

Flutter & Dart Complete Guide

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DAFL 2
Firebase

Lecture 9



Table Of Content

- What is Firebase Firestore
- CRUD Operations



What is Firestore?

- Cloud-hosted NoSQL database
- Real-time syncing across devices
- Scales automatically
- Uses documents & collections



Overview of NoteService

- Handles Firestore operations for `NoteModel`
- Uses:
 - `FirebaseAuth` for user-specific data
 - `Firestore` for document storage
- CRUD functions:
 - Create
 - Read
 - Update
 - Delete



> users > HJmIttw9bEUw... More in Google Cloud		
(default)	users	HJmIttw9bEUwXV8IxSXCTe6BVaD2
+ Start collection	+ Add document	+ Start collection
users	HJmIttw9bEUwXV8IxSXCTe6BVaD2	notes
	QUQzayECVQM0dcp1Ineowv3US3x1	+ Add field
		email: "yousefsalahkassem@gmail.com"
		name: "yousef salah kassem"
		userId: "HJmIttw9bEUwXV8IxSXCTe6BVaD2"

> users > HJmlttw9bEUw... > notes > SxagPXG7xnPs... More in Google Cloud		
HJmlttw9bEUwXV8IxSXCTe6BVaD2	notes	SxagPXG7xnPsGwsx6X2F
+ Start collection	+ Add document	+ Start collection
notes	SxagPXG7xnPsGwsx6X2F	+ Add field
+ Add field email: "yousefsalahkassem@gmail.com" name: "yousef salah kassem" userId: "HJmlttw9bEUwXV8IxSXCTe6B\		description: "hello world again" id: "1744094579939" title: "another note"

Chapter
09

Firestore

Future<bool> createNote(NoteModel note)

- Adds a new document to notes collection
- Converts NoteModel to JSON using toJson()
- Uses doc().set() to insert data



`Stream<List<NoteModel>> getNotes()`

- Returns real-time updates using snapshots()
- Maps Firestore documents to NoteModel
- Automatically updates the UI on data change



Future<bool> updateNote(NoteModel note)

- Searches for the document using where('id')
- Updates the first matched document
- Uses update(note.toJson())



Future<bool> deleteNote(String noteld)

- Finds the document by id
- Deletes the matched document from Firestore



Error Handling

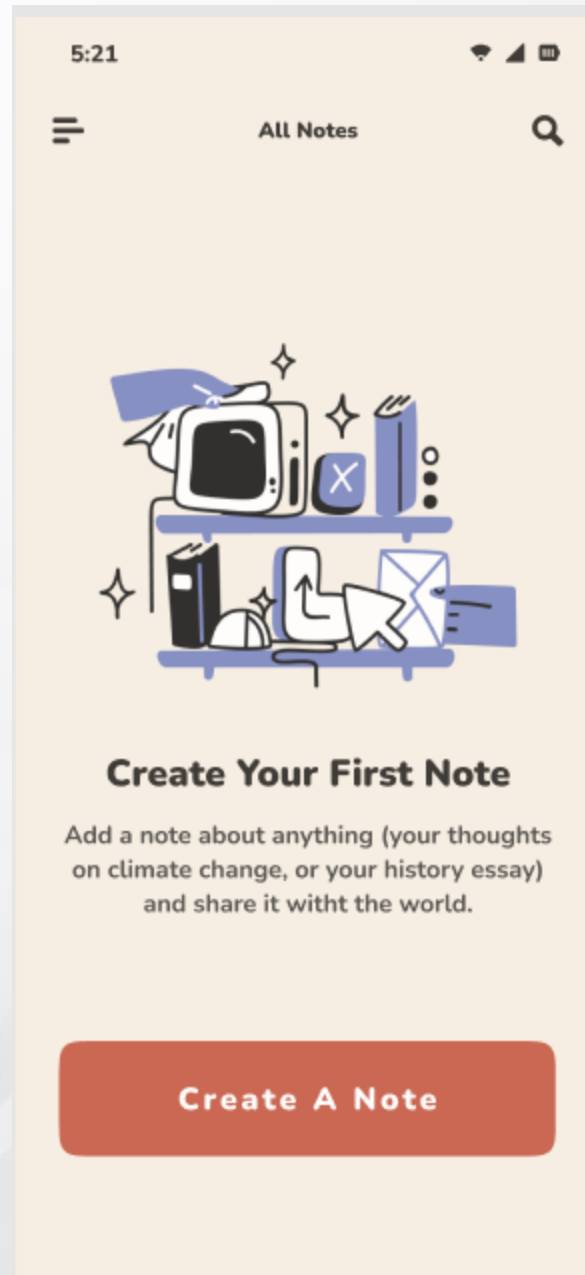
- All operations use `try-catch`
- Return `true` if successful, `false` if failed
- Prevents app crashes on network or auth errors

