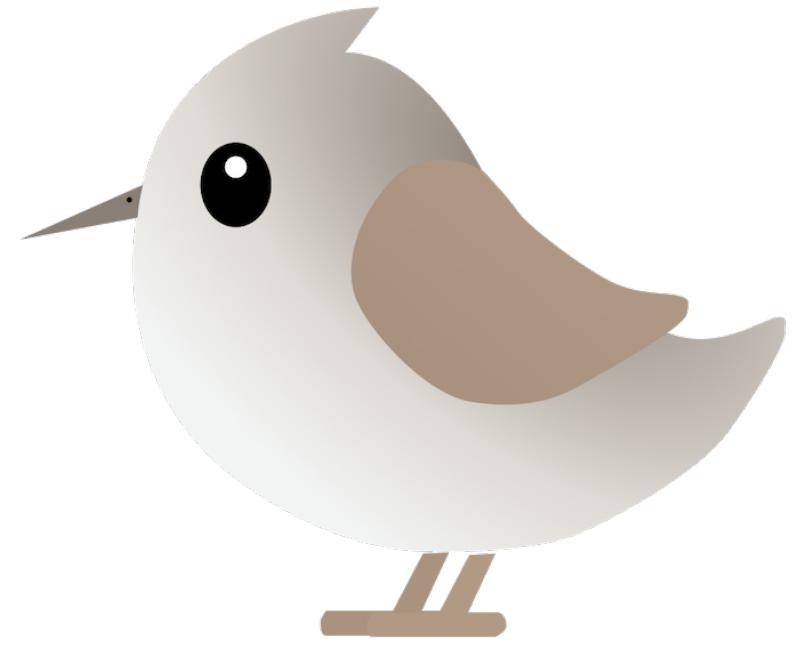


Shorebird: Flutter Code Push



By: Felix Angelov

👋 Hello



Felix Angelov

felangel · he/him

software engineer by day, software engineer by night.

[Edit profile](#)

[Sponsors dashboard](#)

7.6k followers · 63 following

@shorebirdtech

Chicago

felangelov@gmail.com

@felangelov

felangel/README.md

Hi there! 🙌

I'm a software engineer at [Shorebird](#) in Chicago, IL. 🇺🇸

- 👉 I'm currently working on [BrickHub](#)
- 🛠 I maintain the [bloc library](#)
- ☕ I'm learning how to make latte art
- 🌟 I'm looking to collaborate on open source projects
- ✉ Ask me about [Flutter](#) and [Dart](#).
- 👉 Pronouns: he/him/his
- ⚡ Fun fact: I have a pet bunny named Coco 🐰

Open Source Projects

bloc

A predictable state management library that helps implement the BLoC design pattern

Dart ⭐ 10.8k ⚡ 3.3k

bloc.js

A predictable state management library that helps implement the BLoC design pattern in JavaScript

TypeScript ⭐ 183 ⚡ 25

equatable

A Dart package that helps to implement value based equality without needing to explicitly override == and hashCode.

Dart ⭐ 823 ⚡ 94

mason

Tools which allow developers to create and consume reusable templates called bricks.

Dart ⭐ 799 ⚡ 83

mocktail

A mock library for Dart inspired by Mockito

Dart ⭐ 488 ⚡ 71

flow_builder

Flutter Flows made easy! A Flutter package which simplifies navigation flows with a flexible, declarative API.

Dart ⭐ 358 ⚡ 60



Shorebird



Flutter Gives Us Superpowers

- Dart
- Hot Reload
- Mobile (iOS + Android)
- Desktop (MacOS, Linux, Windows)
- Declarative UI
- Plugins
- Developer Tools



Flutter & Friends App





Download It





View the Schedule

The screenshots show the mobile application interface for the Flutter & Friends 2023 conference. The top navigation bar includes the Flutter & Friends logo, a settings gear icon, and tabs for Day 1, Day 2, and Day 3. The main content area displays a list of events with details such as date, time, title, location, and speaker. Each event card includes a favorite heart icon and a 'Schedule' button. The bottom navigation bar features 'Favorites', 'Schedule' (which is highlighted in blue), and 'Sponsors'.

Day 1 (September 3):

- Stockholm City Bike Tour (Activity) from 1:00 PM - 4:00 PM at Djurgårdsboden
- Stockholm Islands Kayak Tour (Activity) from 1:00 PM - 4:00 PM at Kayak centre in Rålis park
- Gröna Lund Theme Park Pentathlon (Activity) from 1:00 PM - 4:00 PM at Gröna Lund
- HeySthlm Arcade & VREX (Activity) from 1:00 PM - 4:00 PM at HeySthlm

Day 2 (September 4):

- Check-in at Kulturhuset (Activity) from 9:00 AM - 10:00 AM at Kulturhuset
- Welcome to Flutter & Friends! (Activity) from 10:00 AM - 10:10 AM at Main Stage
- Why and how we built code push for Flutter at Shorebird (Talk) from 10:10 AM - 10:50 AM by Felix Angelov (Founding Engineer at Shorebird) at Main Stage
- The 6-Step Flex Layout Algorithm, for Humans (Activity) from 10:50 AM - 11:30 AM at NoA (Floor 4)

Day 3 (September 5):

- Check-in at either NoA or Devoteam (Activity) from 9:30 AM - 10:00 AM at NoA or Devoteam
- Join the Flock: Add Shorebird to your Flutter apps (Workshop) from 10:00 AM - 11:30 AM by Felix Angelov (Founding Engineer at Shorebird) at Devoteam
- Flutter Animations: From Beginner to Advanced (Workshop) from 10:00 AM - 11:30 AM by Roaa Khaddam (Flutter & Dart GDE / Software Engineer at Widgetbook) at NoA (Floor 4)



View Talk Details



Felix Angelov

Founding Engineer at Shorebird

Join the Flock: Add Shorebird to your Flutter apps

Sep 5, 10:00 AM 90m Devoteam

In this workshop we'll walk through all the steps needed to get Shorebird working on a Flutter app of your choice. Either follow along with a provided Flutter app or bring your own app. Along the way we'll look at how to manage apps, releases, patches, and more using the Shorebird CLI and Console. We will also cover how to use package:shorebird_code_push to customize the user experience.

By the end of the workshop, you should have Shorebird's code push solution integrated into a Flutter app and have a solid understanding of how to deliver over the air updates to your users.



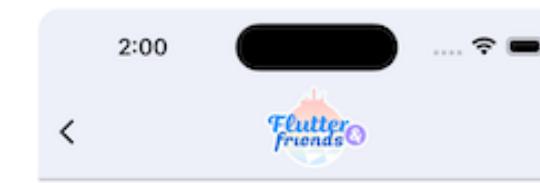
Darja Orlova

Mobile Tech Lead at Chili Labs

A safe bridge to the native side

Sep 4, 2:45 PM 40m Main Stage

Flutter is such an amazing cross-platform framework that it's easy to forget about its connection with the underlying native platforms. For most of your Flutter journey, you won't touch even a line of native code... until one day a client requires the use of an obscure SDK that doesn't have a Flutter implementation, or you want to use that shiny new native feature before it gets official framework support. So, unwillingly, you reach for MethodChannels... but let me stop you right there. In this talk, I will show you a better, type-safe, and more enjoyable way to communicate with the native layer with the help of the pigeon code generation tool.



