











Development

Enterprise

Applications

Mobile





- Enterprise Applications
- Enterprise Applications Development
- Mobile Applications Development
- Applications Development
- Mobile Applications
- Enterprise Mobile Applications Development



Today's Lecture Outline

- Mobile technologies and standards:
 - Basics concepts
 - Layout
 - Multiple activities and Intents
 - Activity lifecycle
- Software development frameworks and tools
 - Applicable programming languages
 - Applicable programming language extensions



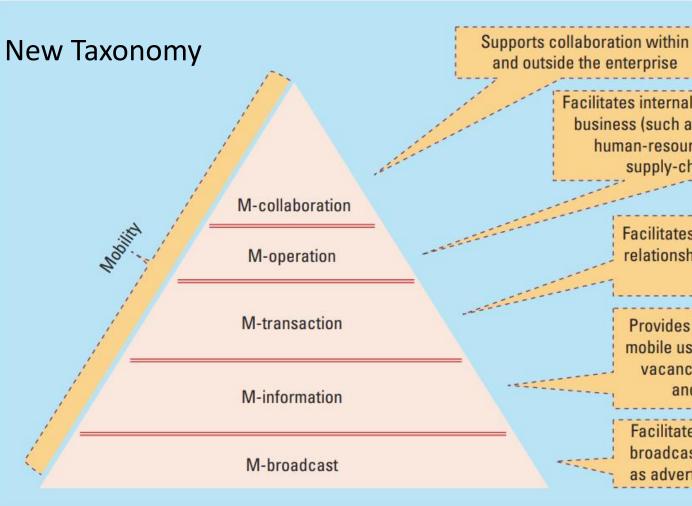
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- An enterprise application (EA) is a large software system platform designed to operate in a corporate environment such as business or government. EAs are complex, scalable, component-based, distributed and mission critical. EA software consists of a group of programs with shared business applications and organizational modeling utilities designed for unparalleled functionalities. EAs are developed using enterprise architecture.
- EA software is a critical component of any computer-based information system. EA software ultimately enhances efficiency and productivity through business level support functionality.

Enterprise Mobile Applications **Committee onto 3 in plant a 1500 | **Committee onto 3 in plant a 1500 |

- Enterprise mobile applications (EMAs) are enterprise software that run on mobile devices and improve the interactions between employees and business partners while improving productivity.
- EMAs support users in their core business processes.





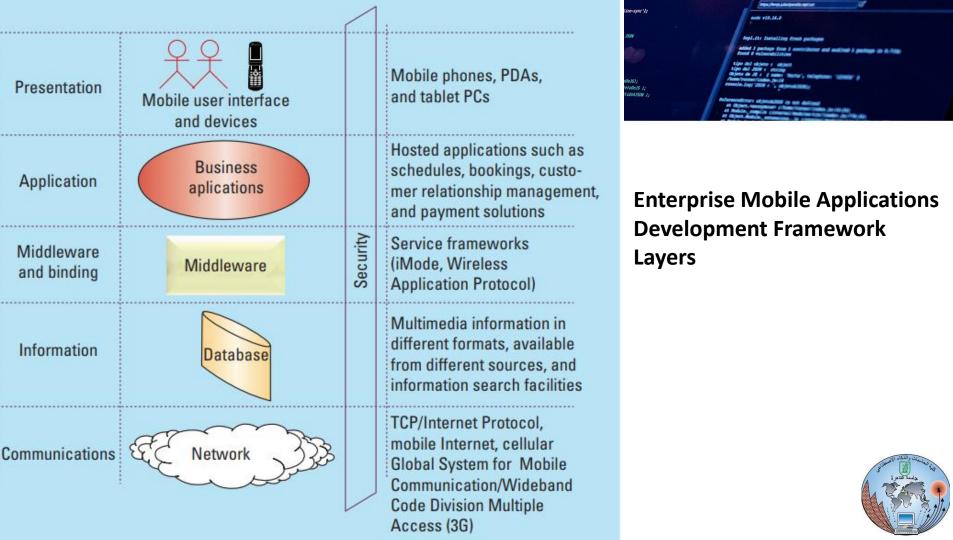
Facilitates internal operational aspects of the business (such as inventory management, human-resources management, and supply-chain management)

Facilitates e-transactions, customer relationship management, and sales and marketing

Provides information sought by the mobile user, such as timetables, job vacancies, weather conditions, and tourist information

Facilitates large-scale information broadcast to mobile gadgets, such as advertisements and promotions





