OS PROJECT REPORT

Android logger

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This opportunity has been provided to us by Dr. Ashu Abdul, which gave us a great experience and was a great opportunity for learning and professional development. We consider ourselves as very lucky individuals as we were provided with an opportunity to be a part of it. We are also grateful for having a chance to work together to get the best output.

It is our radiant sentiment to place on record our best regards, deepest sense of gratitude to our beloved professor Dr. Ashu Abdul sir for his careful and precise guidance which were extremely valuable for our study both theoretically and practically.

We perceive this opportunity as a big milestone in our career development. We will strive to use gained skills and knowledge in the best possible way, and will continue to work on the improvement, in order to attain desired career objectives. Hope to continue cooperation with all of you in the future

Sincerely,

Group 7.

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OBJECTIVE:

To Build an android logger using any android framework and to collect different types of logs generated by an android device to a text file, periodically add the text file to dropbox using dropbox client sdk.

Github Link :

https://github.com/Gnaneshdivi/Operating-System-Group-7

LEARNINGS:

App development : flutter

SDK : Dropbox

Language : Dart

Theory : Android Logs

We have gained an understanding on various topics related to the assigned project (android logger). The project involved a combination of various technical skills like flutter framework which used Dart as the programming language and Dropbox sdk to store files from the device .

THEORY:

Dart:

Dart is a client-optimised language which is used for developing apps to any platform. Its goal is to offer the most productive programming language for multi-platform development, paired with a flexible execution runtime platform for app frameworks. Dart is designed for a technical envelope that is particularly suited to client development,

prioritizing both development and high-quality production experiences across a wide variety of compilation targets. Dart also forms the foundation of Flutter. Dart provides the language and runtimes that power Flutter apps, but Dart also supports many core developer tasks like formatting, analyzing, and testing code.

Flutter:

Flutter is Google's portable UI toolkit for crafting beautiful, natively compiled applications for mobile, web, and desktop from a single codebase. Flutter works with existing code that is used by developers and organizations around the world, it is free and open source.

Logs:

Application logging is an essential practice that a developer can implement in their code to facilitate production support. Logging levels distinguish various log events from each other.

OFF:

OFF level is used to turn off logging. It doesn't log anything.

FATAL:

FATAL means that the application is about to stop a serious problem or corruption from happening.

ERROR:

This log level is used when a severe issue is stopping functions within the application from operating efficiently. Most of the time, the application will

continue to run, but eventually, it will need to be addressed.

WARN:

The WARN log level is used when you have detected an unexpected application problem.

INFO:

INFO messages are like the normal behavior of applications. They state what happened. The information logged using the INFO log is usually informative, and it does not necessarily require you to follow up on it.

DEBUG:

DEBUG logging level is used to fetch information needed to diagnose, troubleshoot, or test an application.

TRACE:

The TRACE log level captures all the details about the behavior of the application.

ALL:

It logs everything and includes custom logging levels as well. It is the combination of all other logging

DROPBOX SDK:

It is used to Integrate apps with the content and collaboration solution. helps easily integrate Dropbox into your app. The Dropbox SDK is a Portable Class Library that works with multiple platforms including Windows, Windows Phone, and Mono.

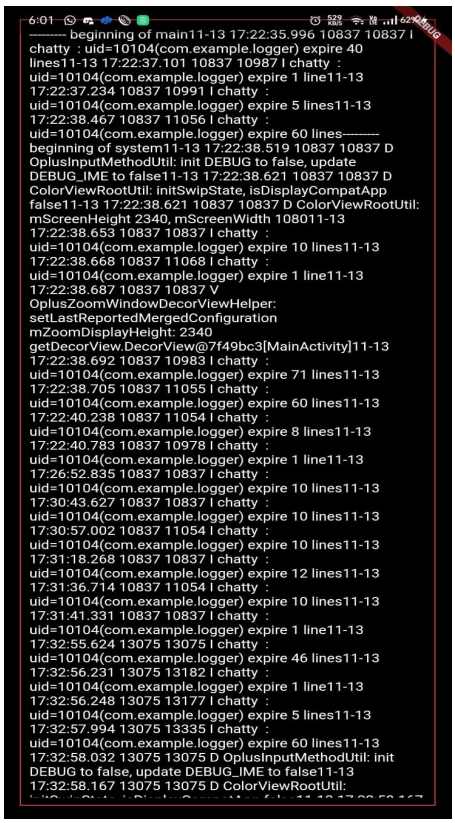
PROCEDURE:

1. The logs from the android device are collected by an android app which is built on flutter framework.
2. The Logs generated by an android device are being collected using the logcat plugin .
3. The extracted logs are then printed to the terminal for the developer reference .
4. A test file is generated at the path of the application. It uses a path provider plugin by the flutter developer team to access the file location .
5. The logs collected in the terminal is them written to the text file using the method “writeasstring”.
6. The file containing the logs is then pushed to dropbox using the drop box sdk which is configured using the app key , secret key and auth token .
7. The steps 2 to 6 are repeated periodically in the time span of 20s .
8. The stored file in the drop box can be downloaded by the user on any platform and can extract the required data from the file .