Lukas Klingsbo

Open Source Engineer at Blue Fire

Building a space shooter game with Flame

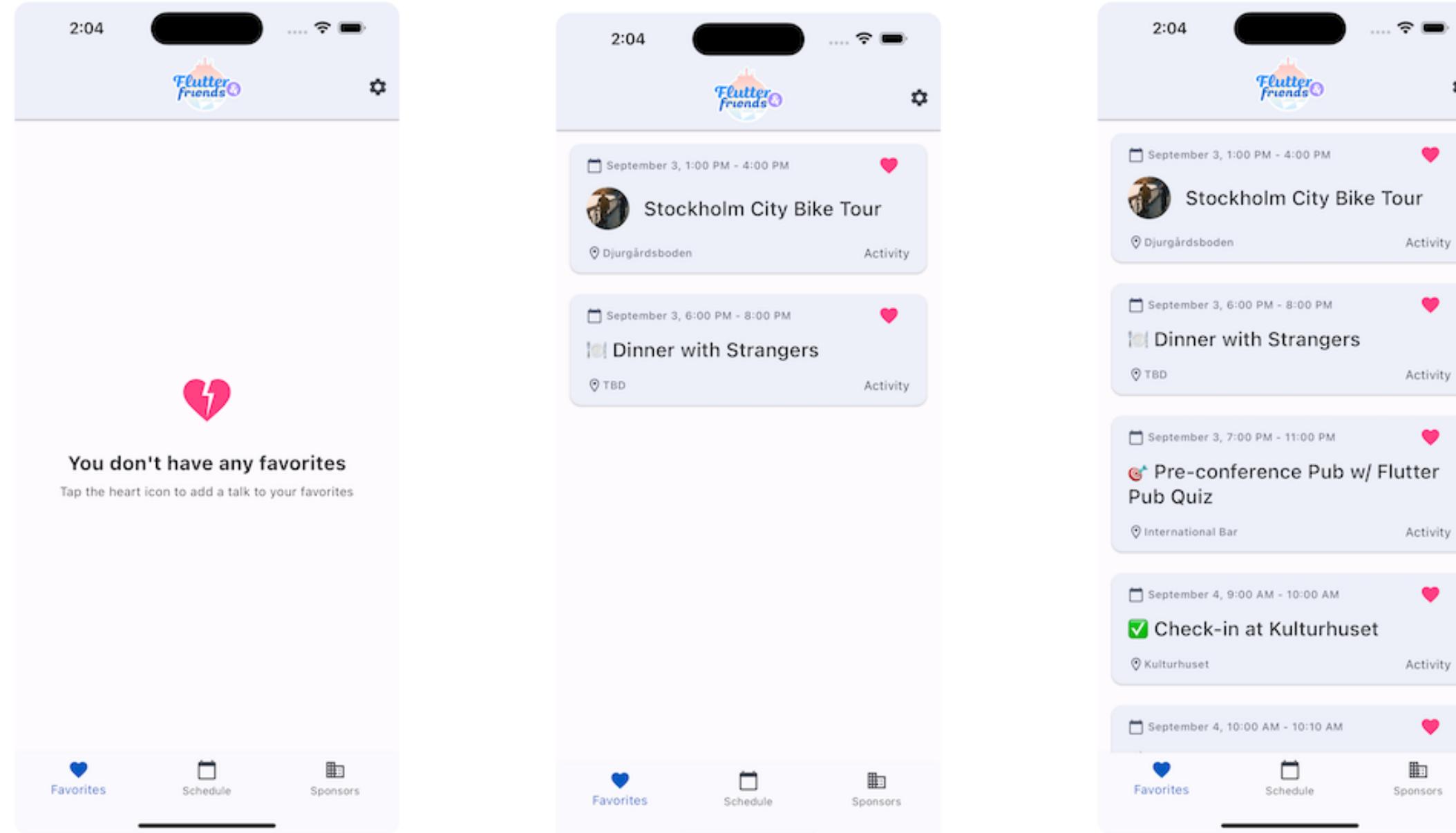
Sep 5, 1:00 PM 90m NoA (Floor 3)

In this session we will build an awesome and addictive space shooter game with Flutter and Flame engine.

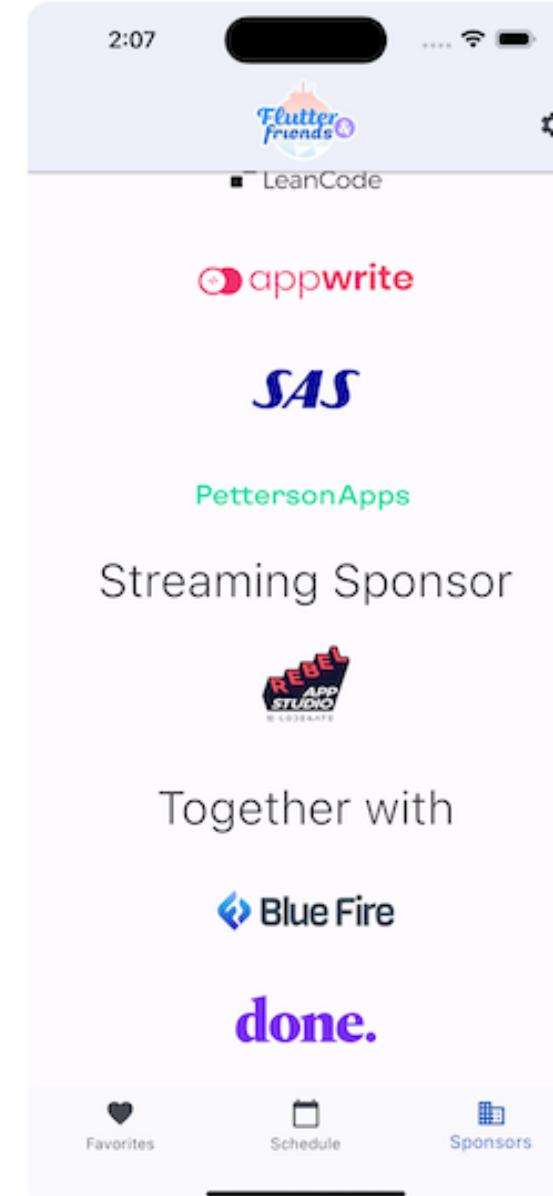
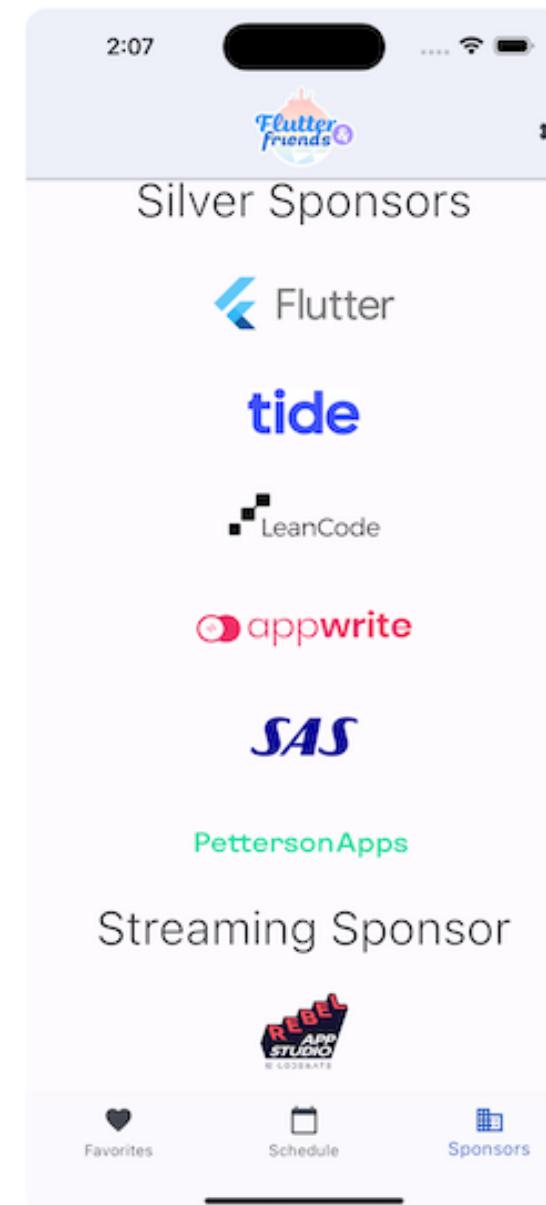
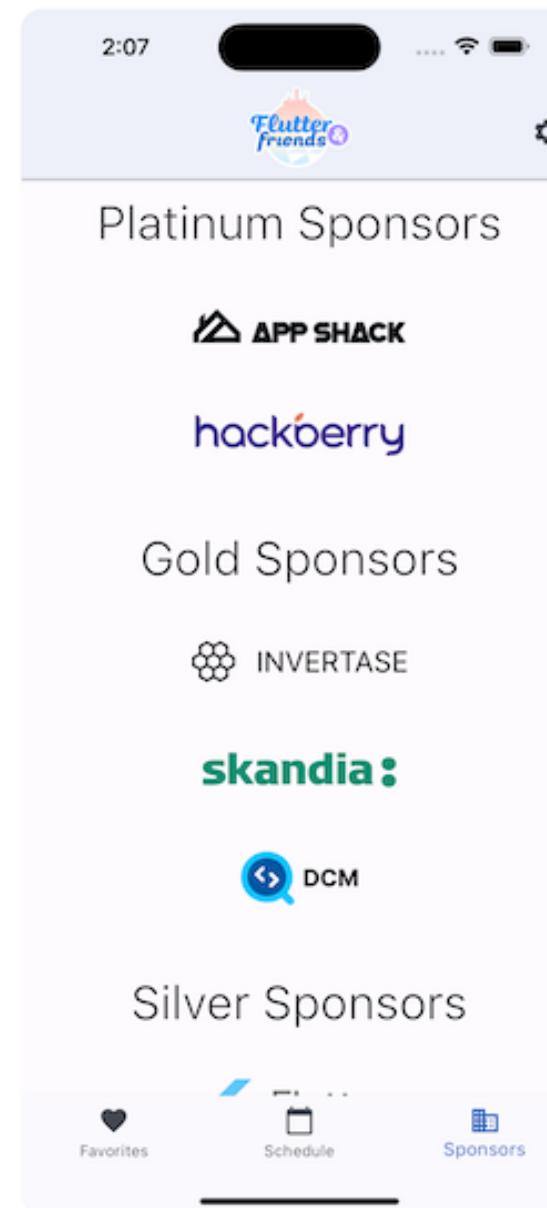
You will learn about sprites, animations, gestures and input, collision detection, effects, the game loop, components, parallaxes and a lot more! In the end of the session you will have a playable game that you can continue to improve on.

