Building Cross-Platform Apps

with Capacitor & Angular

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Mobile Development is **hard**

Complex tools to learn

Vastly Different design languages

Multiple code bases to maintain

What about the web?

Goal

Reuse Web skills for native

Reduce code that needs to be maintained

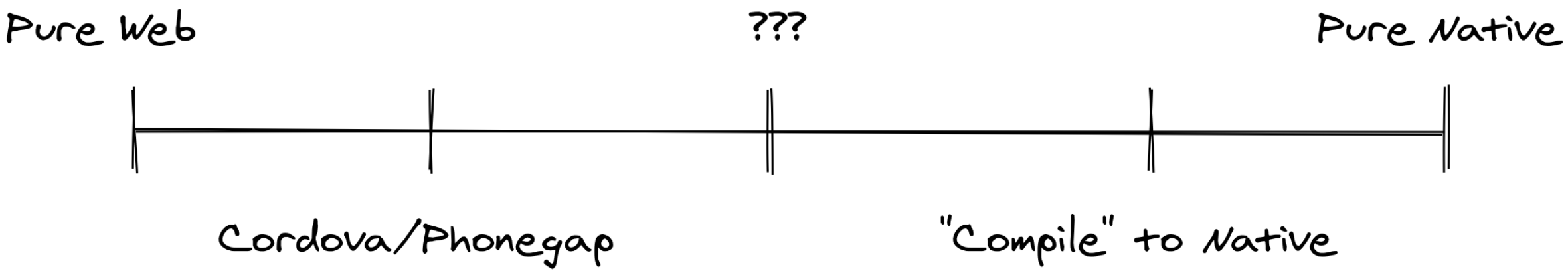
Reducd time to market (aka: SHIP IT)

Starting to sound familiar...

If you've heard me speak before
you know where I'm going

Levels of abstractions

Let's assess the ecosystem



APACHE

CORDOVA™

Write once, run anywhere

Web app that can deploy to native

Bridge between native and a browser

Polyfill for browser/webviews

Only available with Cordova

```
navigator.camera.getPicture(
  onSuccess, onFail,
  {
    quality: 25,
    destinationType:
      Camera.DestinationType.DATA_URL,
  }
);

function onSuccess(imageData) { ... }
function onFail(message) { ... }
```

Additional APIs provided by plugins

Custom package manager (pre-npm)

