



Common UX across Android, iOS and Web with Flutter

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Front End Developer



Innovation Design



- Award winning products and solutions from concept to production.
- 7 studios globally
- 61 designers, researchers and developers

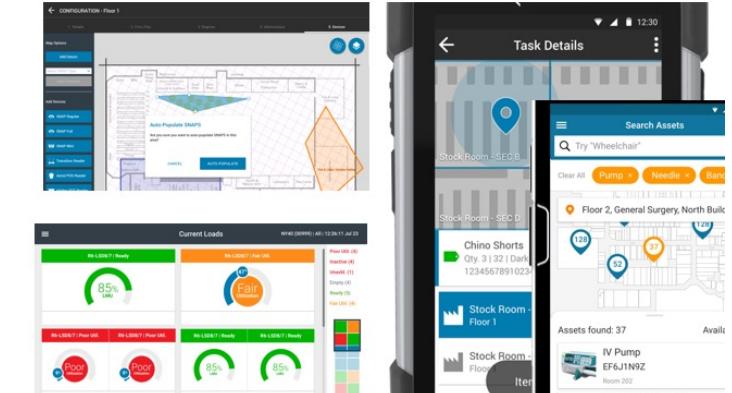
Customer Design Research



Physical Product Design



Human Factors Engineering



User Experience Design



State of cross-platform



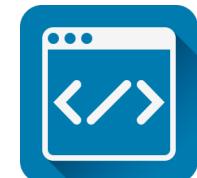
Cross platform history

Wrap a WebView with APIs



APACHE
CORDOVA™

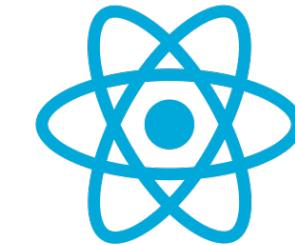
PhoneGap



Compile to native



Xamarin

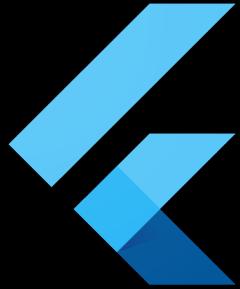
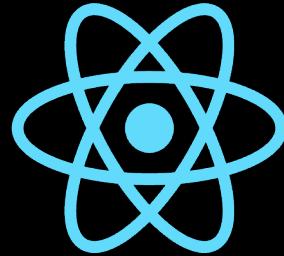


React Native



Flutter

React Native or Flutter?



- JavaScript
 - Dynamically typed
- Native components
 - npm / React Native Directory
- Popularity
- Dart
 - Statically typed
- Rich core libraries
 - pub.dev
- Growing community

Developer experience...

