



Developer Student Clubs  
Princess Sumaya University for Technology

# Flutter

Build beautiful native apps in record time

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Saif M. Al-Ansari

Head of Mobile Apps Dept. at **AWAEL**  
IT SOLUTIONS



# Who am I ?

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Saif M. Al-Ansari

- Head of Mobile Apps Dept. at 
- PSUT 2<sup>nd</sup> Year CS Student.
- 9 Years in the IT Field , 7 of them in Coding.
- Regional Public Relations Director at Toastmasters International.  
(Jordan & Lebanon)



# Workshop Outline

- What is Flutter.
- Dart Language.
- Flutter UI.
- Widgets.
- Material Design.
- Challenges of Mobile Development.
- Main Features of Flutter.
- Who use Flutter ?
- Tools that integrate with Flutter.
- Flutter Is not only for Android and IOS.
- Jobs in Jordan & Middle East.
- Hands-On Examples : Dart Basics.
- Hands-On Example : Designing a Login UI.
- Resources To Start your Career with Flutter.

# What is Flutter ?



Flutter is a “tool” that allows you to build **native cross-platform** (iOS, Android) apps with **One Programming Language** and **One Codebase**.

# Dart ?

# Dart is a programming language developed by Google

Object Oriented and  
Strongly Typed



Syntax is like a mixture of JavaScript, Java , C# (You don't have to know these languages !)