Complex build/release scripts

Things to keep in mind

Web as a polyfil target

No need for Native IDEs

Native projects as dist targets

The other end of the spectrum

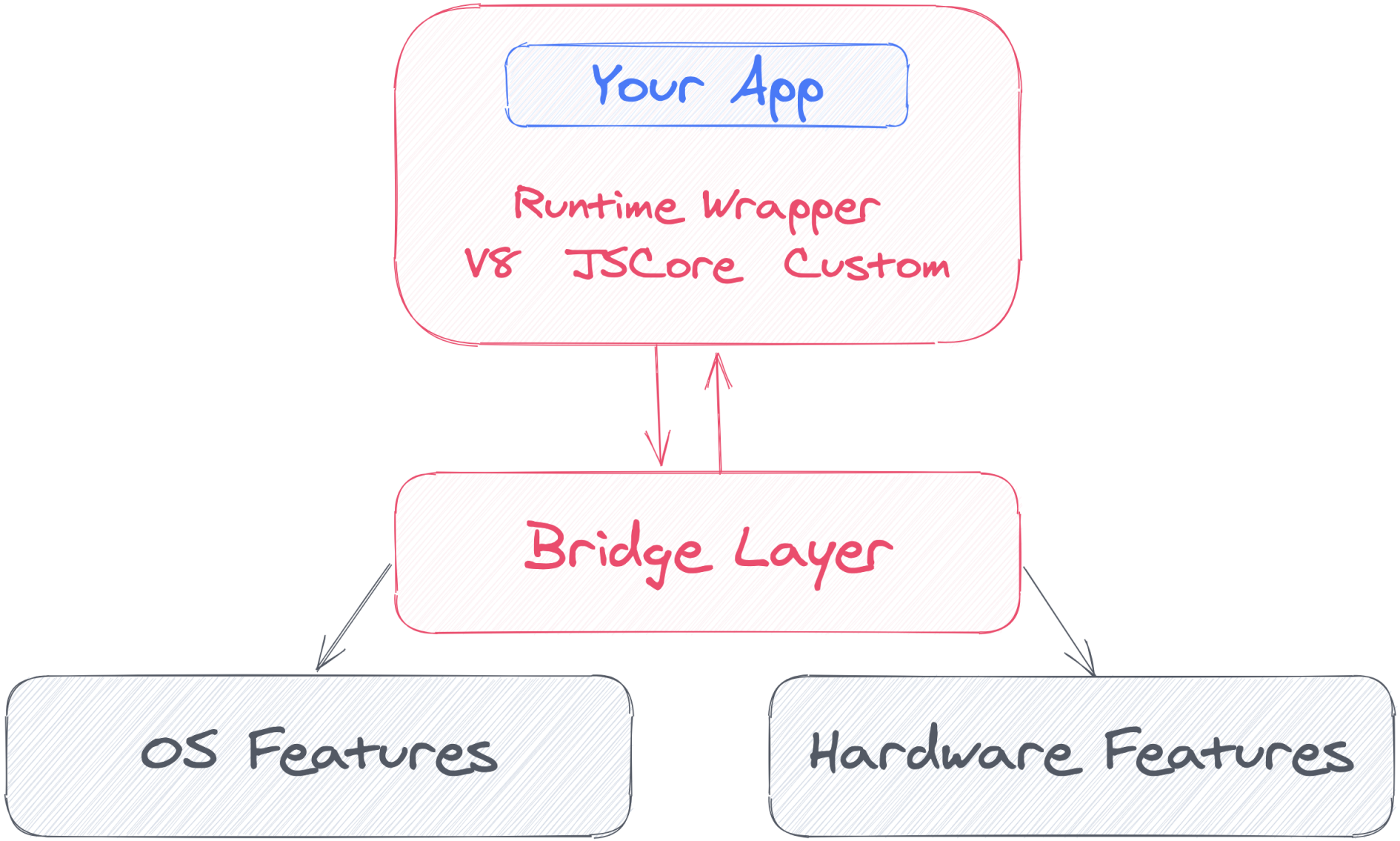
"Compile" to Native

"Learn one, write anywhere"

Promise of "truly native" App

Abstractions around native controls

"Standard" lib around native APIs


Your App
Runtime Wrapper
V8 JSCore Custom
Bridge Layer
OS Features
Hardware Features

Where it breaks down

Different syntax/languages

Can't reuse existing web app

Limited third-party libraries

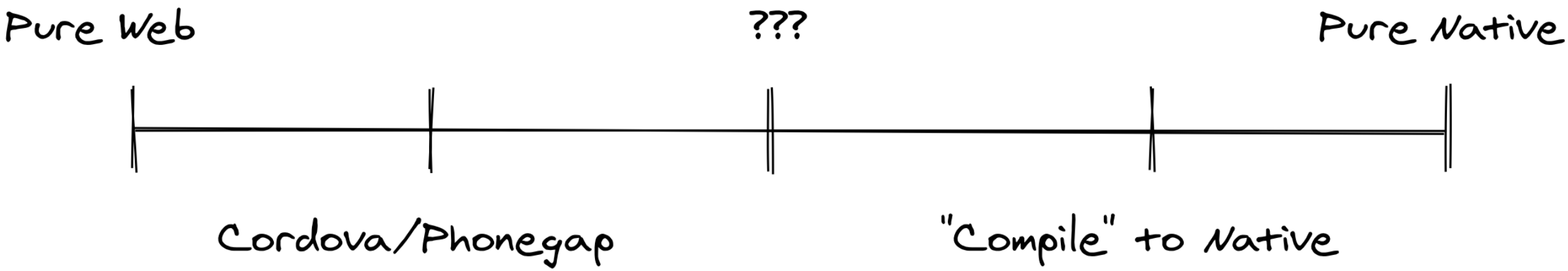
"Truely Native"

A bit misleading

Controls are rendered on the fly

Created via custom renderer (non-native)

Ok, so what else?