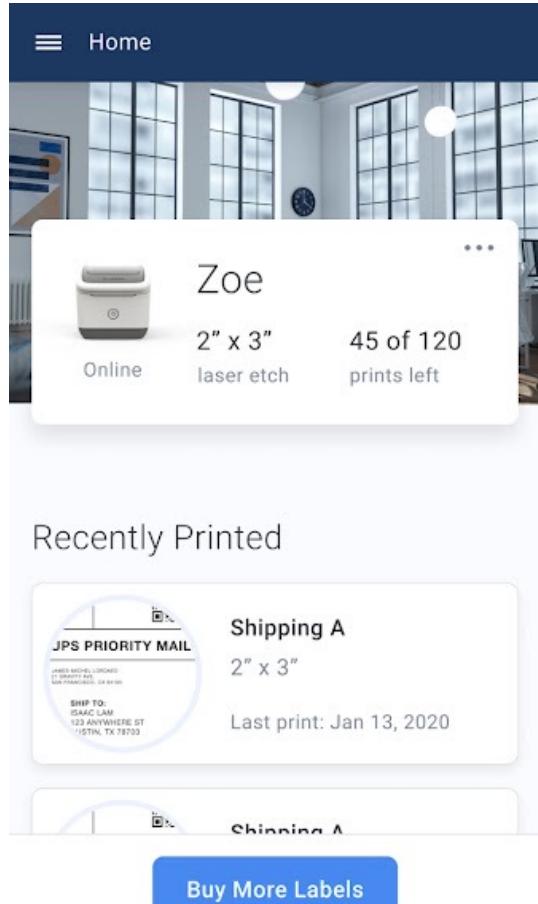
ZSB Series Printer

New experience for Zebra

- Great UX
- Cross platform
- Native features
- Developer experience

The solution: Flutter 





ZSB Series Printer

Our findings

Good 👍

- Flutter
- Performance
- User Experience
- Developer experience

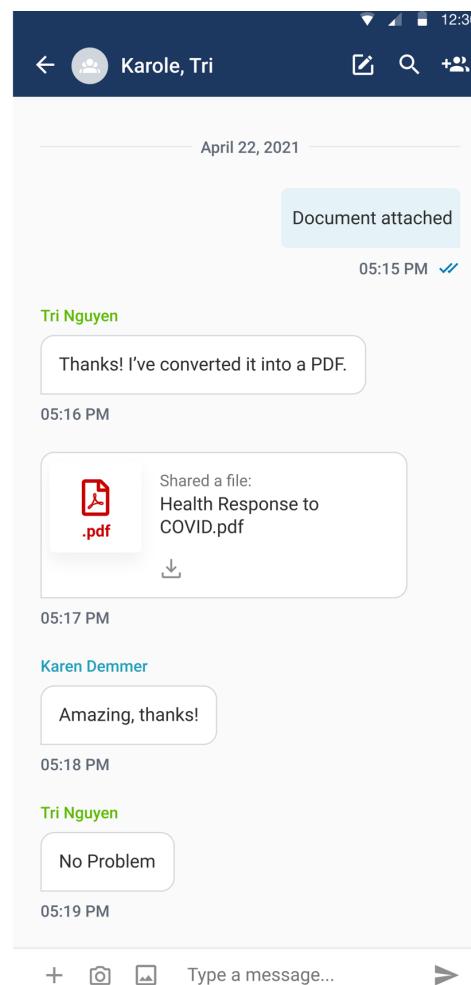
Less good 🤐

- Accessibility
- Responsiveness
- UI customization
- State management

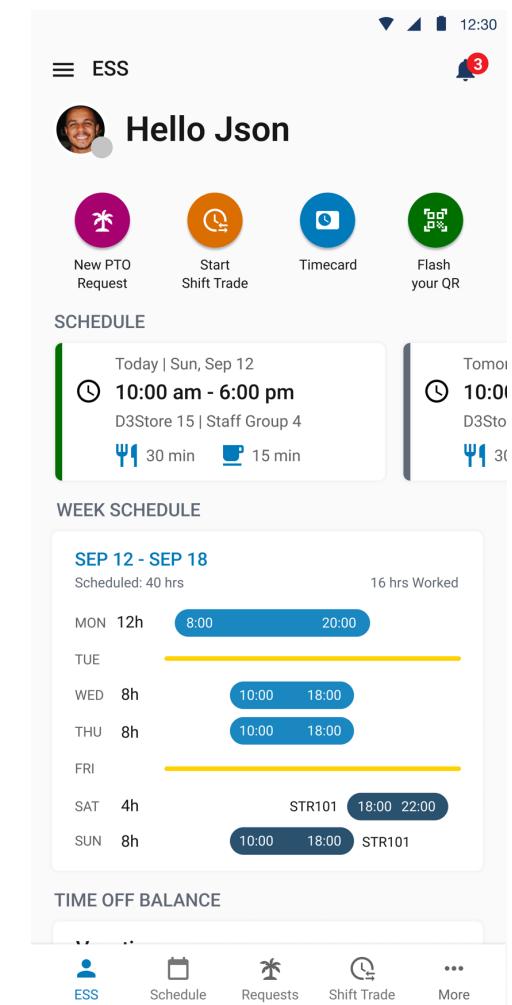
Zebra Workcloud

~70k lines to ~35k lines

- Accessibility
- Responsiveness
- UI customization
- State management



Workcloud Chat



Workcloud Scheduling Employee Self-Service



Flutter 101



What does Flutter look like?

Declarative UI

Hello Flutter!