Focused on **Frontend** (Mobile apps, Web) **user interface** (UI) Development

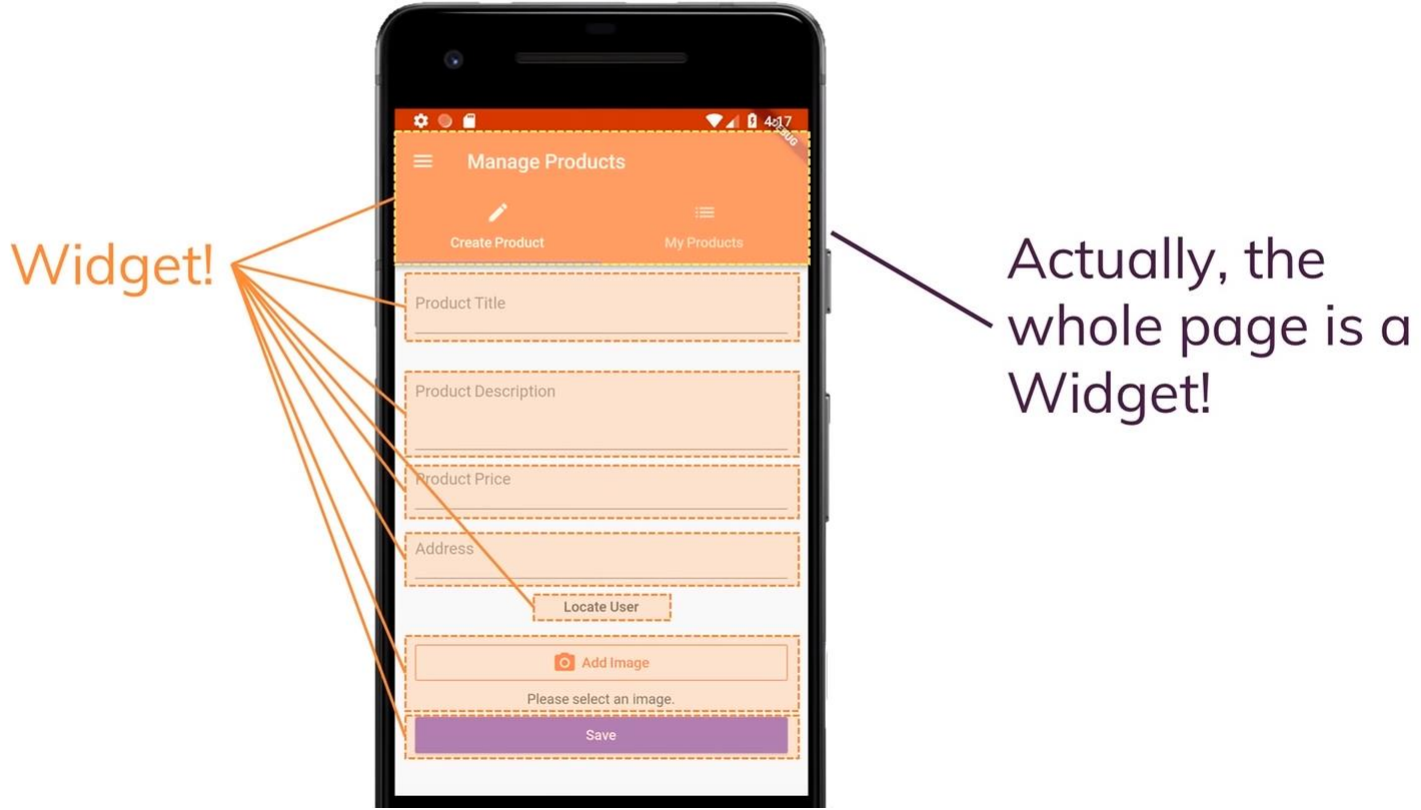
# Flutter is Google's UI Framework

Helping developers craft high-quality native experiences across multiple platforms in record time.

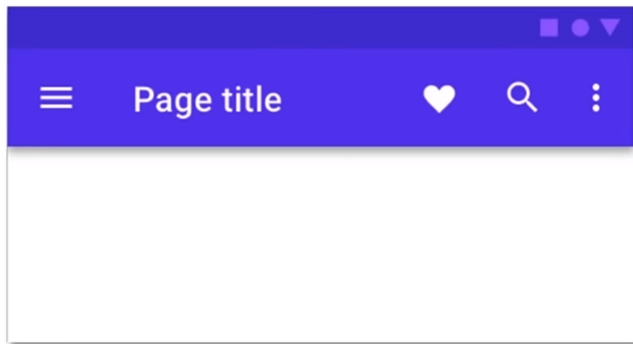




# Everything is a widget !



# Material Design Everywhere



Material is a **Design System** created (and heavily used) by Google

It's NOT Google's Style for Everyone! It is indeed **highly customizable**

# Embrace Platform Differences



```
child: Theme.of(context).platform == TargetPlatform.iOS  
  ? CupertinoButton(...) // Apple look & feel  
  : RaisedButton(...) // Material (Google) look & feel
```

# UI as Code

No Drag & Drop

No Visual Editor

Code only

But extremely  
straightforward



```
return Scaffold(  
  appBar: AppBar(  
    title: Text(widget.title),  
  ), // AppBar  
  body: Center(  
    child: Column(  
      mainAxisAlignment: MainAxisAlignment.center,  
      children: <Widget>[  
        Text(  
          'You have pushed the button this many times:',  
        ), // Text  
        Text(  
          '$_counter',  
          style: Theme.of(context).textTheme.display1,  
        ), // Text  
      ], // <Widget>[]  
    ), // Column  
  ), // Center  
  floatingActionButton: FloatingActionButton(  
    onPressed: _incrementCounter,  
    tooltip: 'Increment',  
    child: Icon(Icons.add),  
  ), // FloatingActionButton  
); // Scaffold
```

# Challenges of mobile development today

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## “To the metal” approaches

- ✓ **High-quality apps**  
Platform and system integrations
- ✓ **High-performance UIs**  
Native code, GPU accelerated
- ✗ **Must fund two apps**  
Two teams, codebases, & investments
- ✗ **Inconsistent brand, features**  
Different across devices & OEMs

## “Cross platform” approaches

- ✓ **Fast development**  
Quick iterations, hot reload
- ✓ **Portability, reach**  
Single codebase
- ✗ **Poor Performance**  
Slow, jerky, unpredictable
- ✗ **Non-Native Look/Feel**  
Users can tell the difference