You need no previous experience with Flame or Flutter to attend, a little Dart experience will help you a lot though.

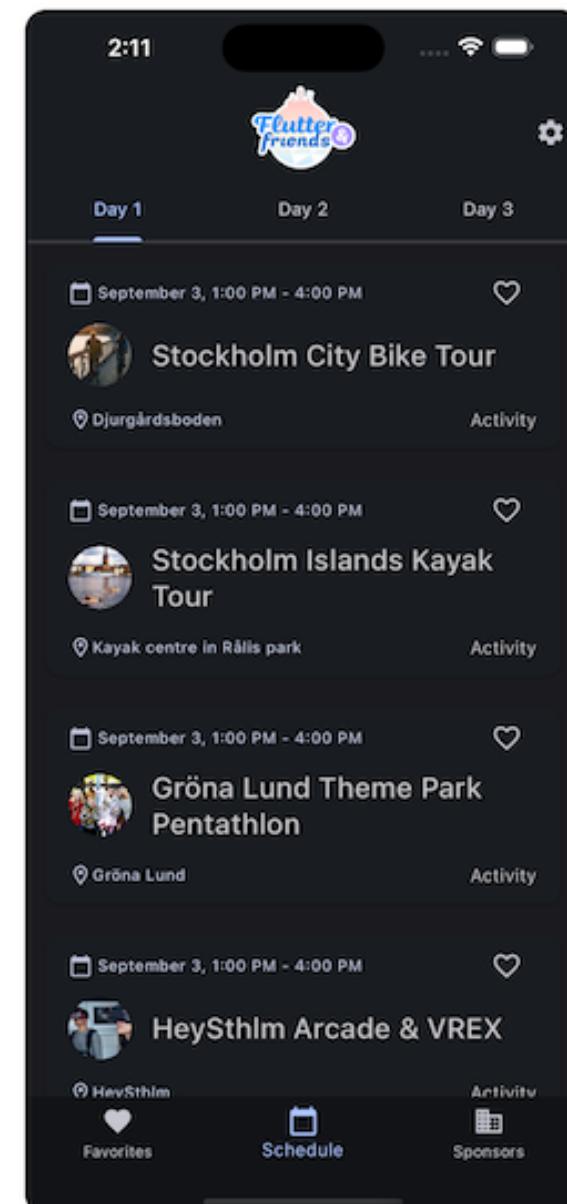
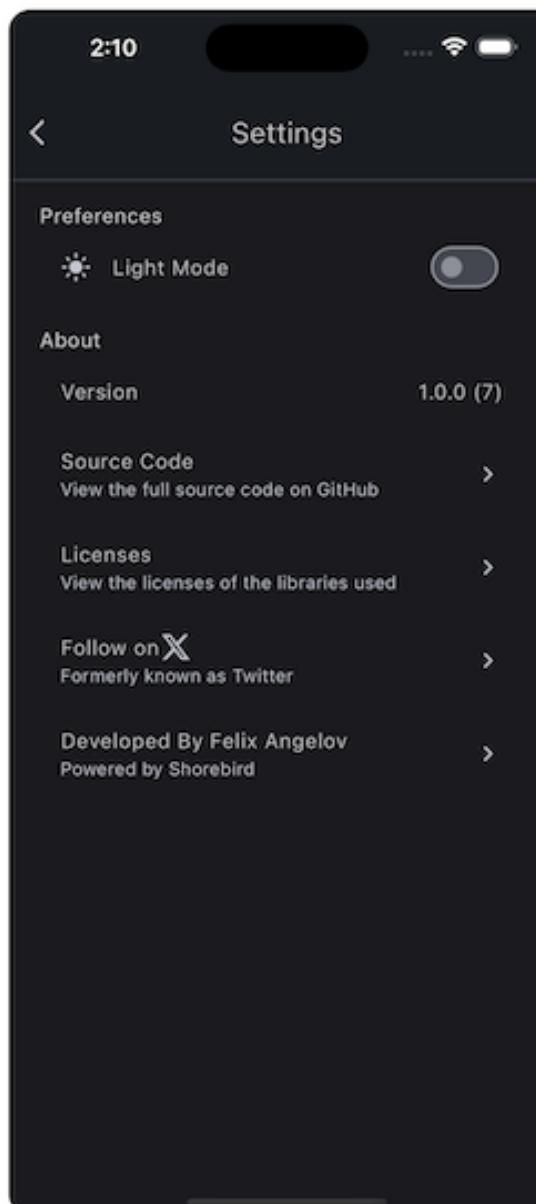
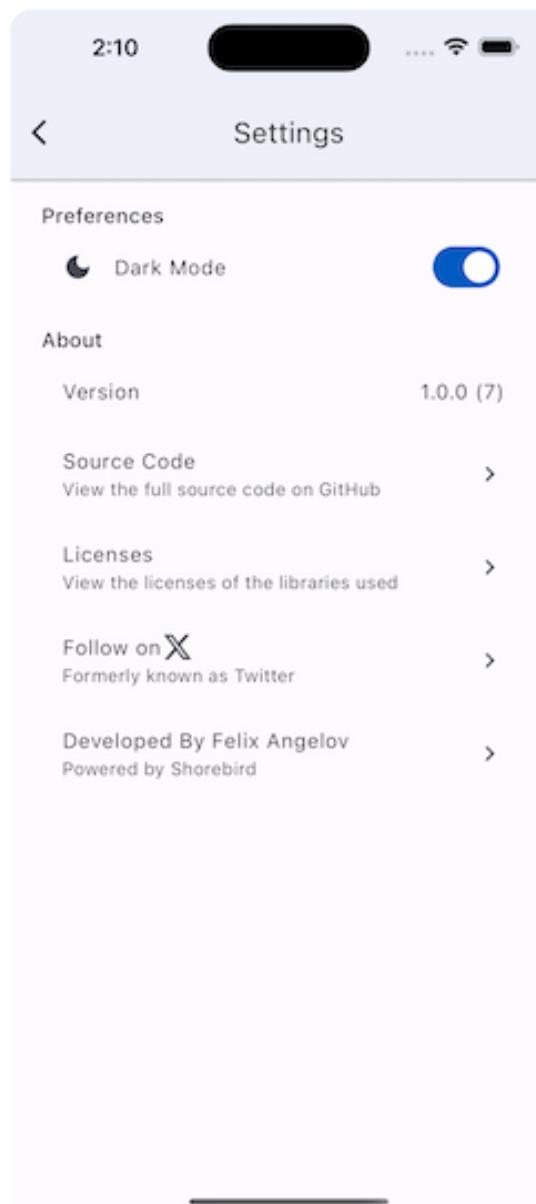
💖 Favorite Events