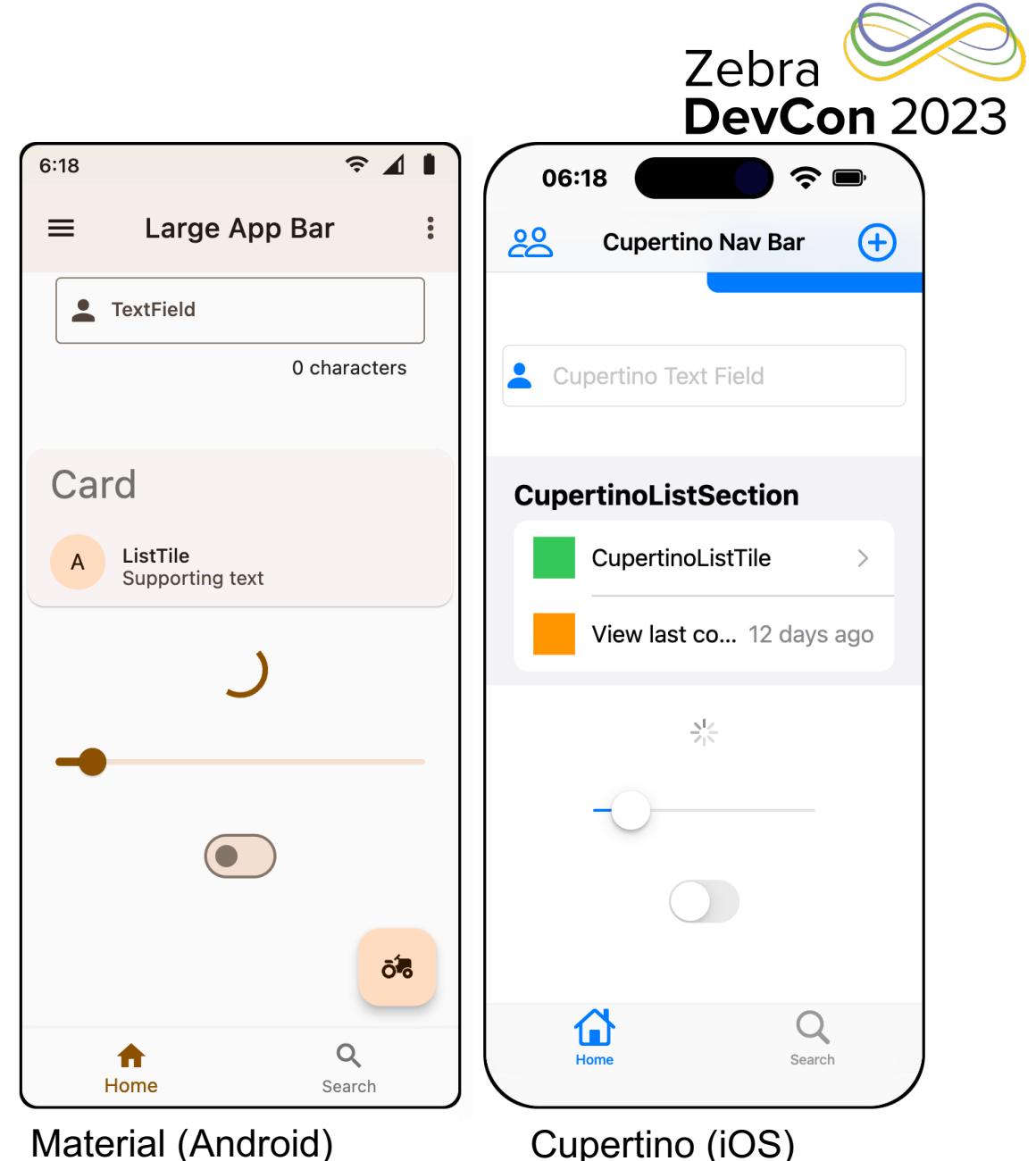


```
1 import 'package:flutter/widgets.dart';
2
3 void main() => runApp(const Example());
4
5 class Example extends StatelessWidget {
6   const Example({super.key});
7
8   @override
9   Widget build(BuildContext context) {
10     return Column(
11       mainAxisAlignment: MainAxisAlignment.spaceAround,
12       children: [
13         const Text('Hello Flutter!'),
14         Image.asset('assets/dash.png', height: 200),
15       ],
16     );
17   }
18 }
```

