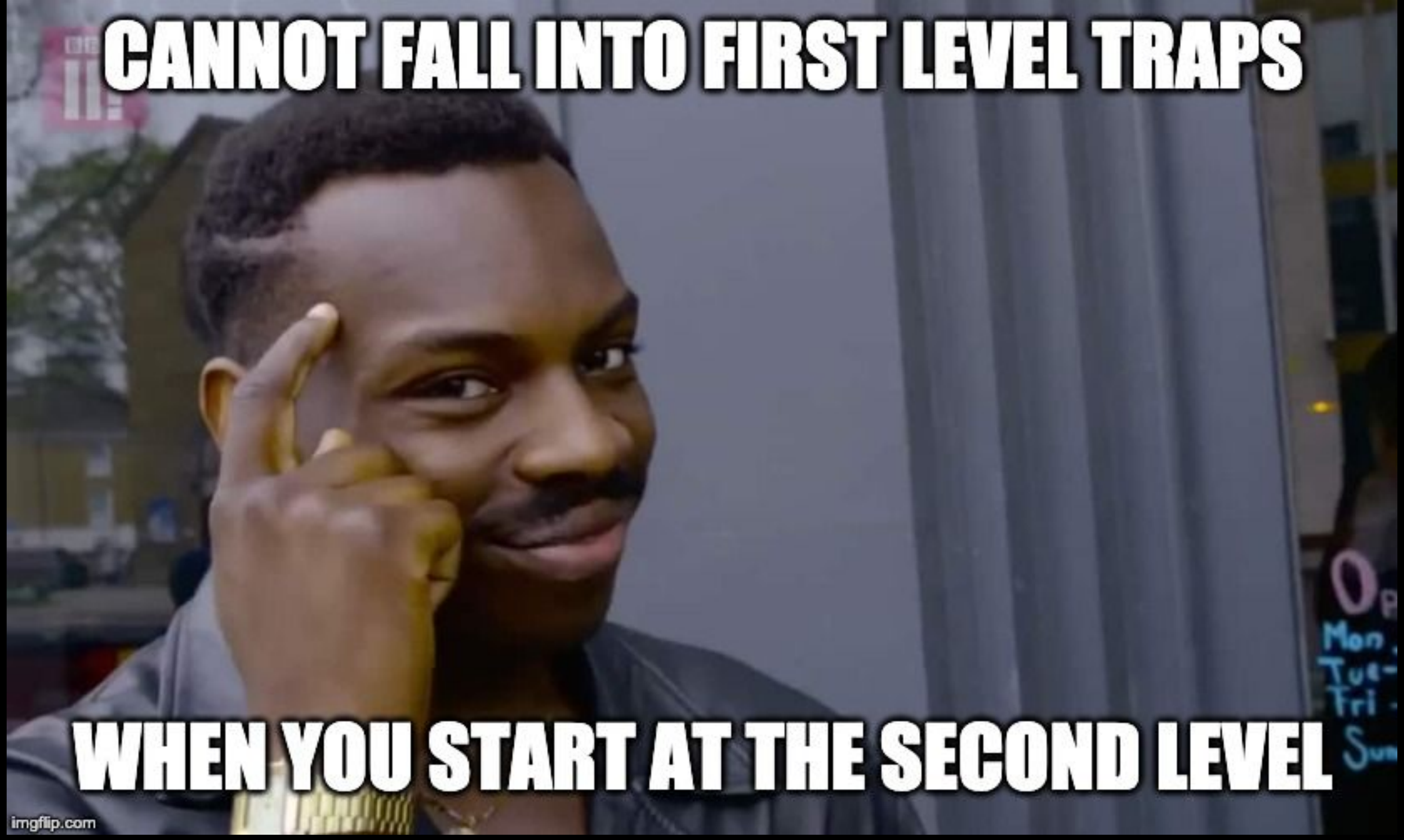
CANNOT FALL INTO FIRST LEVEL TRAPS
WHEN YOU START AT THE SECOND LEVEL
imgflip.com

BE CREATIVE, BE PATIENT

USE ARRAYS INSTEAD OF LISTS

LEARN TO SHAKE TREES

CHECK YOUR GRADLE DEPENDENCIES

USE FREEZING WITH CARE

DON’T BLINDLY TRUST GARBAGE COLLECTION

FORGET COROUTINES (FOR NOW)


AND ONE MORE THING...

Trikot.streams

https://github.com/mirego/trikot.streams

ATOMIC AND WEAK REFERENCES

TIMER AND DATE

THREADS AND QUEUES

MANAGED DEFERRED IMMUTABILITY

```
val userName = network
  .hasConnection
  .observeOn(backgroundThread)
  .switchMap { hasConnection ->
    if (hasConnection)
      getUserFromHttpPublisher()
    else
      getUserFromCache()
  }
  .map { user -> user.userName }
```

```
myLabel.bind(userViewModel.userName, \UILabel.text)
```

```
val username = userViewModel
    .userName
    .asLiveData()
```

Questions?

Martin Gagnon
mgagnon@mirego.com