Two months Internship Report

on

Android App Development

Submitted by

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under the guidance of

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(Smart Internz)

Google supported
Virtual Internship Program
in
Collaboration with
AICTE

(Aug-Sept , 2022)

DECLARATION

I hereby declare that I have completed my two months **Google supported** virtual internship program in collaboration with **AICTE** from **01 Aug 2022** to **30 Sept. 2022** under the guidance of **Sandeep Doodigani Sir(Smart Internz).** I declare that I have worked with full dedication during these eight weeks(Two months) of internship program and my learning outcomes fulfill the requirements of internship for Internship certificates.

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Acknowledgement

I wish to express my gratitude to , Google supported internship program in collaboration with AICTE for providing me an opportunity to do my internship and project work in **"Android App Development"** using Kotlin. Under his guidance I have completed my project and tried my best to implement what I had learnt till now.

I sincerely thanks to Sandeep Doodigani sir, our mentor for their guidance and encouragement to do my internship. He also help me by updating us about the information of what to do and not to do during our internship and help us with all. I also thanks my friends for helping me with my problem that I face in my project.

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01. Introduction

What is an app?

App is an abbreviated form of the word "application". An application is the software program that is designed to a specific function directly for the user which can be accessed easily.

What is an Android?

Android is an open source operating system for mobile devices such as smart-phones , tablets , smart-watches and computers. Android offers a unified approach to application development for mobile devices which means developers need to develop only for android , and their applications should be able to run on different devices powerd by android.

Android are developed by the Open Handset Alliance(OHA) , led by google , and other companies.Android is mainly based on direct manipulation , using touch gestures that looses correspond

to real world actions. It provide us with the manipulate on-screen object, along with a virtual keyboard for text input.

History of Android?

Android was initially developed by the **American Technology Company Android Inc.**
Android began in 2003 as a project of the this company to develop an operating system for digital cameras. The code names of android ranges from A to N.
In 2004 the project changed to become an operating system for smartphones. Android Inc. , was bought by the American search engine company **Google** Inc. in 2005.

The first public Android Beta Version 1.0 was finally published on 5th November 2007.

Android version names or based on sweets.

Latest version of Android OS now a days is android 12, released in october 2021.

02. Knowing Android

Android App Development

Android software development is the process by which applications are created for devices running the Android operating system. Google states that "Android apps can be written using **Kotlin, Java, and C++** languages" using the Android software development kit (SDK), while using other languages is also possible. All non-Java virtual machine (JVM) languages, such as Go, JavaScript, C, C++ or assembly, need the help of JVM language code, that may be supplied by tools, likely with restricted API support. Some programming languages and tools allow cross-platform app support (i.e. for both Android and iOS). Third party tools, development environments, and language support have also continued to evolve and expand since the initial SDK was released in 2008. The official Android app distribution mechanism to end users is Google Play, It also allows staged gradual app release, as well as distribution of pre-release app versions to testers.

Kotlin in android development

Kotlin is a cross-platform, statically typed, general-purpose programming language with type inference. Kotlin is designed to interoperate fully with Java, and the JVM version of Kotlin's standard library depends on the Java Class Library, but type inference allows its syntax to be more concise. Kotlin mainly targets the JVM, but also compiles to JavaScript (e.g., for frontend web applications using React or native code via LLVM (e.g., for native iOS apps sharing business logic with Android apps). Language development costs are borne by JetBrains, while the Kotlin Foundation protects the Kotlin trademark.

On 7 May 2019, Google announced that the Kotlin programming language is now its preferred language for Android app developers. Since the release of Android Studio 3.0 in October 2017, Kotlin has been included as an alternative to the standard Java compiler. The Android Kotlin compiler produces Java 8 bytecode by default (which runs in any later JVM), but lets the programmer choose to target Java 9 up to 18, for optimization, or allows for more features; has bidirectional record class interoperability support for JVM, introduced in Java 16, considered stable as of Kotlin 1.5.

Kotlin has support for the web; by compiling to JavaScript (i.e., Kotlin/JS with the classic back-end, is declared stable since version 1.3), while the newer Kotlin/JS (IR-based) is in beta as of version 1.5.30. Kotlin/Native is considered beta since version 1.3.

03. Projects

During our internship I have done hands-on-practice on projects and have completed several projects , that are provided by google as for practice.
Name of Projects and there github link :