# Flutter offers the best of both worlds

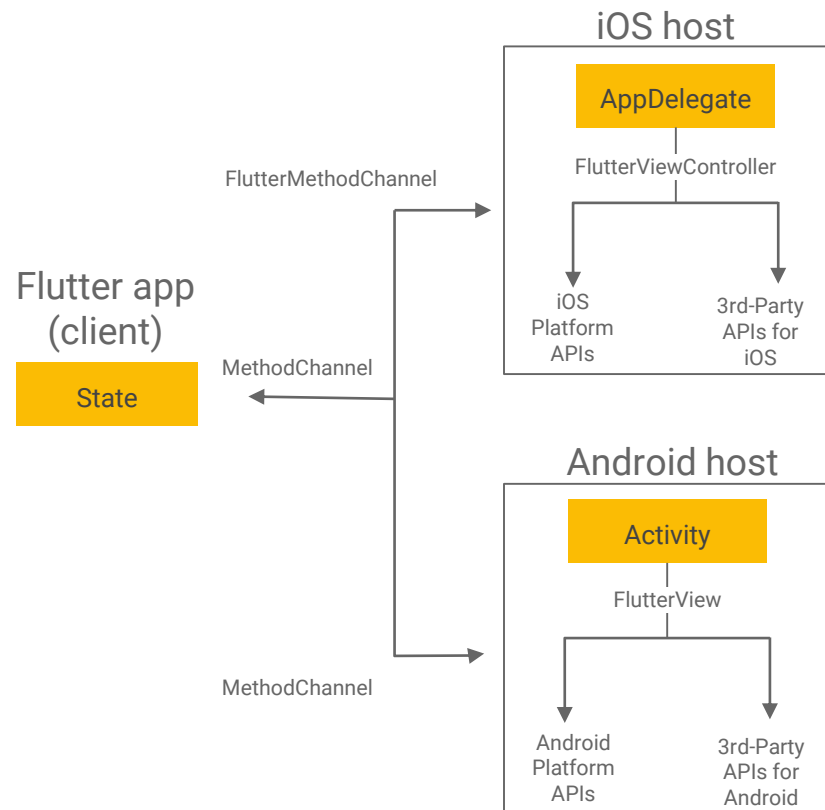
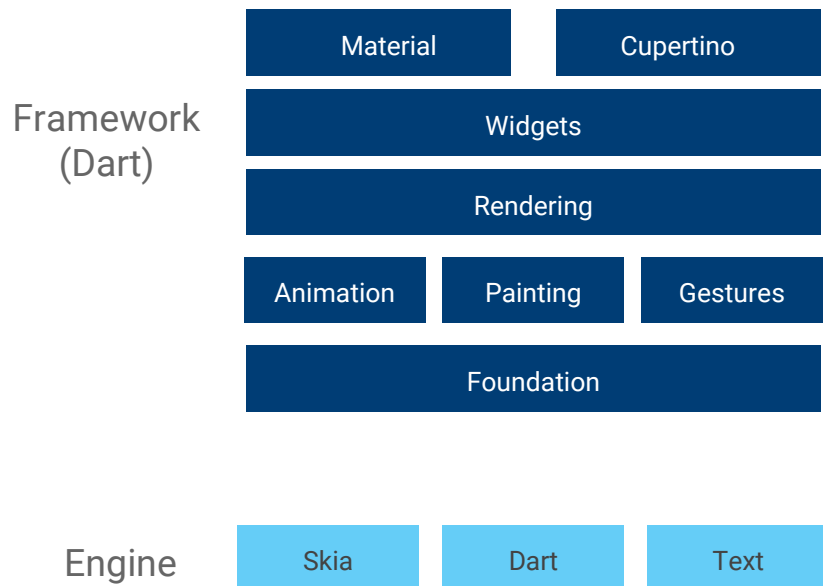
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“Flutter combines  
**native performance and quality**  
with **high-velocity development**  
and **multi-platform reach**. ”

- ✓ **High-quality apps**  
Platform and system integrations
- ✓ **High-performance UIs**  
Native code, GPU accelerated
- ✓ **Fast development**  
Quick iterations, hot reload
- ✓ **Portability, reach**  
Single codebase