🏆 View Sponsors

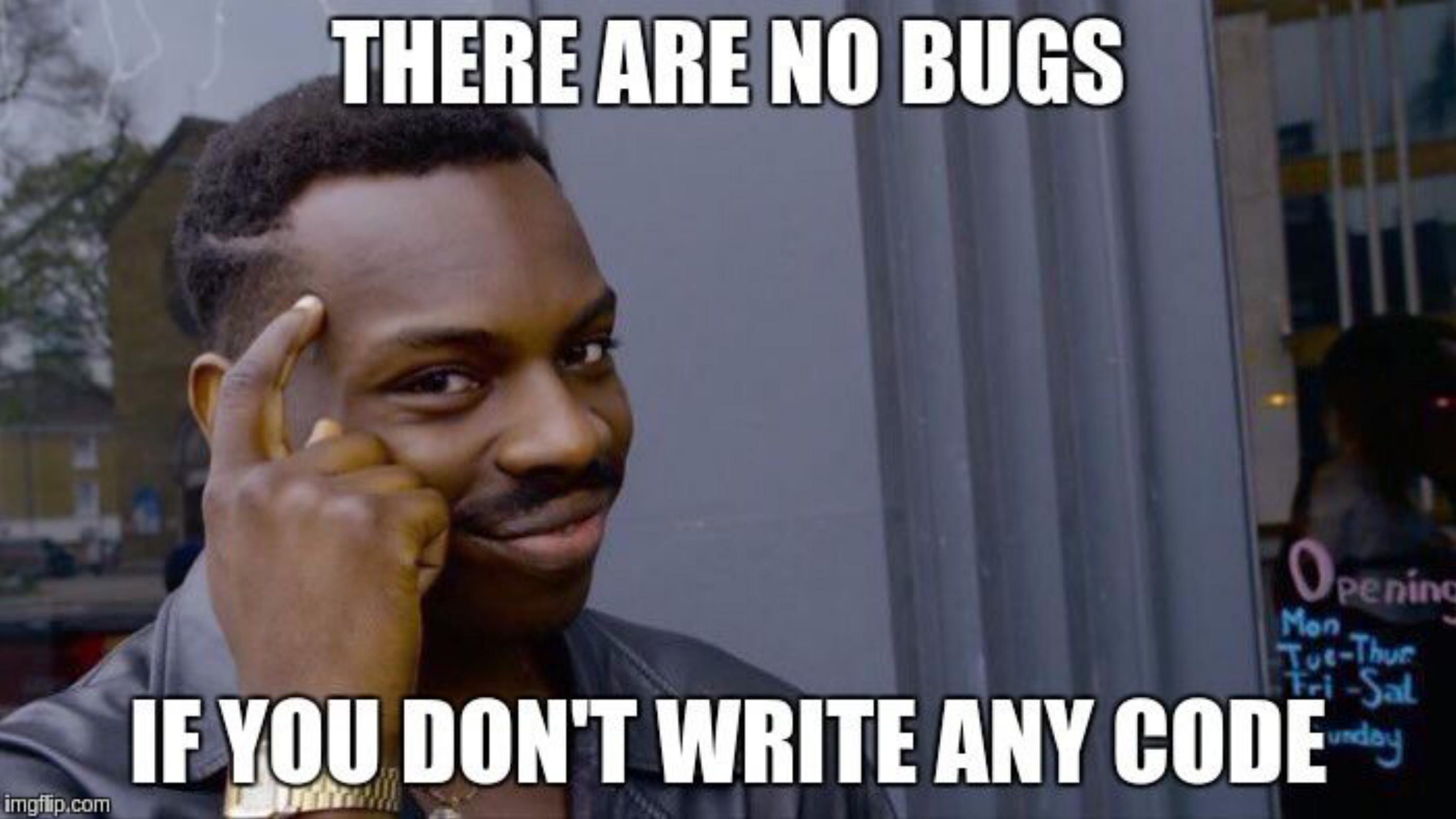


☀️/🌙 Mode



**There's only one
problem....**

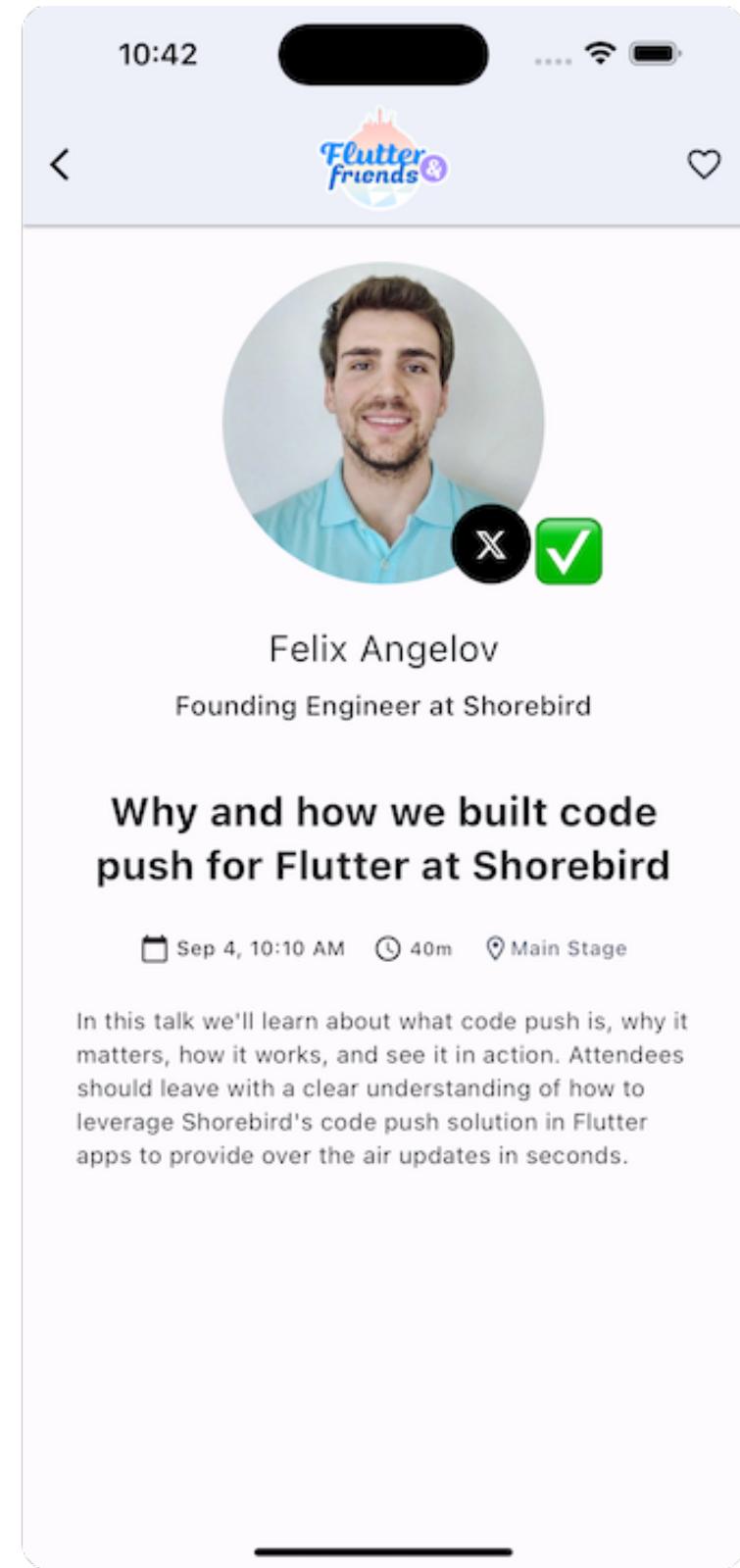
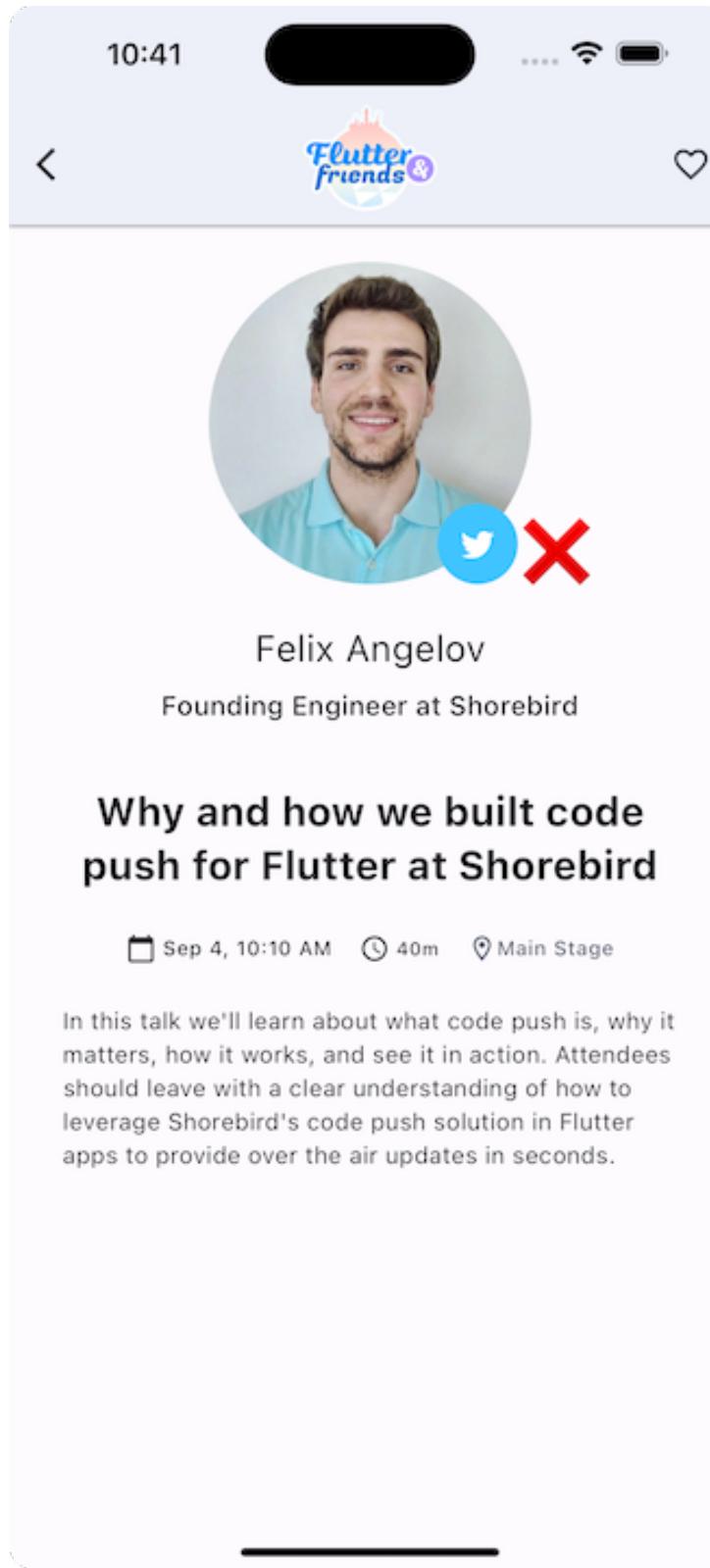


