



PROGRAMMING SWIFT ON ANDROID

James Porter @complexview



PROGRAMMING ~~SWIFT~~ KOTLIN ON ANDROID

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BLACK FRIDAY 2015

- Only £34.99!
- (Pro Tip: Get from John Lewis for 2 year warranty)





BUT NOT DONE!

➤ One of these in box

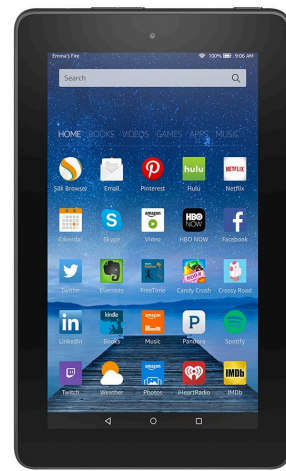


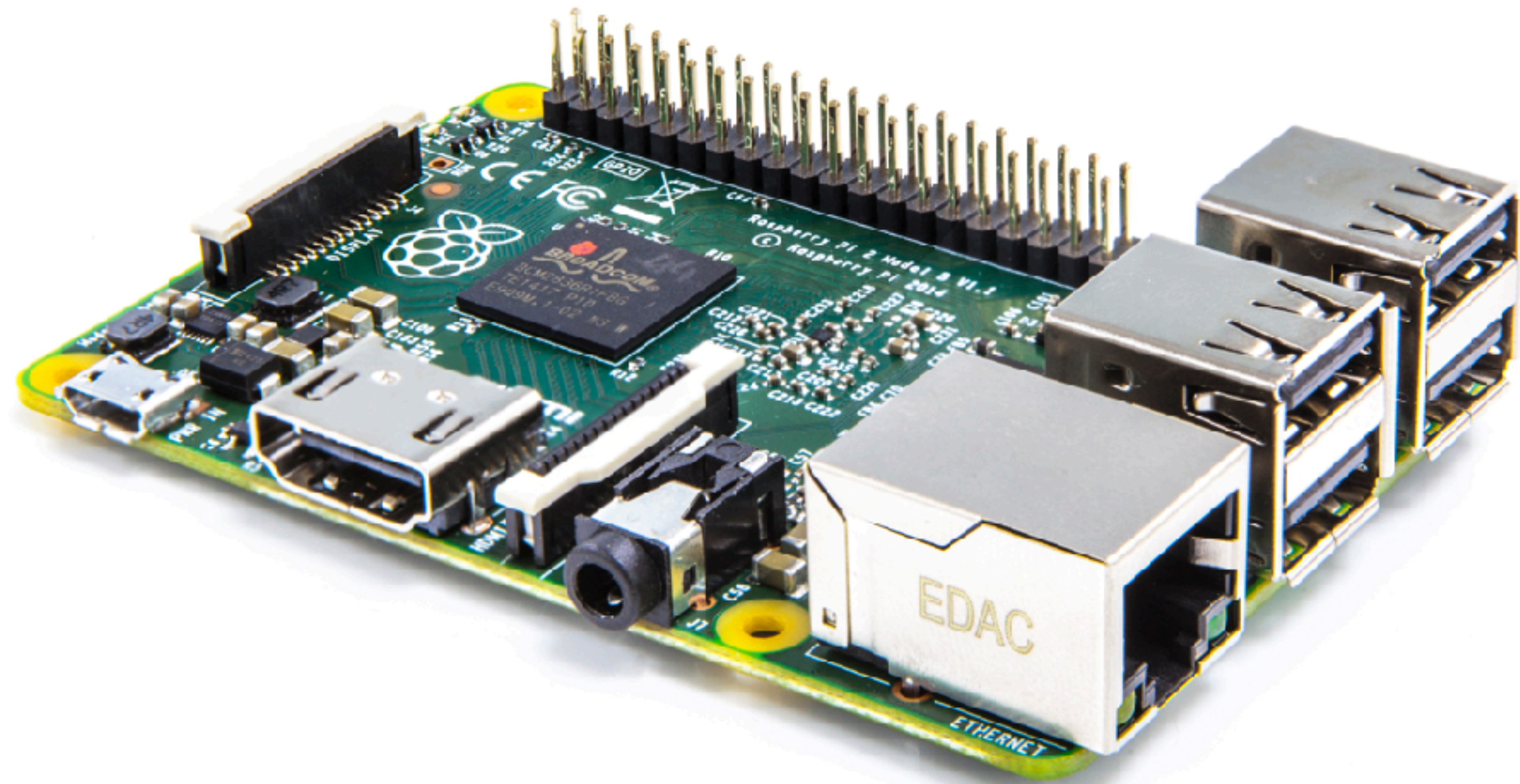
RECALL

£34.99

- £13

= £21.99





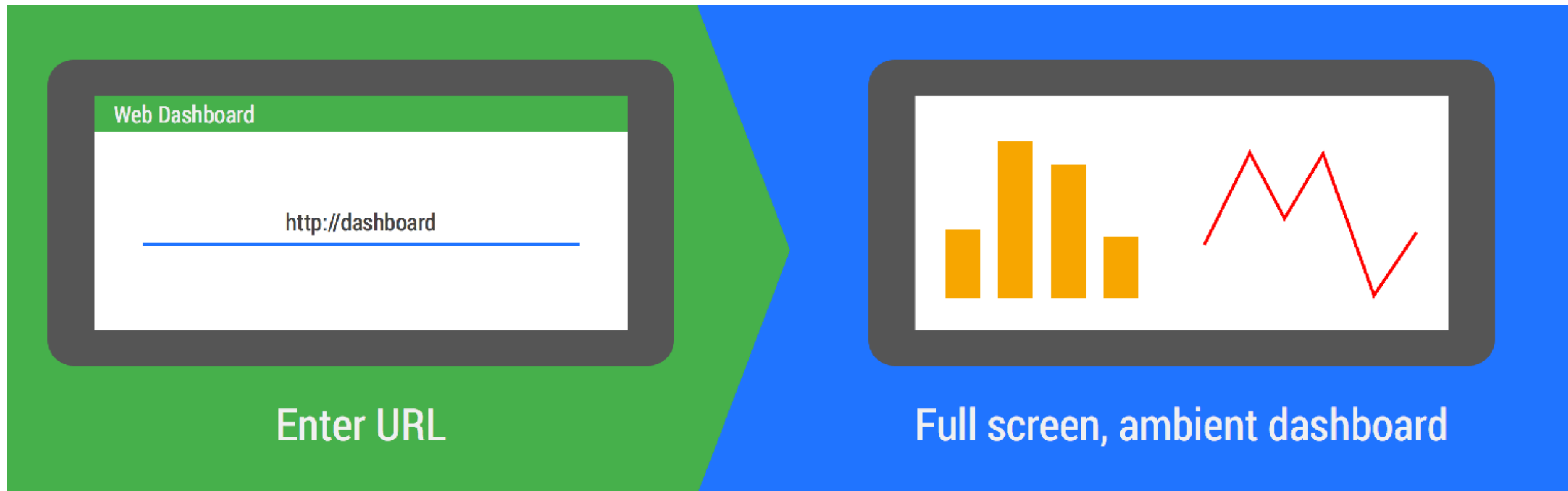
SERIOUS POINT 1

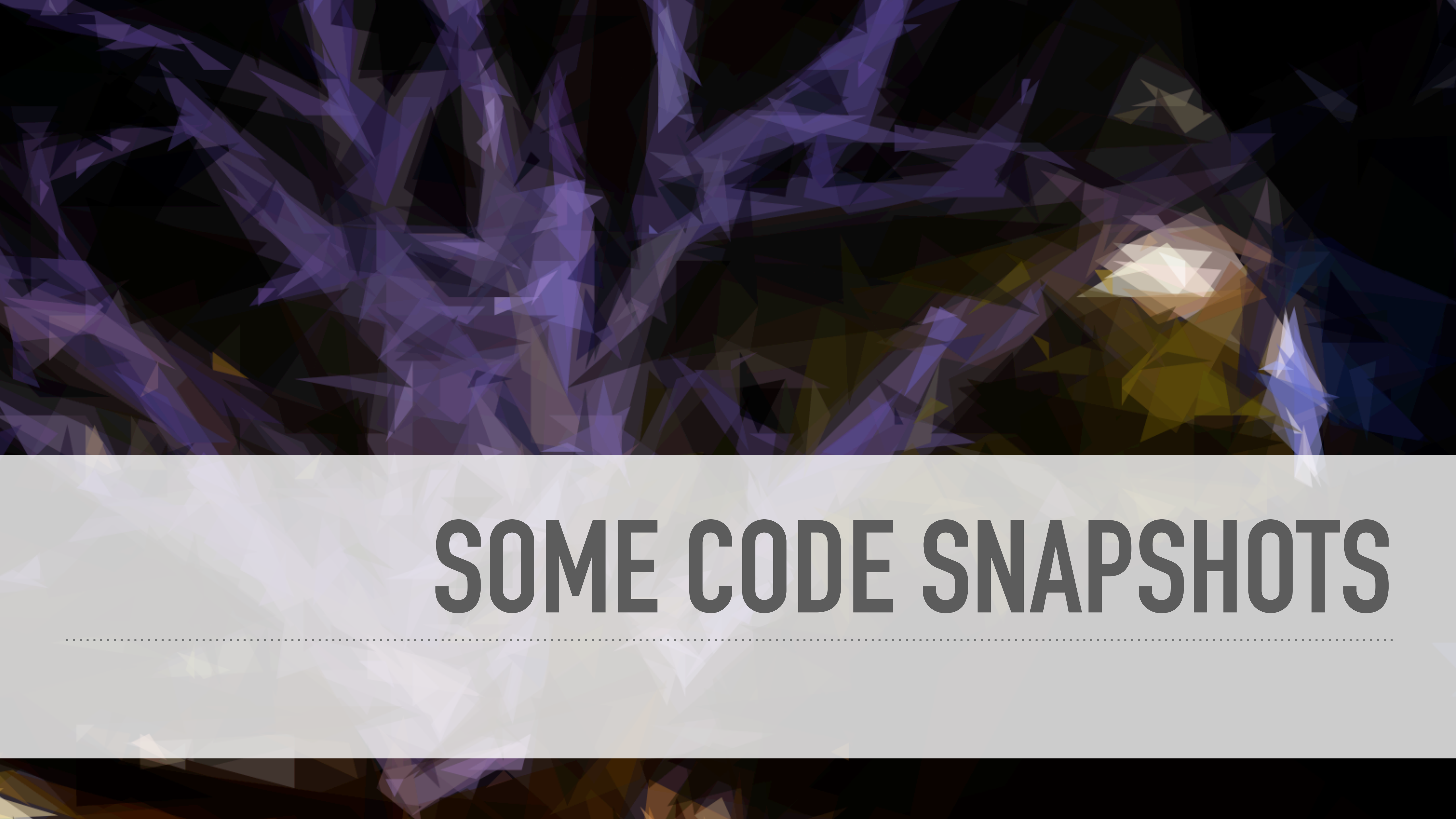
- This is amazing
- Entire computer for price of Blu-ray
- Quad core
- Modern-ish OS

CHRISTMAS HOLIDAYS 2015... WHAT TO DO WITH KINDLE FIRE

➤ Killing 3 Birds

IDEA: WEB DASHBOARD APP



The background of the slide is an abstract composition of numerous small, overlapping triangles. The top half features a dark, moody palette with deep purples, blues, and hints of gold. The bottom half is a lighter, more uniform greyish-white. The text 'SOME CODE SNAPSNOTS' is centered in the white section.