# Flutter is a modern UI toolkit for native apps



# Flutter Main Features



High-Velocity  
Development



Expressive and  
Flexible Toolkit



Native iOS and  
Android App





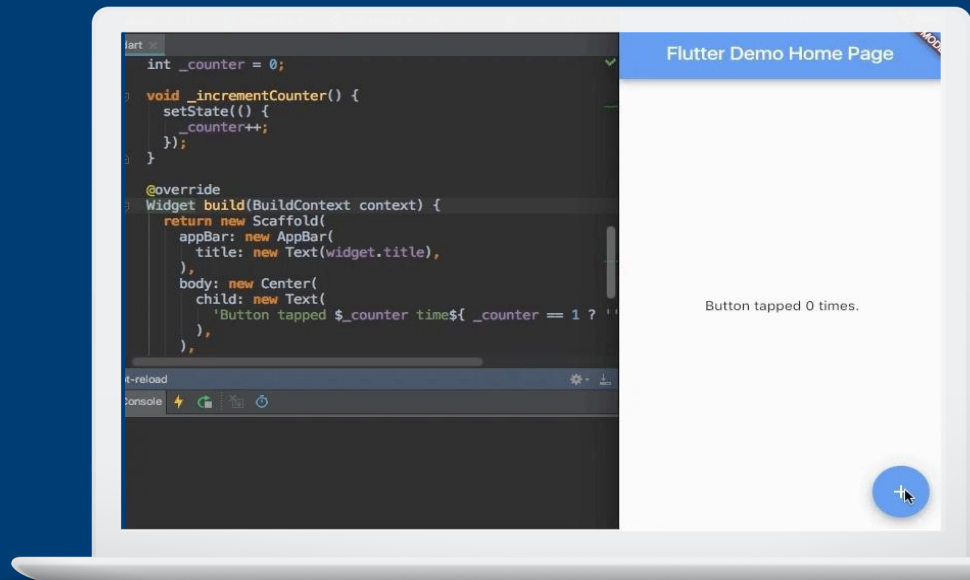
# High-velocity development

Sub-second reload times

More time to experiment & test features

Single-codebase for faster collab

**3X Productivity Gains**



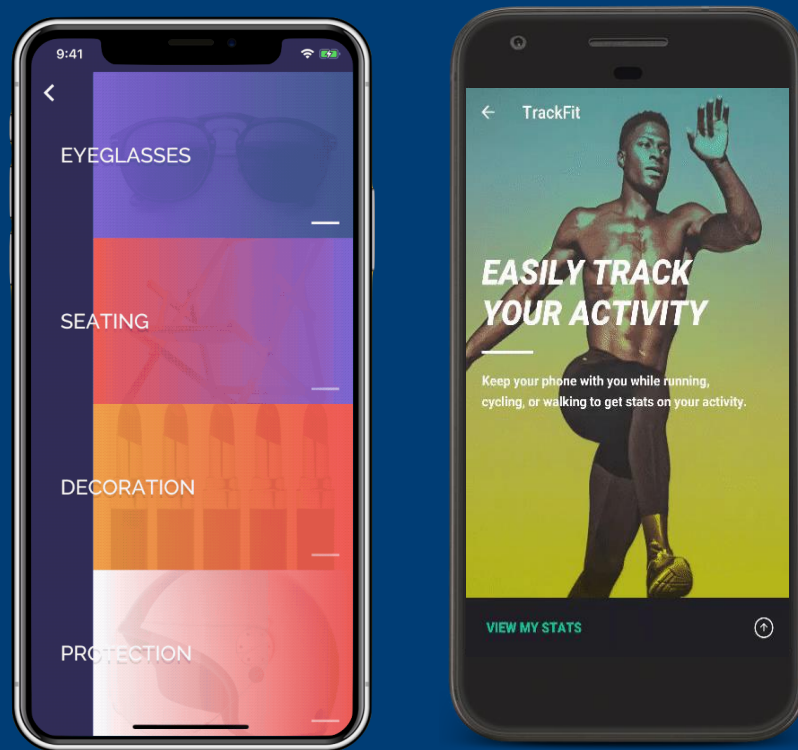
# Flexibility and Control for beautiful UI's