Mobile Application Layout

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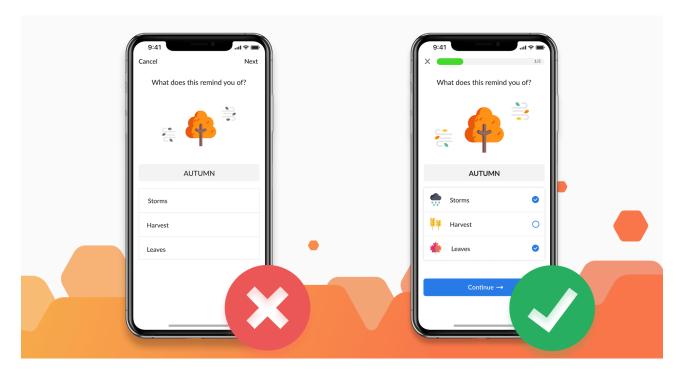
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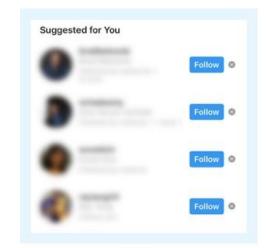
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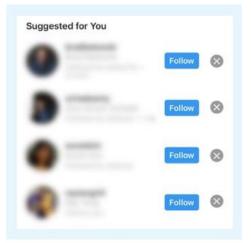




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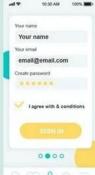
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- Mobile application is a written source code in various programming languages and designed for smartphones to operate on Mobile OS platforms (e.g. Android, iOS).
- The mobile application is to enhance user's daily life throughout (online banking transactions and emails) or for entertainments like (social media and gaming).
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- A native app is compiled to the machine code and executed by the platform directly.
- Native apps can take advantage of device-specific hardware and software.
- Native apps can be tied to specific platforms and limited by the mobile constraints.
- Developing native apps requires good programming skills; they are costly and time consuming.

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HTML5 App

HTML CSS3 JavaScript App Framework

Hybrid App

HTML CSS3 JavaScript

App Framework

Device API

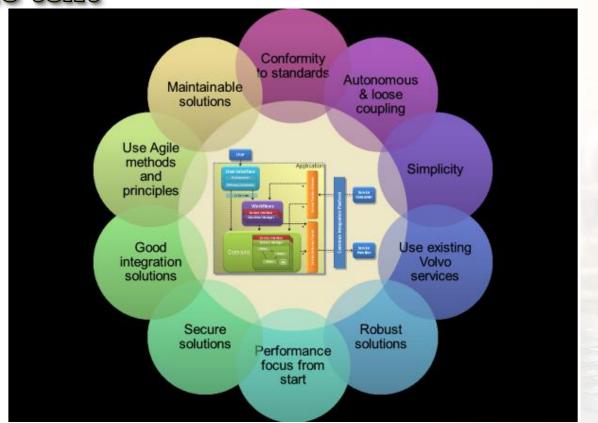
Plugins

Native App

Native Code

Device API









RIA: Rich Internet Applications

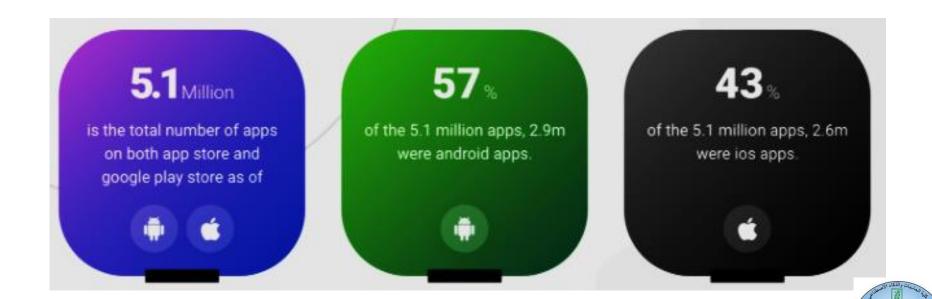
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Top 25 Programming Languages for Mobile Application Development ■