SOME CODE SNAPSNOTS

SMALL APP BUT...

- Simple form
- Simple UI
- Store preferences (last URL)
- Do some Android system things (full screen/keep screen on)

JAVA BEANS (SET/GET) GONE

```
settings.javaScriptEnabled = true //enable js  
settings.domStorageEnabled = true //enable local storage
```

CREATE UI WITH ANKO DSL

```
class ConfigureActivityUI: AnkoComponent<ConfigureActivity> {
    override fun createView(ui: AnkoContext<ConfigureActivity>) = ui.apply {
        verticalLayout {
            padding = dip(24)
            val editUrl = editText(ui.owner.prefs?.getString("lastUrl", "")) {
                hint = "url"
                inputType = InputType.TYPE_TEXT_VARIATION_WEB_EMAIL_ADDRESS
            }
            button("Open") {
                textSize = 18f
                onClick {
                    ctx.toast("Loading!")
                    ui.owner.openUrl(editUrl.text.toString())
                }
            }
            if(android.os.Build.VERSION.SDK_INT >= android.os.Build.VERSION_CODES.KITKAT) {
                textView("Page will open full screen. To get back here swipe up from the bottom of the screen.")
            }
        }
    }.view
}
```


DETAILS

```
onClick {  
    ctx.toast("Loading!")  
    ui.owner.openUrl(editUrl.text.toString())  
}  
  
if(android.os.Build.VERSION.SDK_INT >=  
android.os.Build.VERSION_CODES.KITKAT) {  
    textView("Page will open full screen. To get back here  
swipe up from the bottom of the screen.")  
}
```

SO MANY GREAT THINGS, SO LITTLE CODE

```
package uk.amimetic.webdashboard
```

```
import android.content.SharedPreferences
```

```
inline fun SharedPreferences.edit(func: SharedPreferences.Editor.() -> Unit)
{
    val editor = edit()
    editor.func()
    editor.apply()
}
```

```
fun SharedPreferences.Editor.set(pair: Pair<String, String>) =
    putString(pair.first, pair.second)
```

```
prefs?.edit {
    set("lastUrl" to url)
}
```