01. Lemonade App
(https://github.com/govindgupta09/Lemonade-App-Google-Practice-Project-Kotlin-Internship)

02. Dogglers App
(https://github.com/govindgupta09/Dogglers-App-Google-Project-Kotlin)

03. Launch Tray App
(https://github.com/govindgupta09/Lunch-Tray-App-Google-Project-Kotlin-)

04. Amphibians App
(https://github.com/govindgupta09/Amphibians-App-Google-Project-Practice)

05. Forage App
(https://github.com/govindgupta09/Forage-App-Kotlin-Google-Practice-Project)
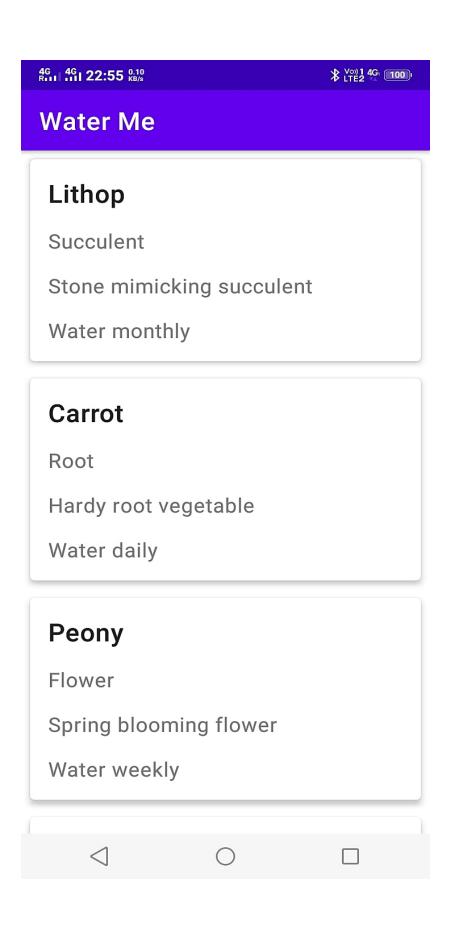
06. Water Me! App

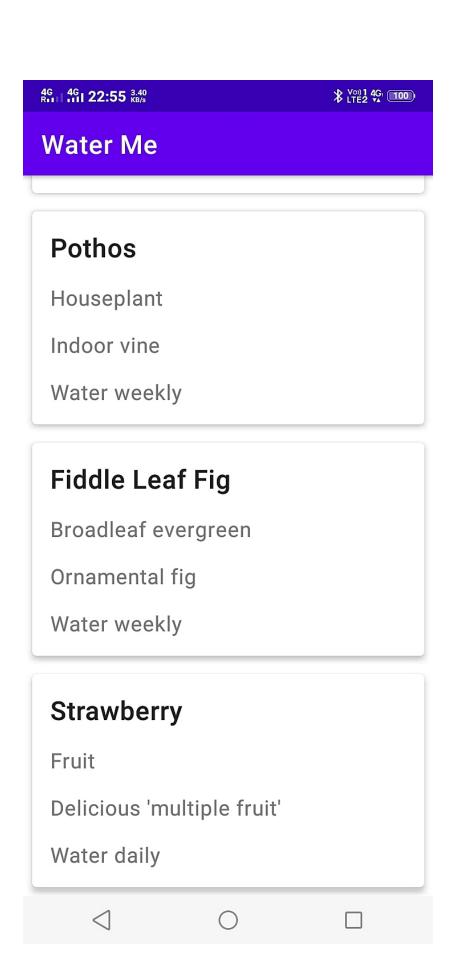**Link**(https://github.com/govindgupta09/Water-Me-App-Kotlin-Google-Practice-Project)

The **Water Me!** app consists of a list of plants, some information about them, and a description for how often each one should be watered. For each of these plants, the completed app will schedule a reminder for when they should be watered.

Reminders will be displayed as notifications on the device, even if the Water Me! app is not running. Tapping a notification launches the Water Me! app.

For above functionality to work, your task is to schedule a background task using a **custom Worker** that displays the notification.

Used **Android Jetpack's WorkManager API** to schedule necessary background work, like backing up data or downloading fresh content, that keeps running even if the app exits or the device restarts.

Lithop

Succulent

Stone mimicking succulent

Water monthly

Carrot

Root

Hardy root vegetable

Water daily

Peony

Flower

Spring blooming flower

Water weekly

Pothos

Houseplant

Indoor vine

Water weekly

Fiddle Leaf Fig

Broadleaf evergreen

Ornamental fig

Water weekly

Strawberry

Fruit

Delicious 'multiple fruit'

Water daily

Water Me

Lithop

Succulent

Stone mimicking succulent

Remind me to water in...

5 seconds

1 day

1 week

1 month

Peony

Flower

Spring blooming flower

Water weekly

22:55   Sun September 11, 2022

1 SIM1 airtel

2 SIM2 Jio 4G

Search

Notification	Block

Android System • 1 hour ago

Tethering or hotspot active

24.5 MB of data have been shared through Wi-Fi (1 connection)

Water Me • Now

Water me!

It's time to water your Lithop

×

04. Conclusion

Android is open source and free development plateform based on Linux.

Android operating system is now becoming best among all the other mobile operating system. All Google services can you have with one operating system, namely "Android". By Android versions its features are increased rapidly.

Android is now stepping up in next level of mobile internet , and is open to all - industry , developers, and users.

I had learnt a lot of android development using **kotlin** concepts, do hands-on-practice and completed timely all the projects.

05. References

google developer :

https://developer.android.com/courses/android-basics-kotlin

android wikipedia :

https://en.wikipedia.org/wiki/Android_(operating_system)

kotlin wikipedia :

https://en.wikipedia.org/wiki/Kotlin_(programming_language)

THANKYOU