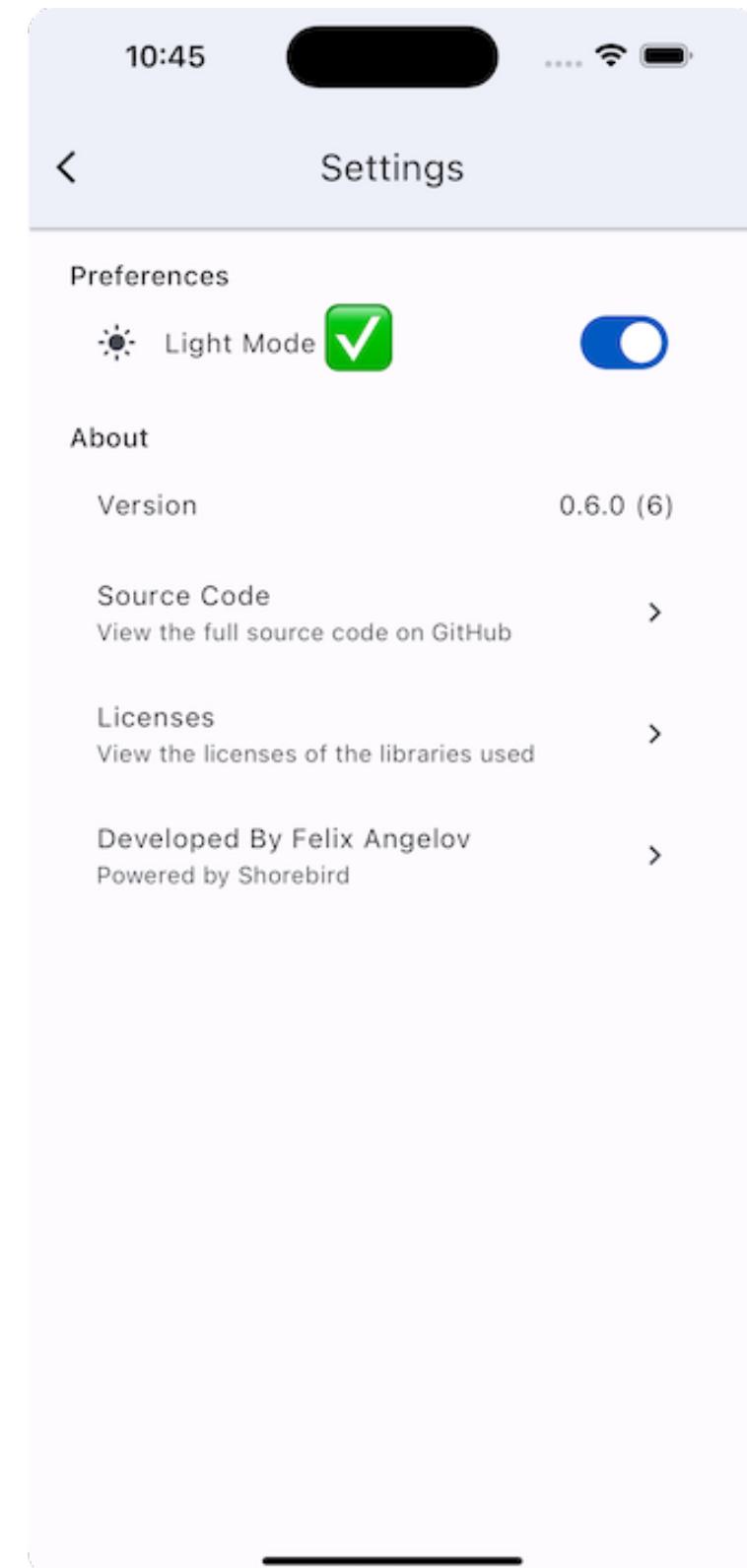
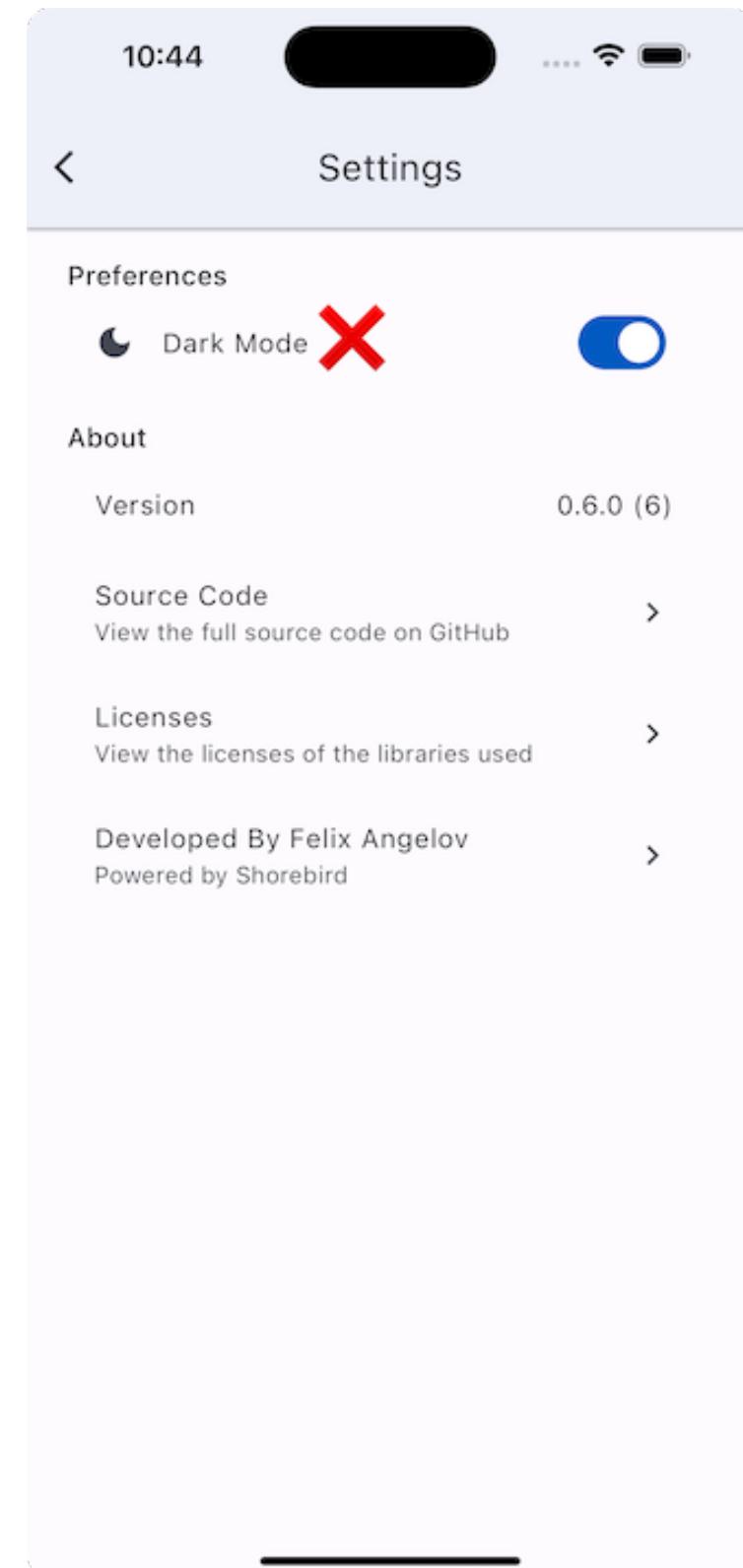