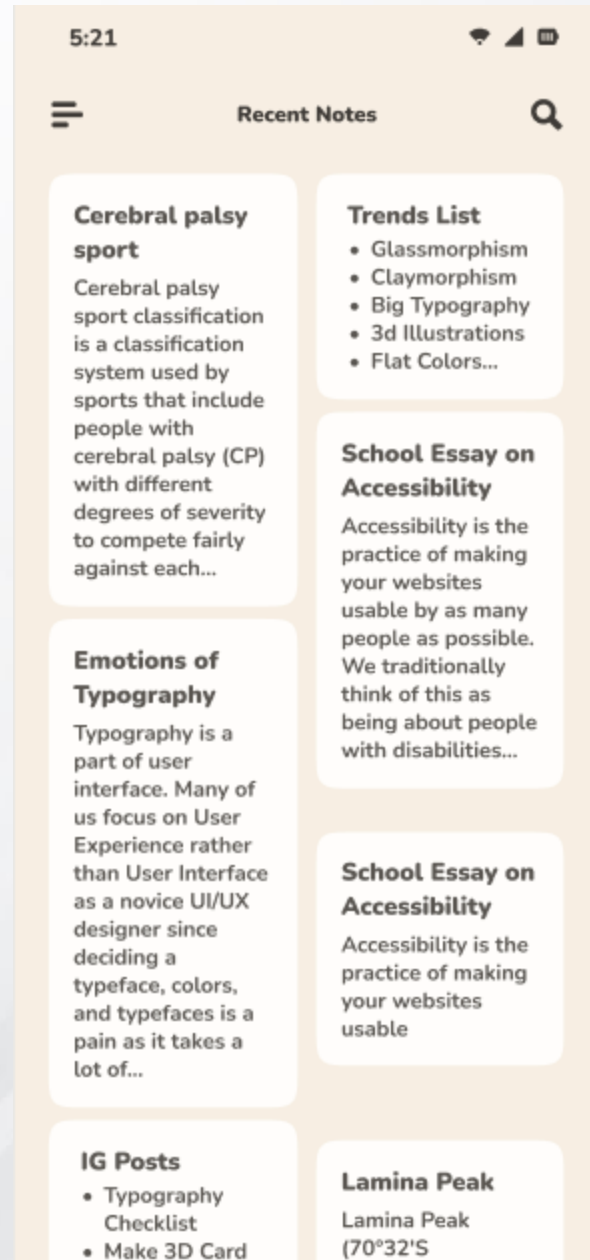


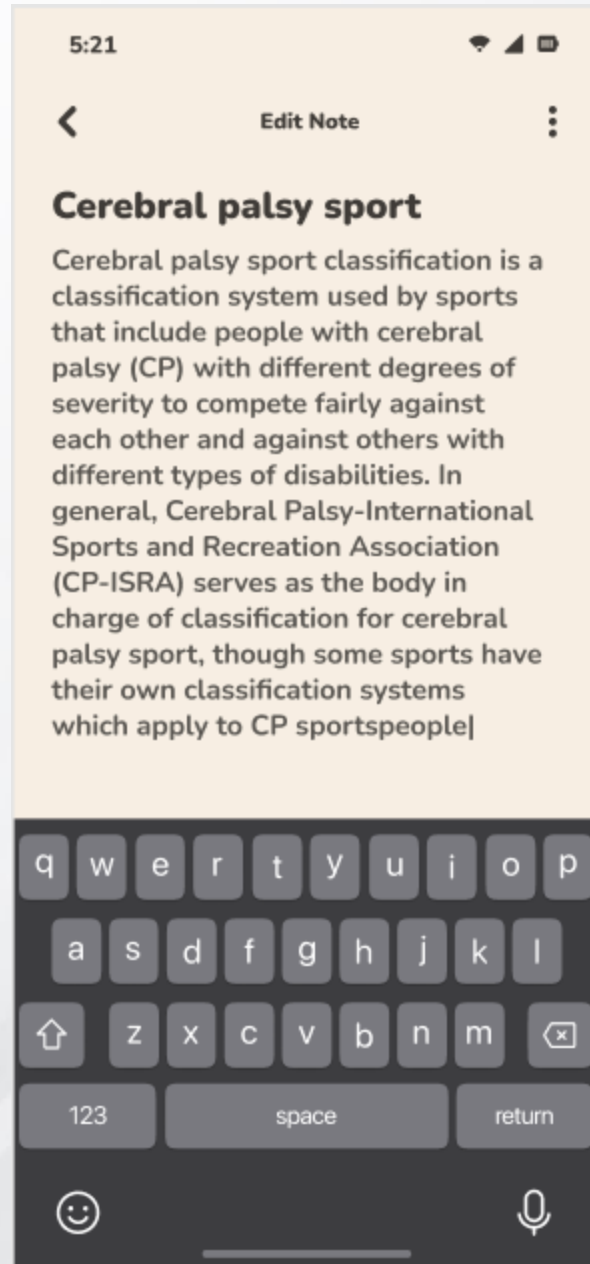
Benefits of this Approach

- ✓ Scalable data model
- ✓ Real-time syncing
- ✓ Clean separation using models
- ✓ Secure (each user accesses their own data only)









[https://www.figma.com/design/VYJ3Mk36c8C7SjN076yoc3/Note-Taking-Mobile-App-\(Community\)?node-id=343-116&p=f&t=dAOt1bOa93mbgoeW-0](https://www.figma.com/design/VYJ3Mk36c8C7SjN076yoc3/Note-Taking-Mobile-App-(Community)?node-id=343-116&p=f&t=dAOt1bOa93mbgoeW-0)

Live Coding

What is Next ?



Thank You