Control every pixel on the screen

Never say "no" to your designer

Stand out in the marketplace

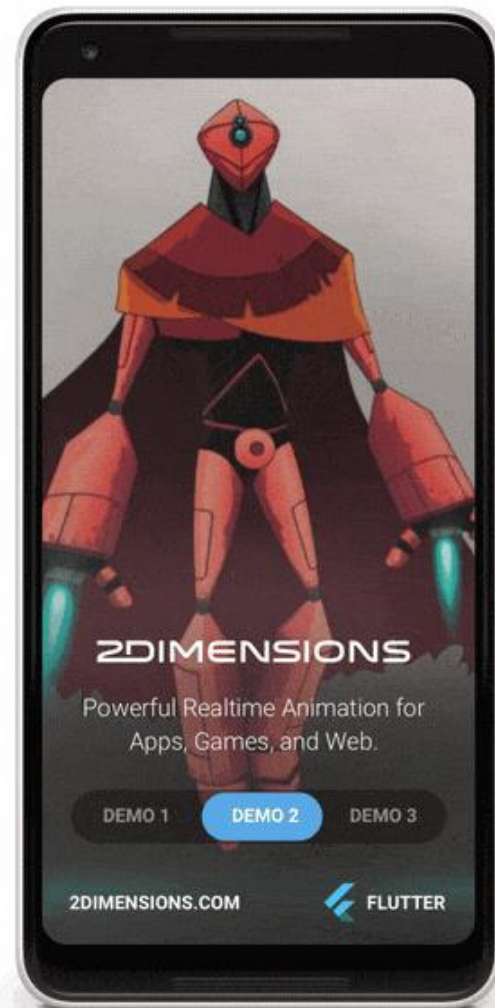
Win awards with beautiful UI



# Graphic Horsepower

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Flutter seamlessly combines user interface widgets with 60fps animated graphics generated in real time, with the same code running on iOS and Android



# Natively- Apps for iOS and Android

Compiles directly to native ARM code Does not use a JavaScript bridge

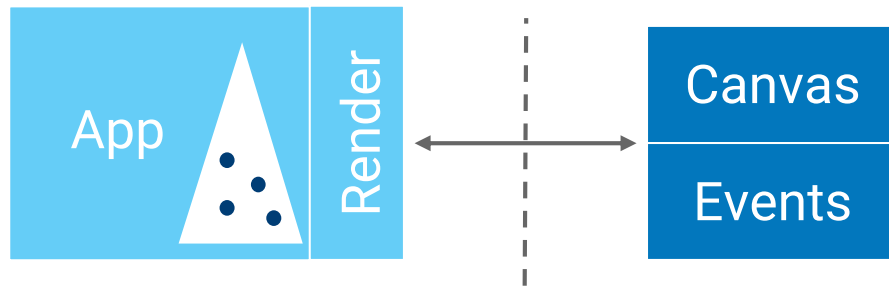
60fps, GPU accelerated

Smooth animations

Deep platform integrations

Natural look and feel

Critical platform differences  
(scrolling, navigation, fonts)



Compiles to ARM native code,  
GPU accelerated graphics

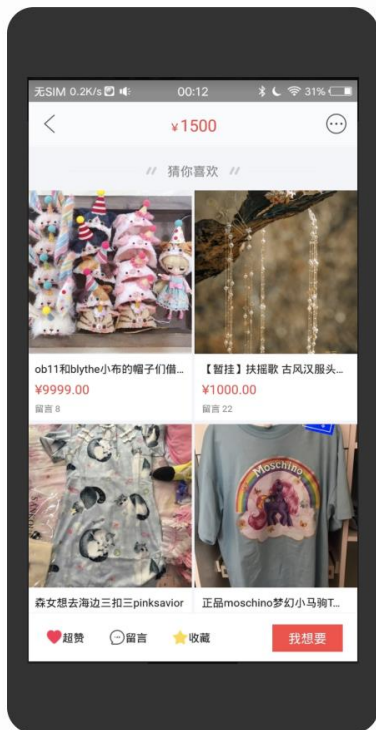


Built and used by Google, developers and companies around the world

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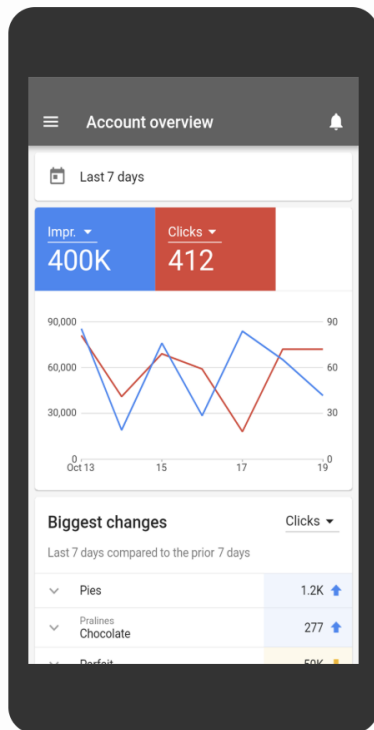


