20CE 504L Programming Skills Development-II Laboratory (2022-23 Sem-I)

SYNOPSIS FOR NOTES MANAGER

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Problem Statement:

Building a Notes Application in which user can create new note, edit note and delete existing note.

Technology Selected:

Android

Java

Keywords:

1) **RecyclerView:** RecyclerView is a ViewGroup added to the android studio as a successor of the GridView and ListView.

2) **FloatingActionButton:** A floating action button (FAB) is a circular button that triggers the primary action in your app's UI.

3) **NoteAdapter:** It is basically an easy adapter to map static data to views defined in our XML file(UI component) and is used for customization of List or Grid items.

4) **Toast:** A toast provides a simple popup message that is displayed on the current activity UI screen (e.g. Main Activity).

5) TextView: TextView is a simple widget that is seen in every android application. This widget is used to display simple text within the android application.

6) EditText: **EditText** refers to the widget that displays an empty textfield in which a user can enter the required text and this text is further used inside our application.

7) ProgressBar: ProgressBar is a graphical view indicator that shows some progress. Android progress bar displays a bar representing the completing of the task. Progress bar in android is useful since it gives the user an idea of time to finish its task.

Abstract: -

How maintain database in our application: -

In this project , we use Firebase for maintaining our data. In firebase, whatever the data enter by user is stored. In this, we use two fields mainly, Authentication and CloudFirestore. In Authentication, all users entry is stored/maintained i.e. username and password. In CloudFirestore, whatever the data(notes) added by User is stored according to the UserId which is unique and created by FireBase itself.

Working Flow of Project: -

Step 1:

The project is start with Login Activity page , where existing user can LogIn into application with his/her previous registered Email and Password. If user is new, then he/she must have to create account first which can be handled by CreateAccountActivity.

Step 2:

If user Logged In successfully, then user is redirect to NotesDetailsActivity where he/she can see all the existing notes and he/she can create a new note with the help of provided FloatingActionButton.

Step 3:

After clicking on FloatingActionButton user redirect to CreateNoteActivity where he/she can write a new note and save that note after clicking on the button provided on the

top of right corner. After saving note he/she can automatically redirect to NotesDetailsActivity and able to see all the notes along with newly added notes.

Step 4:

If user want to update or delete a particular note then she/he must have to click on that note, for edit after selecting note he/she can be easily update note content with title also. For delete, after selecting particular note in bottom Delete button is provided with the help of that user can easily delete a note and redirect to NotesDetailsActivity automatically.

Step 5:

If user want to LogOut the system/Application the he/she can be LogOut from application with the help of popup menu button which is provided on top at right coner.

Security:

In Our Application, we maintain a security as if user is new and create a account, then Verification mail(Verification Link) is send on particular Email. User cannot Login into application unless and until she/he verify the Email. Once she/he done with Verification the user can be able to login easily.

Module wise Scope:

Technological features covered:

We have used the following features of android

1) **User Interface:** The user interface of the Android operating system is straight forward, and these features make it very user friendly.

2) **Multi-tasking:** Android provides support to run apps and services in the background with ease which allows the users to use multiple apps at the same time.

3) **Connectivity:** Android has extensive support for connectivity and it supports connectivity such as WiFi, Bluetooth, Hotspot, CDMA, GSM, NFC, VOLTE, UBB, VPN, 3G network band, and 4G Network Band.

4) Extensive Application Support: Android have Play store which is used as the major tool to download and update applications on the operating system, however, one can download the installer(often called as APK file) and install it manually, but it is not much recommended as third party applications could be prone to some security breach in the smartphones.

Technology Features of Java

Object Oriented

In Java, everything is an Object. Java can be easily extended since it is based on the Object model.

Platform Independent

Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machines, rather into platform-independent bytecode. This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.

Simple

Java is designed to be easy to learn. If you understand the basic concept of OOP Java, it would be easy to master.

Secure

With Java's secure feature it enables the development of virus-free, tamper-free systems. Authentication techniques are based on public-key encryption.

Architecture-neutral

Java compiler generates an architecture-neutral object file format, which makes the compiled code executable on many processors, with the presence of Java runtime system.

Portable

Being architecture-neutral and having no implementation dependent aspects of the specification makes Java portable. The compiler in Java is written in ANSI C with a clean portability boundary, which is a POSIX subset.

Robust

Java makes an effort to eliminate error-prone situations by emphasizing mainly on compile time error checking and runtime checking.

Multithreaded

With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously. This design feature allows the developers to construct interactive applications that can run smoothly.

Interpreted

Java byte code is translated on the fly to native machine instructions and is not stored anywhere. The development process is more rapid and analytical since the linking is an incremental and light-weight process.

High Performance

With the use of Just-In-Time compilers, Java enables high performance.

Distributed

Java is designed for the distributed environment of the internet.

Dynamic

Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry an extensive amount of run-time information that can be used to verify and resolve accesses to objects at run-time.

Conclusion:

This Notes Manager Application can be used for making short text notes, updating when you need them, and trashing when you are done. It can be used for various functions as you can add your to-do list in this app, some important notes for future reference, etc. The app is very useful in some cases like when you want quick access to the notes, useful for College students also as they can note down their to do list

References

1) GeeksForGeeks

2) YouTube Channel