THERE ARE NO BUGS

IF YOU DON'T WRITE ANY CODE

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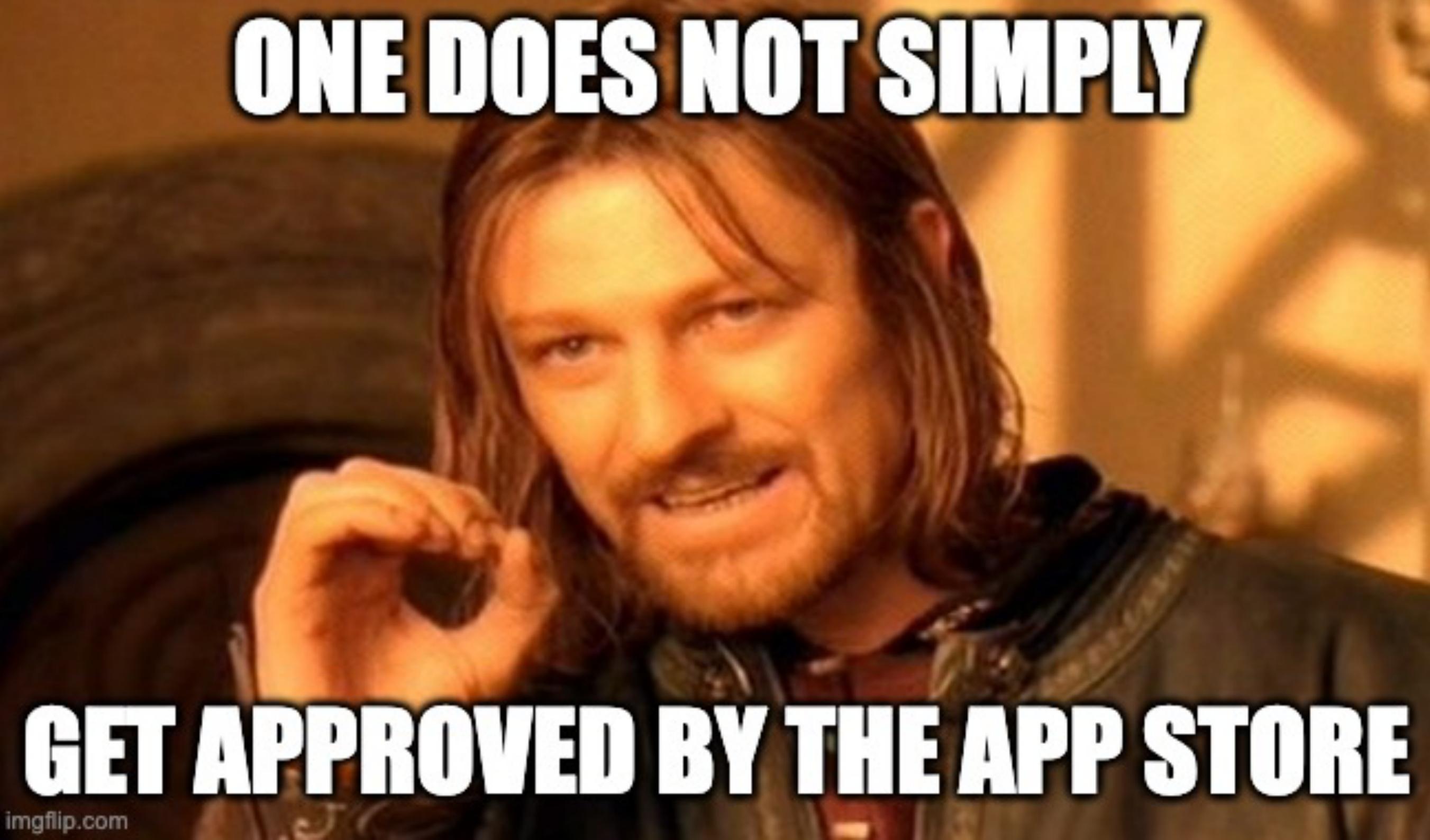