## Alibaba



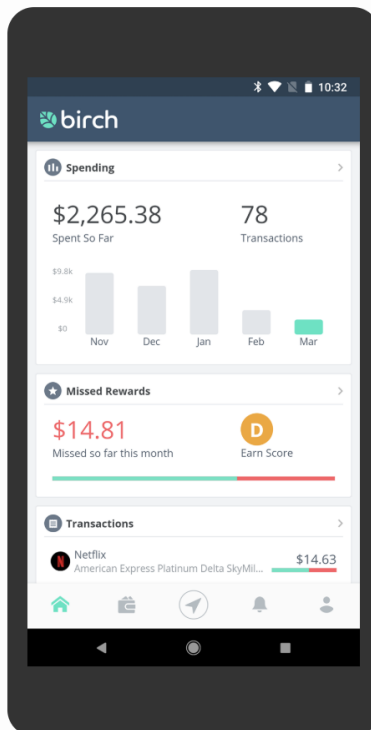
Alibaba's app incorporates Flutter to power parts of their app.

## Google AdWords



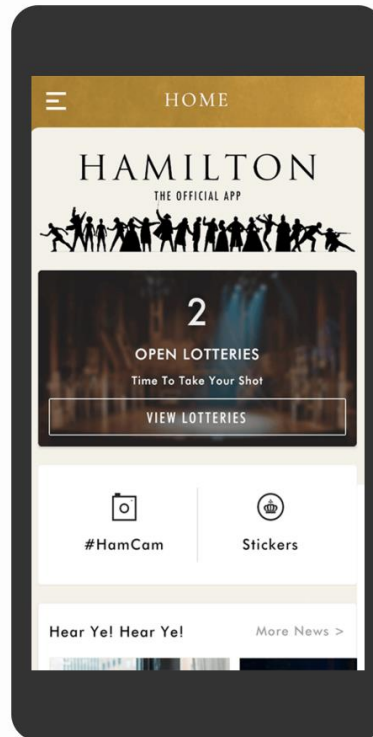
The Google AdWords app helps you keep your ad campaigns running smoothly — no matter where your business takes you.

## Birch Finance

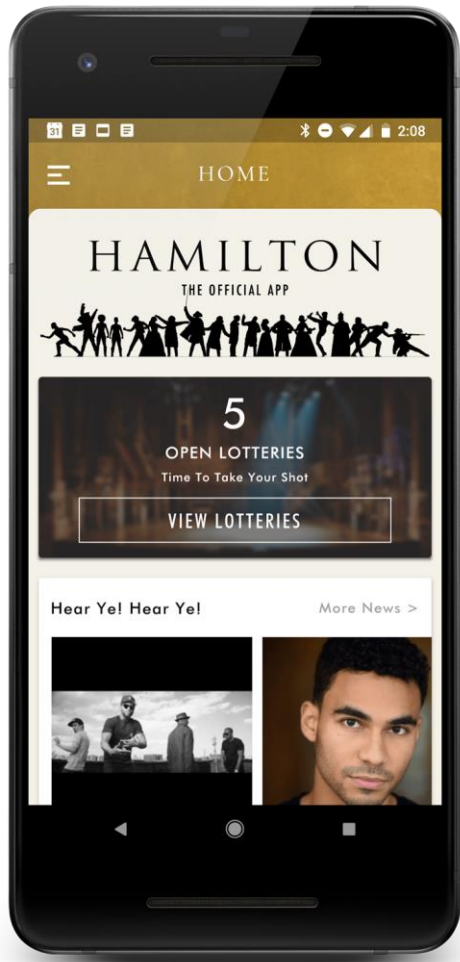


Credit card rewards app to manage and optimize your existing cards.