Core components

Material and Cupertino

- Foundation
- UI Components
 - Adaptive Constructors



Material (Android)

Cupertino (iOS)



Accessibility

Accessibility

Make experience great for all users



Hearing



Physical



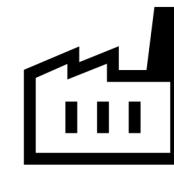
Visual



Cognitive



Age



Situational



Cultural

Accessibility

Achieving AA and AAA

- Responsiveness
 - Screen size
 - Font scale
- Localization
- Color contrast
- Alternative inputs
 - Switches
 - Screen readers



AbleNet Blue2 switch



Android TalkBack



Apple VoiceOver

Accessibility

Achieving AA and AAA

- Responsiveness
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 - Screen readers



AbleNet Blue2 switch



Android TalkBack



Apple VoiceOver

Accessibility

Simple semantics

- Eliminating vision barriers
 - Content, Actions, State

```
IconButton(  
  icon: const Icon(RflxIcons.edit),  
  tooltip: 'Edit entries'  
)
```

Built-in

```
Semantics(  
  child: GestureDetector(  
    child: ProfileImage(),  
  ),  
  label: '$user's profile picture',  
  button: true,  
  hint: 'open profile page'  
)
```

Semantics

```
MergeSemantics(  
  child: Row(  
    children: [  
      Text('Count: '),  
      Text('$nmr', style: s2)  
    ]  
  ),  
)
```

MergeSemantics

```
ExcludeSemantics(  
  child: DecorativeWidget(),  
)
```

ExcludeSemantics



Conclusion



Conclusion

- Flutter makes great apps
 - Android, iOS, Web, Windows, MacOS, Linux
- Good performance
- Great UX
- Continuous improvements
- Almost total feature parity with native



ZDS-Flutter

pub.dev/packages/zds_flutter

- Current design components
- Production tested

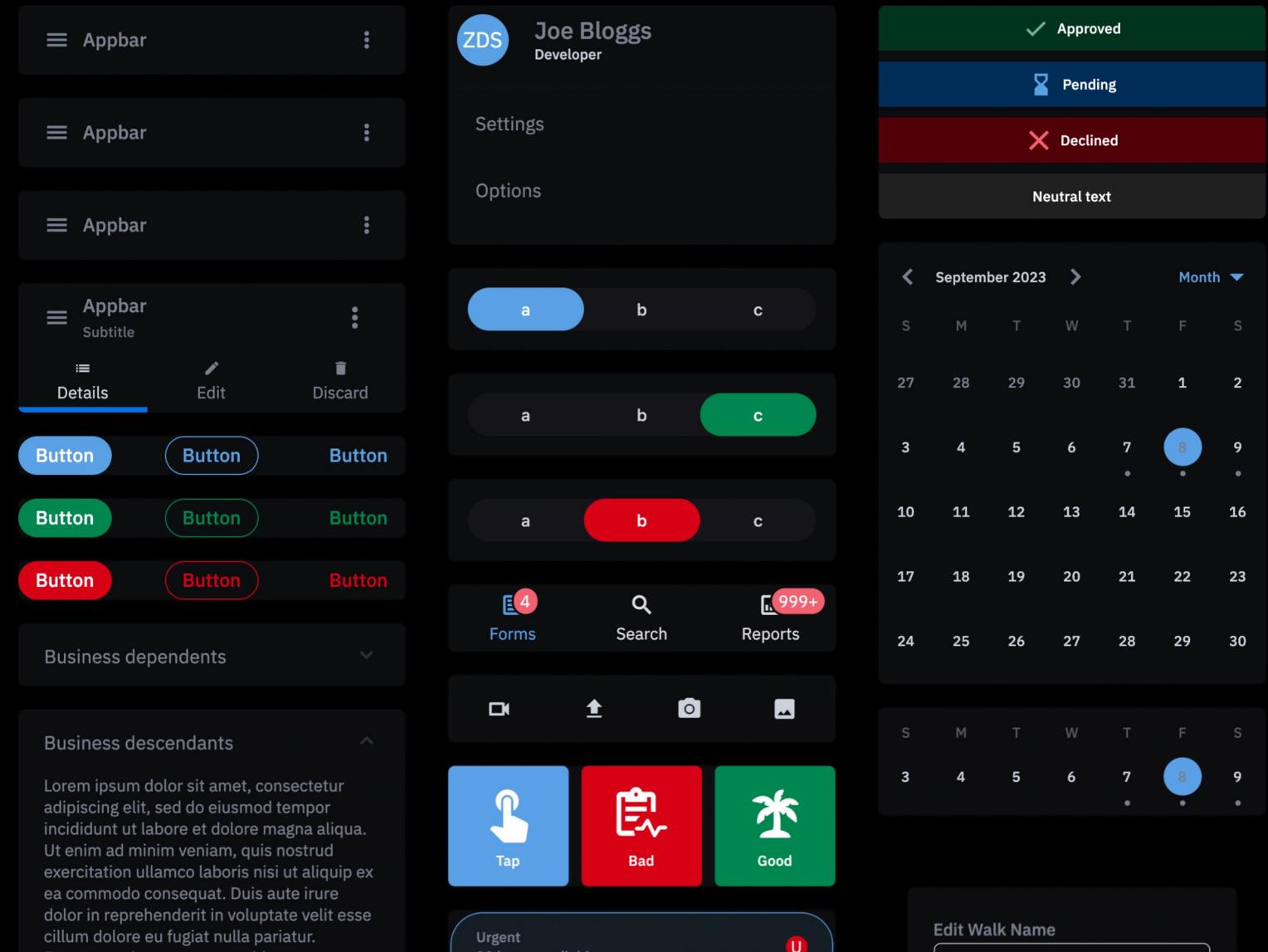
The image displays several screenshots of the ZDS-Flutter UI library:

- Appbar:** Multiple examples of the Appbar component in different colors (blue, black, white) and states (with subtitle, with actions).
- Developer Profile:** A card for "Joe Bloggs" (Developer) showing settings and options.
- Color Palette:** A grid of colored circles labeled a, b, and c.
- Calendar:** A month view for September 2023, highlighting Friday the 8th.
- File Manager:** A list of items including "Forms" (4), "Search", and "Reports" (999+).
- Business Components:** Examples of "Business dependents" and "Business descendants" components.
- Feedback Buttons:** Buttons labeled "Tap", "Bad", and "Good".
- File Actions:** Icons for download, upload, camera, and image.
- Task List:** A list item with an "Urgent" status and a red notification badge.
- Text Status:** A section showing "Approved" (green), "Pending" (light blue), "Declined" (pink), and "Neutral text" (gray).
- Walk Name:** An input field for "Edit Walk Name".

ZDS-Flutter

pub.dev/packages/zds_flutter

- Current design components
- Production tested



- Cross-platform, curated design system.
 - Flutter, Web components
- Early alpha release

Zeta Heading Large

Zeta Heading Medium

Zeta Heading Small

Zeta Title Large

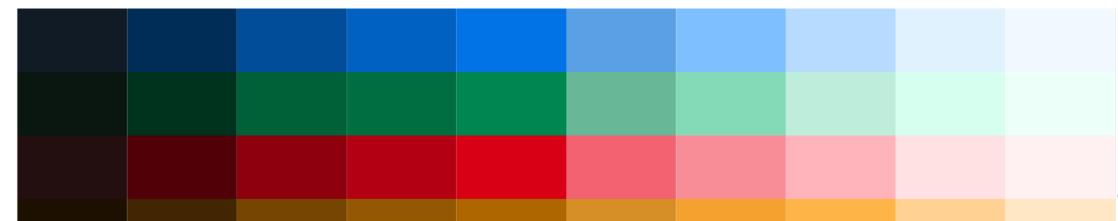
Zeta Title Medium

Zeta Title Small

Zeta Body Large

Zeta Body Medium

Zeta Body Small





Thank You

github.com/thelukewalton/devcon23

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