Building apps



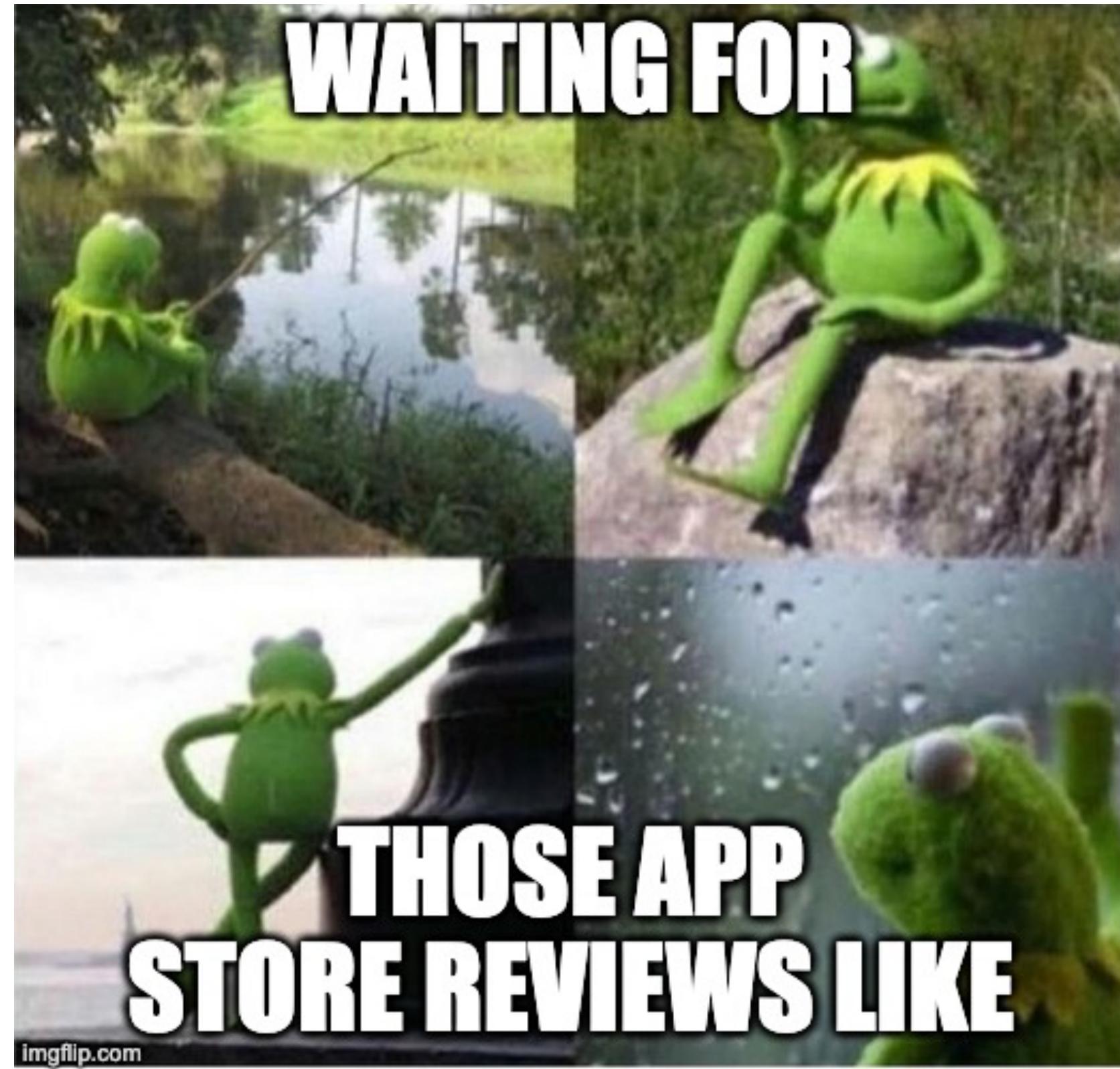
Submitting to the stores

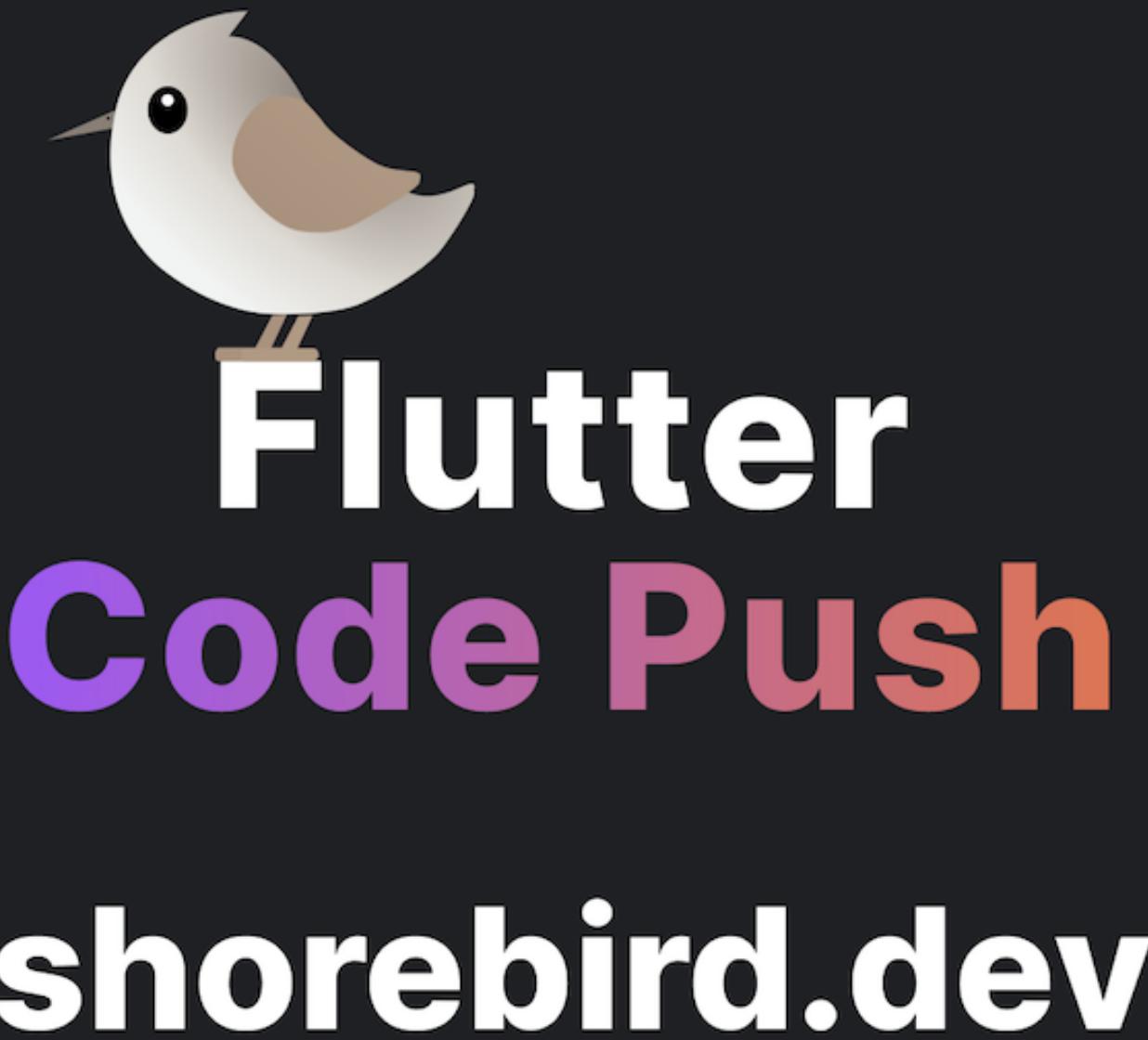


ONE DOES NOT SIMPLY

GET APPROVED BY THE APP STORE

imgflip.com





● 11,484 Open ✓ 74,720 Closed

Author ▾

Label ▾

Assignee ▾

Sort ▾

● **Code Push / Hot Update / out of band updates**

276  1.14k

a: production

c: new feature

customer: crowd

dependency: dart

engine

P3

team-engine

triaged-engine

#14330 opened on Jan 29, 2018 by eseidelGoogle



Shorebird Code Push

- ⚡ Hot Restart in Production
- ✨ Change Any Dart Code
- ⏳ Deliver Over-The-Air Updates Instantly
- 🧠 Seamless Integration
- 💰 Try For Free

Get Started: <https://shorebird.dev>



imgflip.com



Prep

- 💡 Integrated Shorebird
 - Visited: <https://console.shorebird.dev>
 - Installed Shorebird CLI
 - `shorebird init`
 - 📦 Created a Release
 - `shorebird release android`
 - `shorebird release ios-alpha`
 - 📱 Submitted to the AppStore and PlayStore

The screenshot shows the 'Console' section of the Shorebird website. At the top right are 'Docs' and 'FE' buttons. The main content area has a dark background with white text. It starts with 'Welcome to Shorebird' and a hand icon. Below that is a note: 'Please follow the steps below to get started with Shorebird'. The first step is '1. Install the Shorebird CLI' with a box icon. Subsequent sections provide instructions for 'MacOS/Linux' (using curl) and 'Windows' (using PowerShell). Both sections include a command-line snippet.

Welcome to Shorebird 🖐️

Please follow the steps below to get started with Shorebird 🚀

1. Install the Shorebird CLI 📦

MacOS/Linux

Open a terminal and run:

```
curl --proto '=https' --tlsv1.2 https://raw.githubusercontent.com/shorebirdtech/installer/master/install.sh | sh
```

Windows

Open PowerShell and run:

```
Set-ExecutionPolicy RemoteSigned -scope CurrentUser # Needed to execute remote scripts
iwr -UseBasicParsing 'https://raw.githubusercontent.com/shorebirdtech/installer/master/install.ps1' | iex
```



Initializing Shorebird

```
$ shorebird init
✓ Detecting product flavors (0.6s)
? How should we refer to this app? (flutter_and_friends) flutter_and_friends
✓ Shorebird is up-to-date (0.6s)
✓ Flutter install is correct (4.5s)
```

No issues detected!

❶ Shorebird initialized successfully!

- ✓ A shorebird app has been created.
- ✓ A "shorebird.yaml" has been created.
- ✓ The "pubspec.yaml" has been updated to include "shorebird.yaml" as an asset.

Reference the following commands to get started:

- 📦 To create a new release use: "shorebird release".
- 🚀 To push an update use: "shorebird patch".
- 👀 To preview a release use: "shorebird preview".

For more information about Shorebird, visit <https://shorebird.dev>



Shorebird Configuration

```
# This file is used to configure the Shorebird updater used by your app.  
# Learn more at https://docs.shorebird.dev  
# This file should be checked into version control.  
  
# This is the unique identifier assigned to your app.  
# Your app_id is not a secret and is just used to identify your app  
# when requesting patches from Shorebird's servers.  
app_id: 8c846e87-1461-4b09-8708-170d78331aca  
  
# auto_update controls if Shorebird should automatically update in the background on launch.  
# If auto_update: false, you will need to use package:shorebird_code_push to trigger updates.  
# https://pub.dev/packages/shorebird\_code\_push  
auto_update: false
```

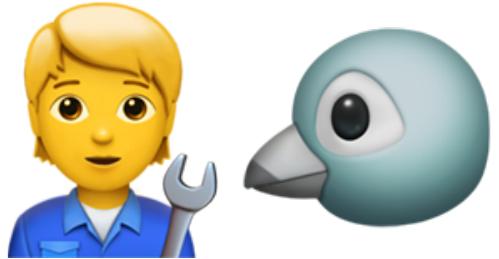


console.shorebird.dev

The screenshot shows the 'Console' interface with a dark theme. At the top, there's a logo of a bird and the word 'Console'. Below it, two buttons: 'Docs' (white background) and 'FE' (teal background). The main section is titled 'Your Shorebird Apps' and lists one app: 'flutter_and_friends'. It shows a teal icon, the name 'flutter_and_friends', its version '1.0.0+7', and a note 'none' under 'Builds'. There are three vertical dots on the right side.

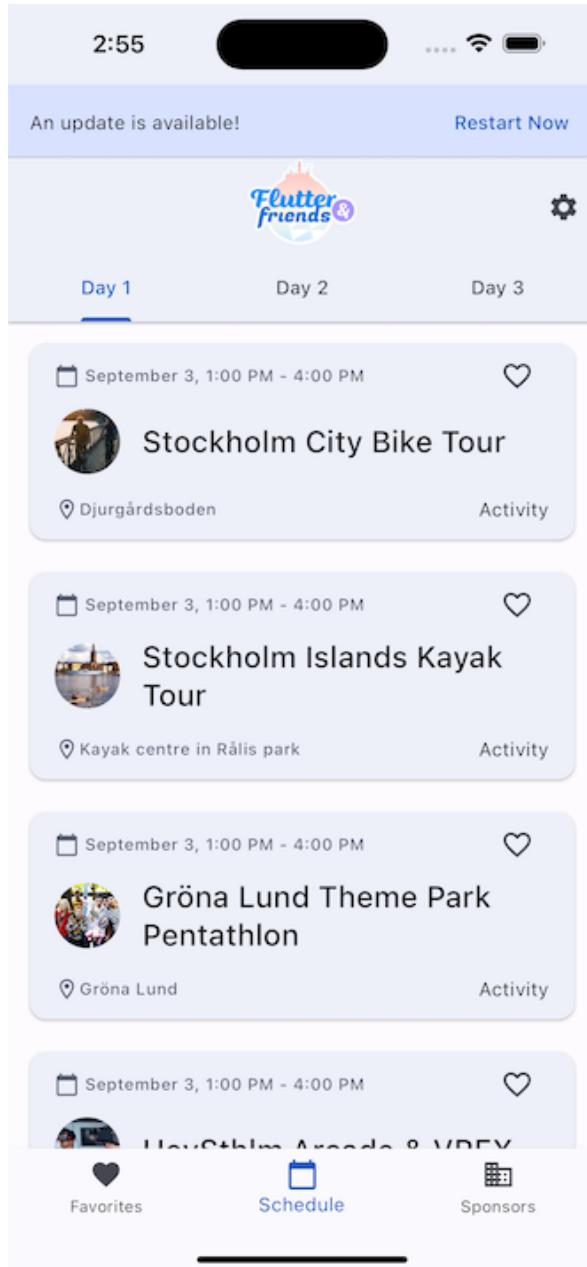
The screenshot shows the 'Console' interface with a dark theme. At the top, there's a logo of a bird and the word 'Console'. Below it, two buttons: 'Docs' (white background) and 'FE' (teal background). The main section is titled 'flutter_and_friends' and 'Releases'. It lists three releases: '1.0.0+7' (version 1.0.0+7, Android/iOS builds), '0.6.0+6' (version 0.6.0+6, Android build), and '0.5.0+5' (version 0.5.0+5, iOS/Android builds). Each release has three vertical dots on the right side.