## Hamilton Musical



Official app of the hit Broadway musical, Hamilton. Includes daily lotteries, exclusive news and videos, a trivia game, merchandise store, and more.



“ Hamilton launched as a *featured* app on iOS and Android **within three months of us writing our first line of Flutter code.** ”

David DeRemer  
Co-Founder, Posse

# Key component of the Google Developer family

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Flutter offers a portable, high-quality UI toolkit, and a fast, expressive way to build native app UIs.





# Works with popular tools and platforms

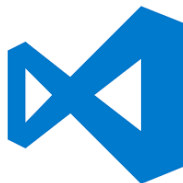
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Android Studio



Xcode



VS Code



Firebase



Android APIs



iOS APIs



Material Design



Redux



# Rich ecosystem and community

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- 1,100+ other packages in repository
- 24,000+ Github stars
- 500+ apps in Play Store
- [startflutter.com](https://startflutter.com), [flutter.rocks](https://flutter.rocks), [flutter.institute](https://flutter.institute), and more
- Open source (250+ contributors), BSD license



# Flutter For :

Android

IOS

Web

Windows

MacOS

Fuchsia



## مجموعة وائل (HR & Schools)



- الأعمال المتأخرة
- المشاريع المتأخرة
- الأعمال المتوقع تسليمها اليوم
- الأعمال غير المكتملة

### المشاريع المتأخرة

8

### الأعمال غير المكتملة

19

### الأعمال المتوقع تسليمها اليوم

0

### الأعمال المتأخرة

27



يمنع تقديم أي خدمة غير طارئة للعملاء قبل أخذ الموافقة

مجموعة غسان (ERP.Net)



- الأعمال المتأخرة
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- الأعمال غير المكتملة

المشاريع المتأخرة  
32

الأعمال غير المكتملة  
19

الأعمال المتوقع تسليمها اليوم  
2

الأعمال المتأخرة  
6

مجموعة محمد جروان (ERP.Net)



- الأعمال المتأخرة
- المشاريع المتأخرة
- الأعمال المتوقع تسليمها اليوم
- الأعمال غير المكتملة

المشاريع المتأخرة  
3

الأعمال غير المكتملة  
9

الأعمال المتوقع تسليمها اليوم  
2

الأعمال المتأخرة  
3

# Jobs in Jordan



الأوائل

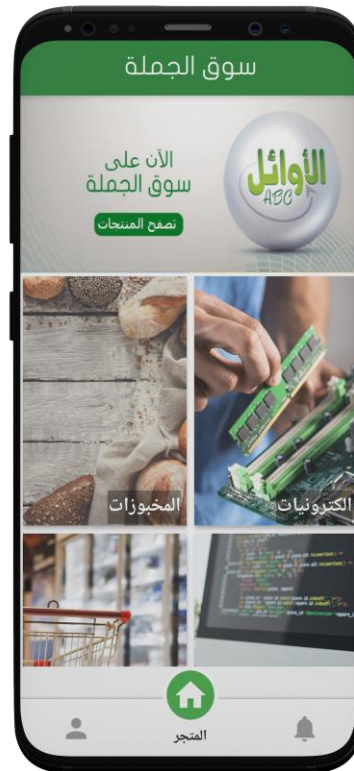
AWAEL

الأوائل

الأوائل









# Next Semester Training



1 Student Will be Trained Inside our Company and by our developers directly for one week !

Top Students will get employed in part-time jobs !



# Hand-On Practice

# Dart Basics

[dartpad.dartlang.org](https://dartpad.dartlang.org)

# Simple UI Design : Creating a Login Page

[tiny.cc/DSC-Flutter](https://tiny.cc/DSC-Flutter)

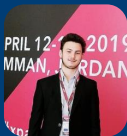


## Resources :

- [shorturl.at/blpuV](https://shorturl.at/blpuV) (Widgets Examples)
- [flutter.io](https://flutter.io) (Official Documentation)
- [startflutter.com](https://startflutter.com)
- [flutter.rocks](https://flutter.rocks)
- [flutter.institute](https://flutter.institute)
- [Udemy](https://www.udemy.com/flutter/)

# Thank you!

[flutter.dev](https://flutter.dev)



Saif M. Al-Ansari