1. P	ython			
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8. Java

15. Kotlin

22. QML

2. Swift

9. R

16. HTML5

23. Scheme

3. JavaScript

10. C++

17. jQuery 18. Lua

24. ActionScript

4. Rust 5. Scala 11. PHP

19. Corona

25. Scratch

6. Ruby 13. C#

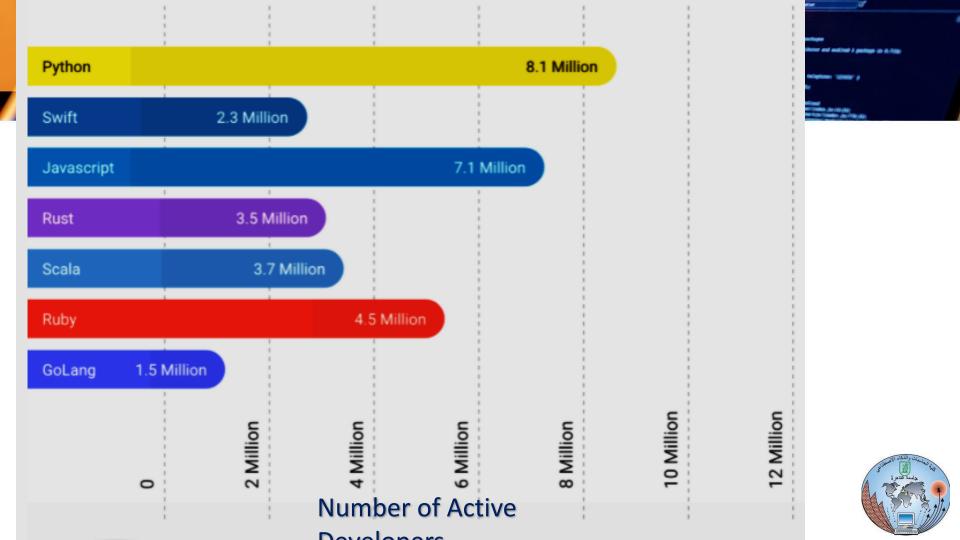
12. SQL

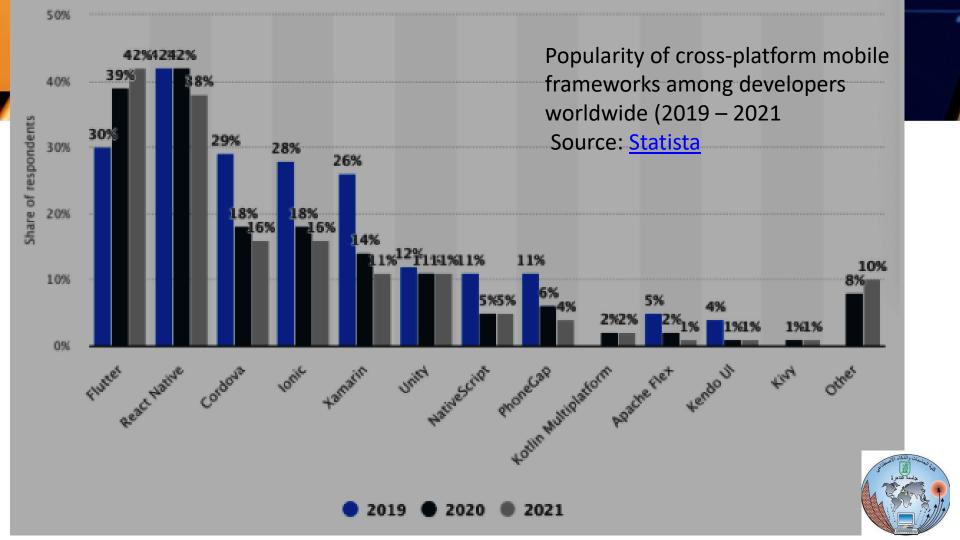
20. ObjectPascal

7. GoLang/Go

14. Objective-C 21. Perl







Popular Mobile Programming Languages in Egypt

- JAVA for Android (J2ME)
- Kotlin
- Objective C for iOS
- Swift for iOS
- Flutter
- React Native
- Xamarin





