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Roll:-5
Batch:- A

Experiment:-6

Aim:- To Connect UI with flutter with Firebase
Theory:-
Connecting Flutter UI with Firebase database involves integrating the frontend of your Flutter application with the backend database hosted on Firebase. Firebase provides a cloud-based NoSQL database solution that enables real-time data synchronization and secure storage. To connect the Flutter UI with Firebase, developers typically use the Firebase SDK for Flutter, which offers plugins and libraries to interact with Firebase services. This integration allows developers to perform operations like reading, writing, updating, and deleting data from the Firebase database directly from the Flutter application. By establishing this connection, developers can create dynamic and responsive apps that fetch and display real-time data from Firebase, providing users with a seamless and engaging experience while ensuring data integrity and security throughout the application lifecycle.

Code:-

```
import 'dart:io';

import 'package:driveclone/utils.dart';
import 'package:file_picker/file_picker.dart';
import 'package:firebase_auth/firebase_auth.dart';
import 'package:firebase_storage/firebase_storage.dart';
import 'package:flutter_image_compress/flutter_image_compress.dart';
import 'package:get/get.dart';
import 'package:mime/mime.dart';
import 'package:path_provider/path_provider.dart';
import 'package:uuid/uuid.dart';
```

```dart
import 'package:video_compress/video_compress.dart';

class FirebaseService {
  Uuid uuid = Uuid();

  Future<Object?> compressFile(File file, String fileType) async {
    if (fileType.startsWith("image")) {
      Directory directory = await getTemporaryDirectory();
      String targetpath = directory.path + "/${uuid.v4()}.jpg";
      XFile? result = await FlutterImageCompress.compressAndGetFile(
        file.path,
        targetpath,
        quality: 75,
      );
      return result;
    } else if (fileType.startsWith("video")) {
      MediaInfo? info = await VideoCompress.compressVideo(
        file.path,
        quality: VideoQuality.MediumQuality,
        deleteOrigin: false,
        includeAudio: true,
      );
      if (info != null) {
        print(info.file);
        return File(info.path!);
      }
    }
    return file;
  }
}
```

```dart
Future<void> uploadFile(String foldername) async {
  FilePickerResult? result =
      await FilePicker.platform.pickFiles(allowMultiple: true);

  if (result != null) {
    List<File> files = result.paths.map((path) => File(path!)).toList();

    for (File file in files) {
      String? fileType = lookupMimeType(file.path);
      print(fileType);
      if (fileType != null) {
        String filteredFileType = fileType.split('/')[0];
        String fileName = file.path.split('/').last;
        String fileExtension = fileName.substring(fileName.lastIndexOf('.') + 1);
        print(fileExtension);

        Object? compressedFile =
            await compressFile(file, filteredFileType);

        UploadTask uploadTask = FirebaseStorage.instance
            .ref()
            .child('files')
            .child('File_${uuid.v4()}.$fileExtension')
            .putFile(compressedFile as File);

        TaskSnapshot snapshot = await uploadTask.whenComplete(() {});
        String fileUrl = await snapshot.ref.getDownloadURL();

        await userCollection
            .doc(FirebaseAuth.instance.currentUser!.uid)
```
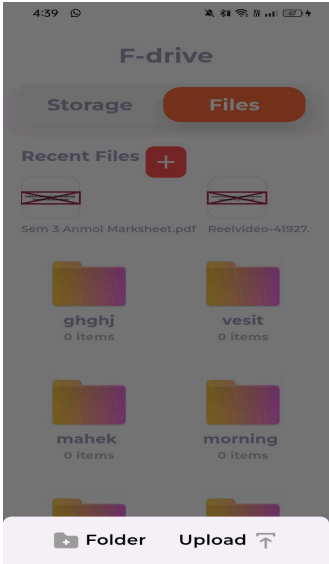
```dart
            .collection('files')
            .add({
        "fileName": fileName,
        "fileUrl": fileUrl,
        "fileType": filteredFileType,
        "fileExtension": fileExtension,
        "folder": foldername,
        "size": (compressedFile as File).readAsBytesSync().lengthInBytes ~/ 1024,
        "dateUploaded": DateTime.now(),
      });
    }
  }
  if (foldername == '') {
    Get.back();
  }
  } else {
    print("Cancelled");
  }
 }
}
```