Pure Web
???
Pure Native
Cordova/Phonegap
"Compile" to Native

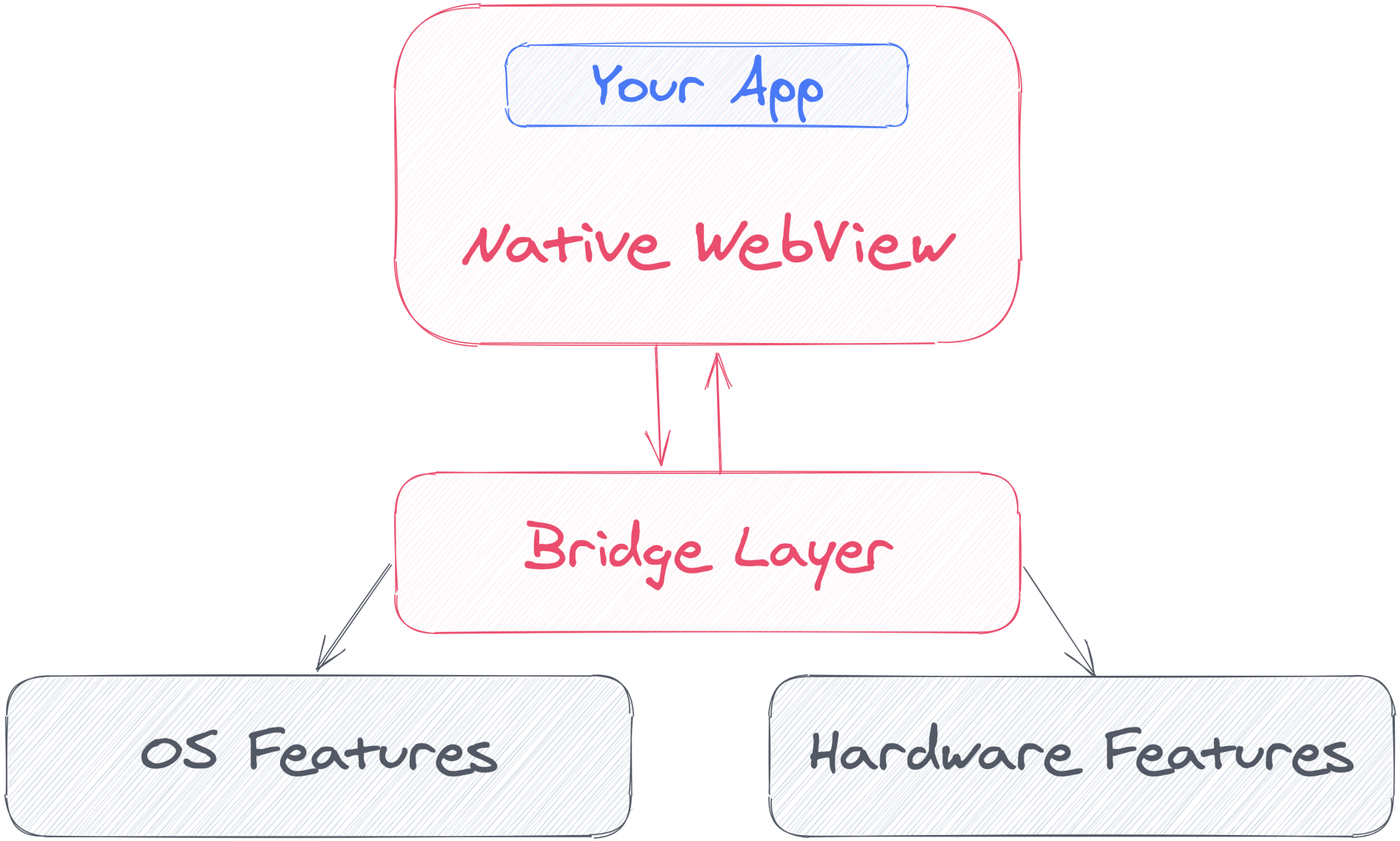
capacitor

What is Cap?

Native Runtime, JS library

Adaptive API that can handle cross platform

Standard native tooling instead of custom


Your App
Native WebView
Bridge Layer
OS Features
Hardware Features

How is this different?

Let's you reuse your existing web app

Runtime loads instantly

Utilizes Native best practices

Usage

AKA: Demo Time

Existing Project?

```
npm install @capacitor/core -S
npm install @capacitor/cli -D
npx cap init
```

Learn more?

capacitorjs.com

capacitorjs.com/docs

github.com/capacitor-community

In good company

3
Beta

Parting Thoughts

Reduce code users have to write

Provide full native access, with the web

Don't hide the native projects

Thank you

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