My apps

Shop

Games

Family

Editors' Choice

Account

Redeem

Buy gift card

My wishlist

My Play activity

Parent guide



Web Dash

Amimetic Business

3 PEGI 3 This app is compat

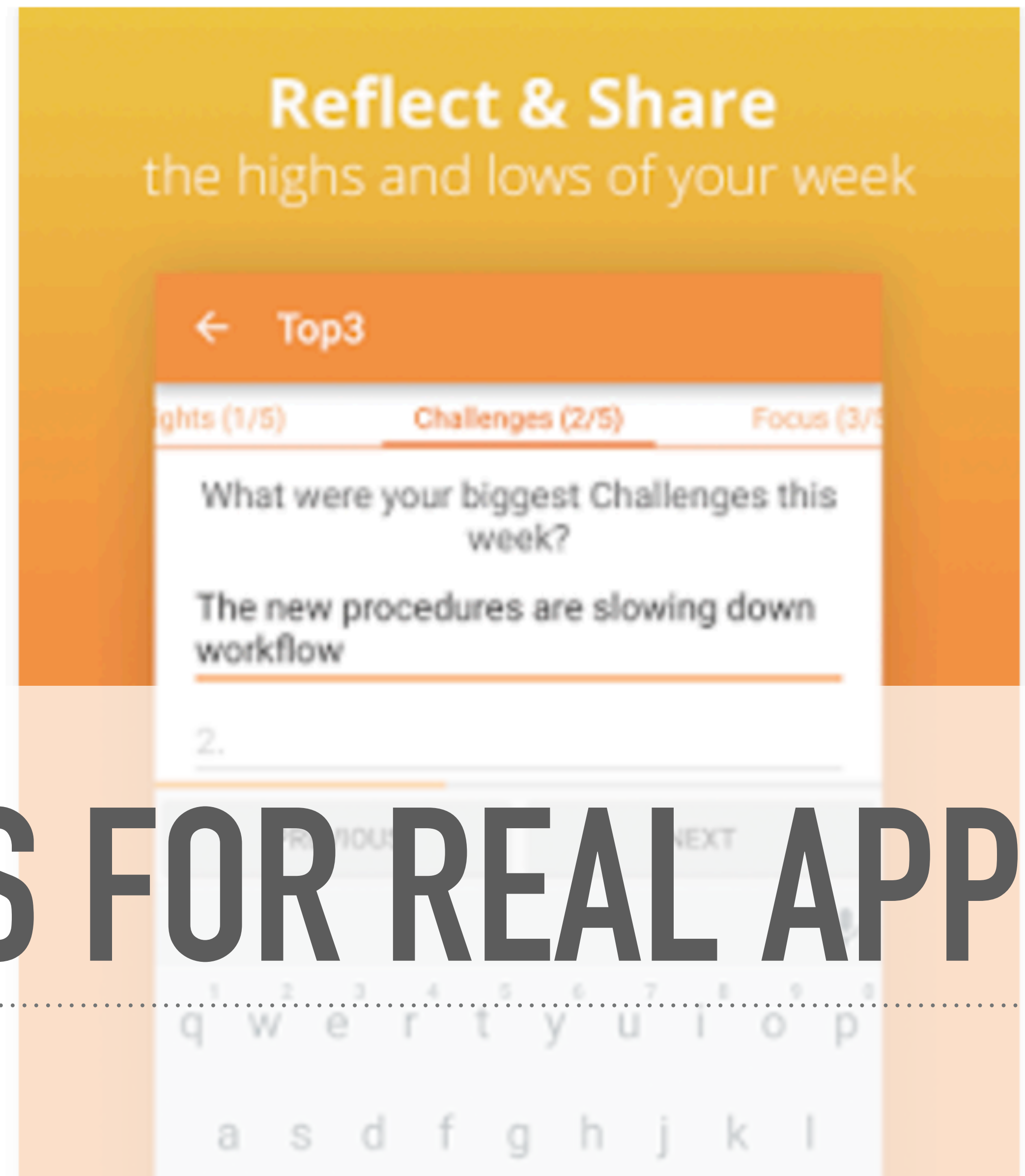
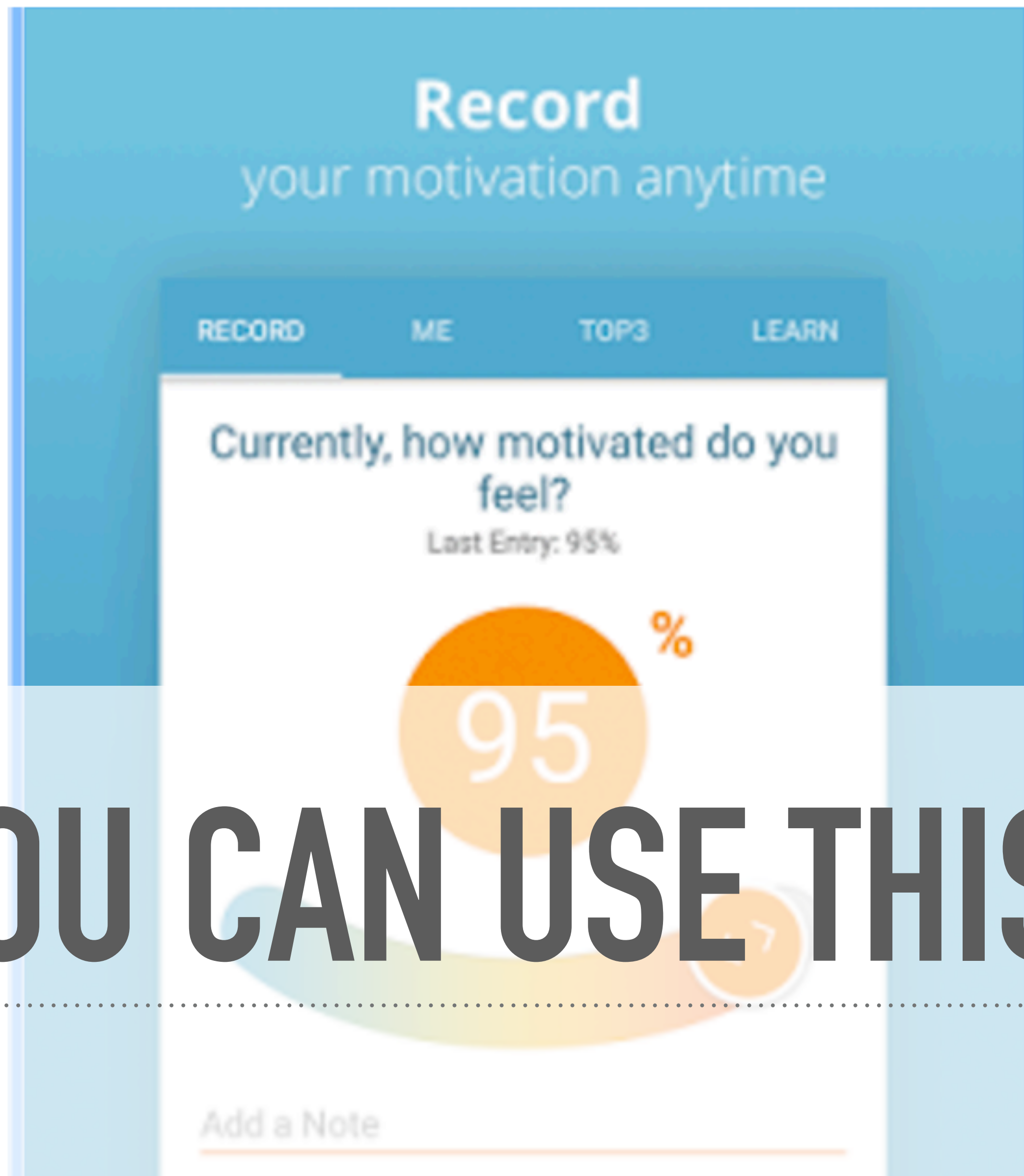
Web Dashboard