Now Let's Fix it Live





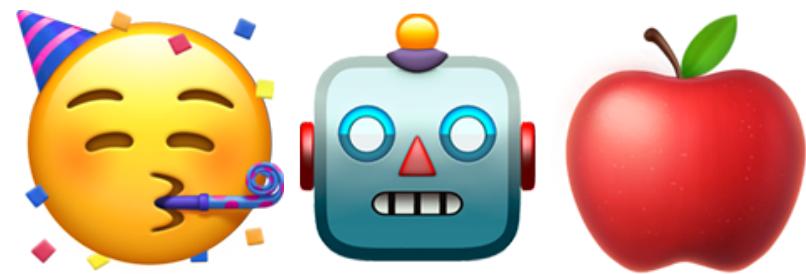
Update Available



Closer Look

- 📣 Silent Notification
- 📦 Patch Downloaded Async In Background
- 🔒 Patch Hash Verification On Device
- 💡 Restart To Boot From Patch
- 🎩 Automatic Rollback On Bad Patch

Android & iOS





Highlights

- Android
- iOS (alpha)
- Flavors
- Add-To-App
- CI Integration (GitHub, Codemagic)
- Multiple Flutter Versions
- Asset Support (coming soon)



Current Limitations

- 😴 iOS Runs ~100x Slower (100% Interpreted)
- 🎈 iOS Patch Sizes Are Large (No Diffing)
- 📄 Flutter Versions >=3.10.0
- 🐾 Stable Channel Only
- 📱 Mobile Platforms Only



How Does Shorebird Work?

- 🏍️ Custom Flutter engine that includes Shorebird updater
- 🎯 Custom Dart compiler + Custom Dart interpreter
- ☁️ Compiled binaries hosted on our servers
 - 🙅 We never see your source code
 - ⚡ Optional Dart bindings to interact with the updater
 - `package:shorebird_code_push`



Layers

Shorebird Cloud

Shorebird CLI

Shorebird Flutter

Shorebird Engine

Shorebird Updater

Shorebird Dart



Drop-In Replacement

```
# Flutter CLI  
$ flutter build appbundle --release  
$ flutter build ipa --release
```

```
# Shorebird CLI  
$ shorebird release android  
$ shorebird release ios-alpha
```



You Are In Control

shorebird_code_push

Check for and download Shorebird code push updates from your app.

v 1.1.0 (47 days ago) shorebird.dev MIT

[SDK](#) | [DART](#) [FLUTTER](#) [PLATFORM](#) | [ANDROID](#) [IOS](#) [LINUX](#) [MACOS](#) [WEB](#) [WINDOWS](#)

```
// Create an instance of the ShorebirdCodePush class
final shorebirdCodePush = ShorebirdCodePush();

// Get the current patch version, or null if no patch is installed.
final currentPatchversion = await shorebirdCodePush.currentPatchVersion();

// Check whether a patch is available to install.
final isUpdateAvailable = await shorebirdCodePush.isNewPatchAvailableForDownload();

// Download a new patch.
await shorebirdCodePush.downloadUpdateIfAvailable();
```



Continuous Integration

```
# Generate a CI Token  
$ shorebird login:ci
```

```
steps:  
  - name: 📚 Git Checkout  
    uses: actions/checkout@v3  
  
  - name: 🐦 Setup Shorebird  
    uses: shorebirdtech/setup-shorebird@v0  
    with:  
      flutter-version: 3.13.2  
  
  - name: 🛠 Patch Android  
    run: shorebird patch android --force  
    env:  
      SHOREBIRD_TOKEN: ${{ secrets.SHOREBIRD_TOKEN }}  
  
  - name: 🍎 Patch iOS  
    run: shorebird patch ios-alpha --force  
    env:  
      SHOREBIRD_TOKEN: ${{ secrets.SHOREBIRD_TOKEN }}
```



Safe For Stores

Play Store

"An app ... may not modify, replace, or update itself using any method other than Google Play's update mechanism." ... "This restriction does not apply to code that runs in a virtual machine or an interpreter"

Shorebird uses the Dart Virtual Machine. Similar to how other apps use JavaScript or Lua.

App Store

3.2.2. "Application may not download or install executable code. Interpreted code may be downloaded..."

Shorebird uses a custom Dart interpreter on iOS to both comply with store guidelines and provide excellent performance.

Join the flock

Deliver instant updates to your users with pricing that scales as you grow.

Hobby

\$0 / month

For small apps and demos.

- ✓ Unlimited apps
- ✓ 1 developer
- ✓ 5K patch installs/month
- ✓ Community support

[Get Started](#)

Team

\$20 / month

For apps that can scale.

- ✓ Unlimited apps
- ✓ Unlimited developers
- ✓ 50K patch installs/month ⓘ
- ✓ Discord & email support

[Get Started](#)

Enterprise

Custom

For 1M+ user apps.

- ✓ Unlimited apps
- ✓ Unlimited developers
- ✓ High volume discounts
- ✓ Private Support

[Schedule a call](#)



Add Shorebird To Your App

Workshop Tomorrow



Felix Angelov / Founding Engineer at Shorebird

Join the Flock: Add Shorebird to your Flutter apps

10:00 Tuesday 1h 30m

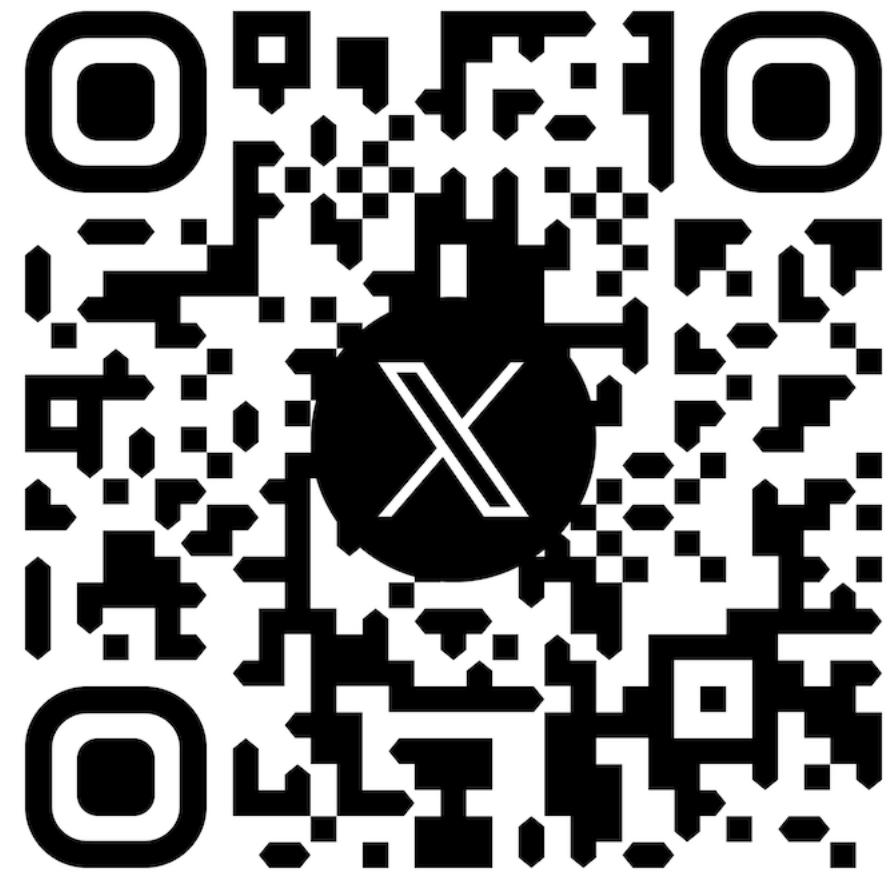
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Chat With Us



<https://discord.gg/shorebird>
@shorebirddev



Thank You!