- .apk.ipa



Applicable programming language extensions

HTML5 and JavaScript => Cordova

JavaScript => React Native

Dart => Flutter

C# => Xamarin



Multiple activities and Intents

- Activities
- Intents

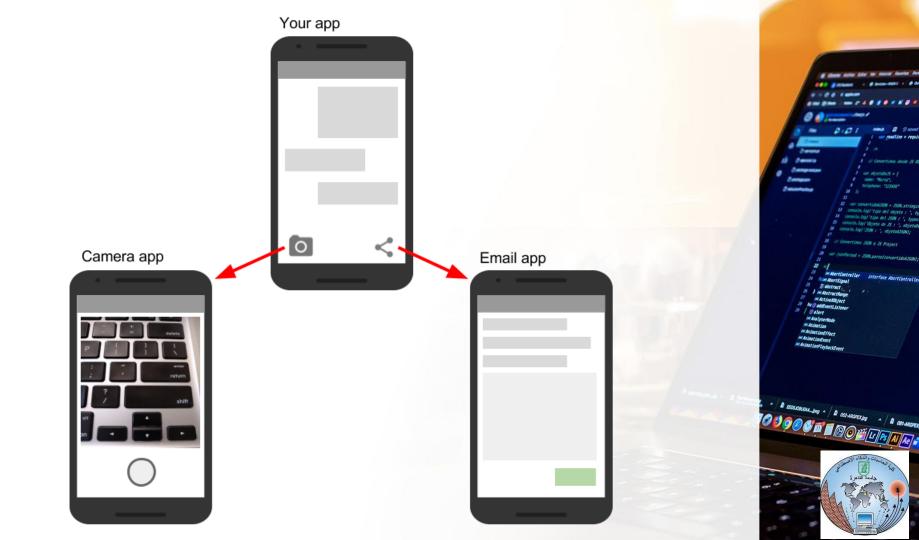


What is activity?



- An activity represents a single screen in your app with an interface the user can interact with.
- For example, an email app might have one activity that shows a list of new emails, another activity to compose an email, and another activity for reading individual messages.
- Your app is probably a collection of activities that you create yourself, or that you reuse from other apps.





What is Intent?



- Each activity is started or activated with an intent, which is a message object that makes a request to the Android runtime to start an activity or other app component in your app or in some other app.
- When your app is first started from the device home screen, the OS runtime sends an intent to your app to start your app's main activity
- To start another activity in your app, or to request that some other activity available on the device perform an action, you build your own intent and call the startActivity() method to send the intent



WHAT IS AN INTENT



How intent works?



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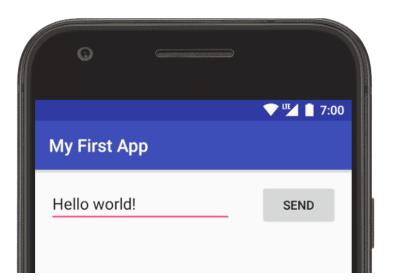
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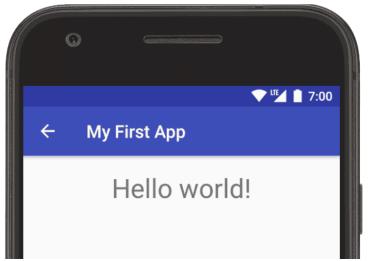
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Intent Types



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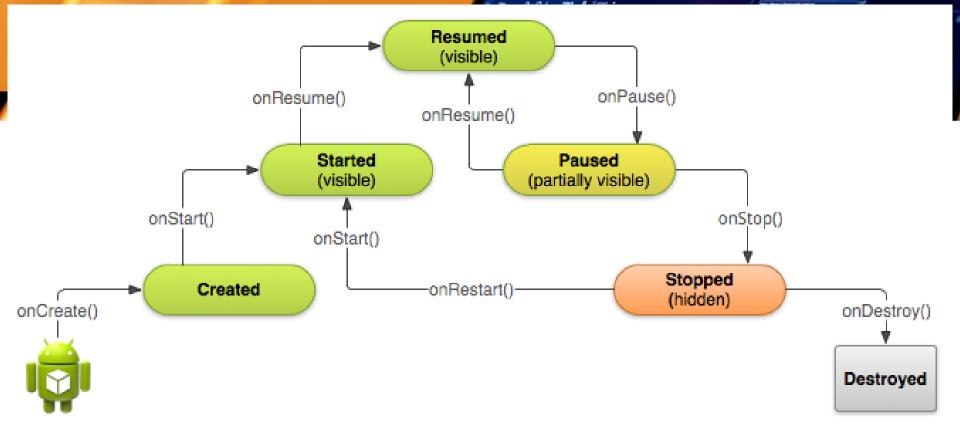
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- Explicit intent: You specify the receiving activity using the activity's fully qualified class name. You use explicit intents to start components in your own app, because you already know the package and class name of that component.
- Implicit intent: You do not specify a specific activity or other component to receive the intent. Instead, you declare a general action to perform, and the operating system matches your request to an activity or other component that can handle the requested action.



Activity Lifecycle



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- 1. What is the most required Mobile Application for your enterprise
- 2. Why Mobile Application is the most required one?
- 3. How you decided to develop this Mobile Application not any other one?
- 4. How will you best utilize it?
- 5. How you guarantee it will fit to its importance to be most required App for your enterprise?