Output:-

Storage

Files   Rules   Usage   🐝 Extensions

🛡 Protect your Storage resources from abuse, such as billing fraud or phishing   **Configure App Check**   ✕

🔗 gs://driveclone-7ea73.appspot.com › files

⬆ **Upload file**   +   ⋮

	Name	Size	Type	Last modified
☐	📄 File_432089c4-979d-4c77-984f-2c99a72446ed.pdf	614.68 KB		Feb 22, 2024
☐	📄 File_fb9e5afa-452c-4ab3-9502-03331d563595.mp4	6.17 MB		Feb 22, 2024

📄 **File_fb9e5afa-452c...**   ✕

Name
File_fb9e5afa-452c-4ab3-9502-03331d56...

Size
6,470,215 bytes

Type

Created
Feb 22, 2024, 4:43:15 PM

Updated
Feb 22, 2024, 4:43:15 PM

File location   ⌄

Other metadata   ⌄

▤ pJjD7F1TLIfBviZpxWAvsjmOKd32	⋮	▣ files	≡ ⋮	▤ 3FIYqjGeADLSm0h48a4i
+ Start collection		+ Add document		+ Start collection
files	›	3FIYqjGeADLSm0h48a4i	›	+ Add field
folders		FLXGsYnQEaBJWsgRhm1H		dateUploaded: February 22, 2024 at 4:43:15 PM UTC+5:30
+ Add field		wNW3uF7ZKPn5U40MsKCp		fileExtension: "mp4"
email: "2021.hertika.batra@ves.ac.in"				fileName: "VID_37980131_080251_207.mp4"
profilepic: "https://lh3.googleusercontent.c dftGsUMNbEc3lZtLo0aX5mZznv c"				fileType: "video"
uid: "pJjD7F1TLIfBviZpxWAvsjmOKd32"				fileUrl: "https://firebasestorage.googleapis.com/v0/b/driveclone-7ea73.appspot.com/o/files%2FFile_fb9e5afa-452c-4ab3-9502-03331d563595.mp4?alt=media&token=10a84b37-92b5-40c3-bf5e-e27036a10975"
userCreated: February 22, 2024 at 4:39:29 PM UTC+5:30				folder: "foldername"
username: "HERTIKA BATRA"				size: 6318

🏠 › users › pJjD7F1TLIfBvi… › folders › x7ujhiOgYpLLRe.   ☁ More in Google Clo

▤ pJjD7F1TLIfBviZpxWAvsjmOKd32	⋮	▣ folders	≡ ⋮	▤ x7ujhiOgYpLLReEGkaHq
+ Start collection		+ Add document		+ Start collection
files		1ilciH1XDyHxg7rJBfCb		+ Add field
folders	›	BY8O5K9vA42JKAeuJx4Y		name: "morning "
+ Add field		kETNN4mbUk7SEAEm1NTF		time: February 20, 2024 at 1:51:46 AM UTC+5:30
email: "2021.hertika.batra@ves.ac.in"		mKTXdyAtvpOUgMQbItLS		
profilepic: "https://lh3.googleusercontent.c dftGsUMNbEc3lZtLo0aX5mZznv c"		o1XxFJeiRbeOCBtqtFUB		
uid: "pJjD7F1TLIfBviZpxWAvsjmOKd32"		x7ujhiOgYpLLReEGkaHq	›	
userCreated: February 22, 2024 at 4:39:29 PM UTC+5:30				
username: "HERTIKA BATRA"				

Conclusion:- Here,successfully connected flutter with firebase