<http://dashboard>

Enter URL

AVAILABLE

- <https://github.com/jamesporter/Android-Web-Dashboard>



YOU CAN USE THIS FOR REAL APPS

OUR USE

- Work at a startup called Motivii building tools for workplace feedback
- Android App, some Kotlin (we also have Swift iOS App)

CONVERT OLD JAVA CODE

- Less verbose
- Safer
- But carefully review results (particularly around null stuff)

EASY WINS “BETTER JAVA”

- POJOs => Data Classes
 - `data class User(val name: String, val id: Int)`
- Type inference
- Functional operations on collections

Examples > Hello, world! > Simplest version > Simplest version.kt

Examples

- Hello, world!
- Simplest version
 - Simplest version.kt**
 - Reading a name from the...
 - Reading many names fro...
 - A multi-language Hello
 - An object-oriented Hello
- Basic syntax walk-through
- Multi-declarations and Data clas
- Delegated properties
- Callable references
- Longer examples
- Problems
- Canvas
- Kotlin Koans 0/42
- Advent of Code ★ (log in)
- My programs (log in)
- Public links

Save Save as Arguments

Program arguments

```

1 /**
2  * We declare a package-level functi
3  * an Array of strings as a paramete
4  */
5
6 fun main(args: Array<String>) {
7     println("Hello, world!")
8 }

```

CONCLUSION

- Try it: <http://try.kotlinlang.org/>
- 42 Koans, in browser