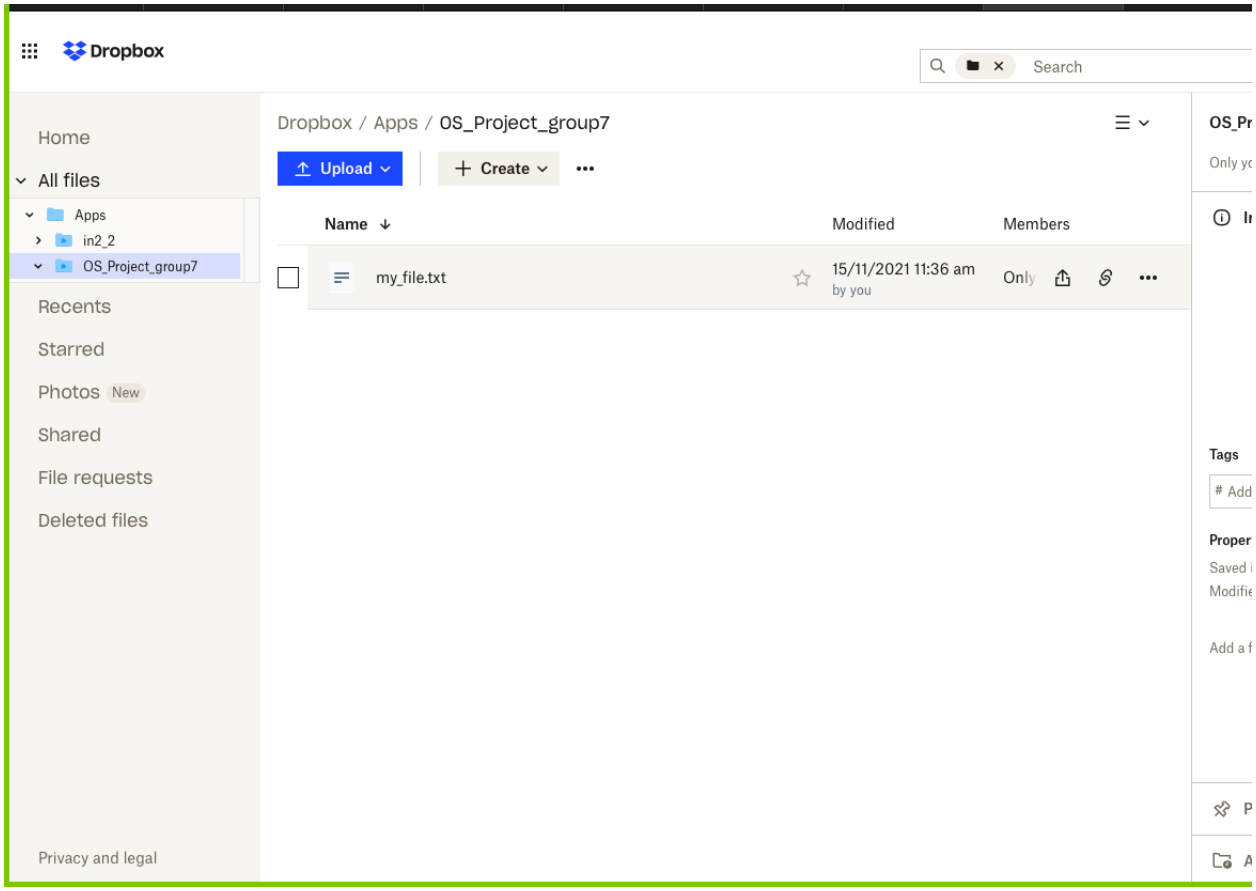
RESULTS:

Logs opened after download :

Logs displaying on android device :



File uploaded to Dropbox :



CONCLUSION:

An application to log all user activities in the Android device was built using flutter framework and synced the log file to the Dropbox account using the related sdk .

REFERENCES

1. https://flutter.dev/docs/development/ui/widgets
2. https://dart.dev/