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ĐẠI HỌC BÁCH KHOA HÀ NỘI
HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

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BÁCH KHOA HÀ NỘI**
HANOI UNIVERSITY
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Mobile Programming

Note-taking app

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I. Introduction



Taking notes is a crucial activities that many people do regularly and has been many people's daily routine

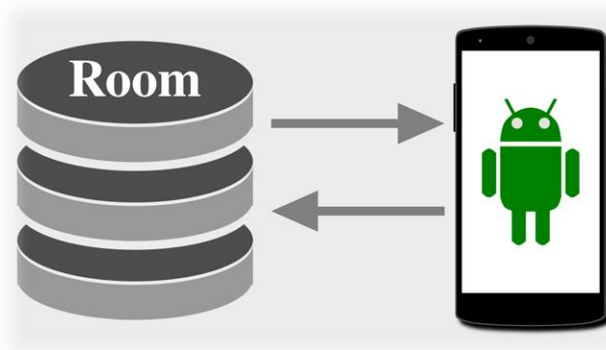
Taking notes regularly has been proven to be a good habit which makes their life more organized and planned



Our note-taking app is an assistant helps to remind user what they might forget

II. Technology Stack

- **Language:** Kotlin
- **Database:**
 - **Local:** SQLite for offline storage (Using ROOM dependency to interact with the database)
 - **Remote:** Firebase Cloud Storage
- **Development Tools:** Android Studio for coding and debugging.

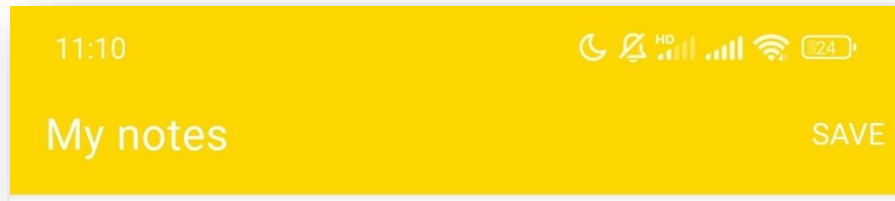


Cloud Storage
for Firebase

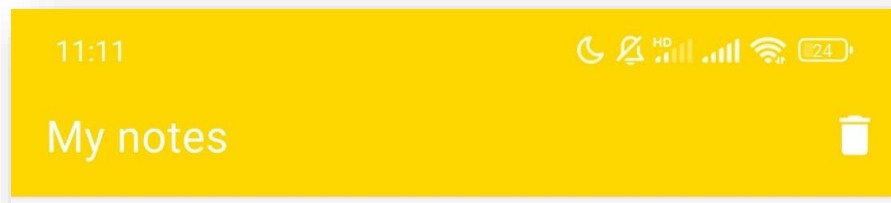
Search Menu



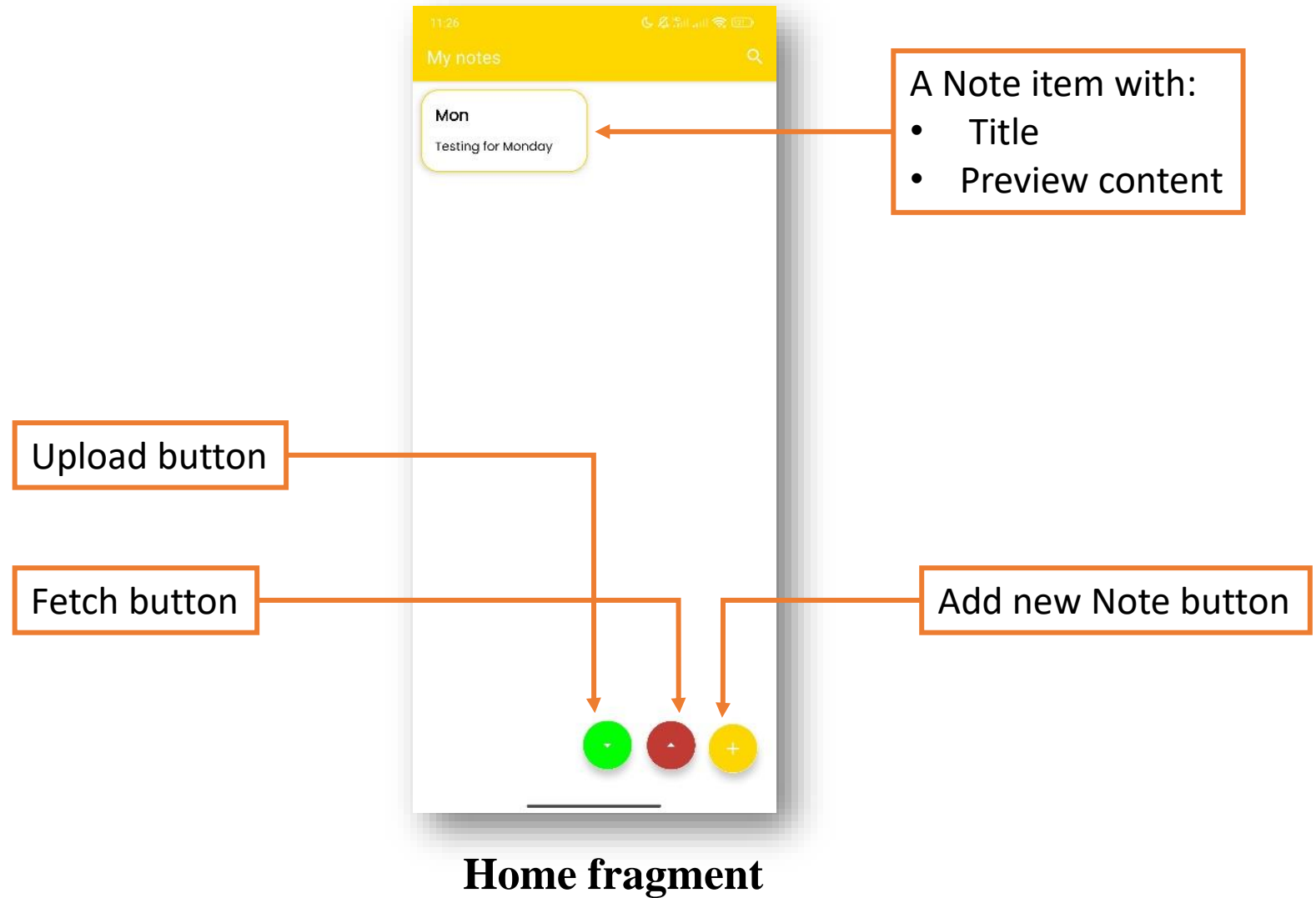
Save Menu

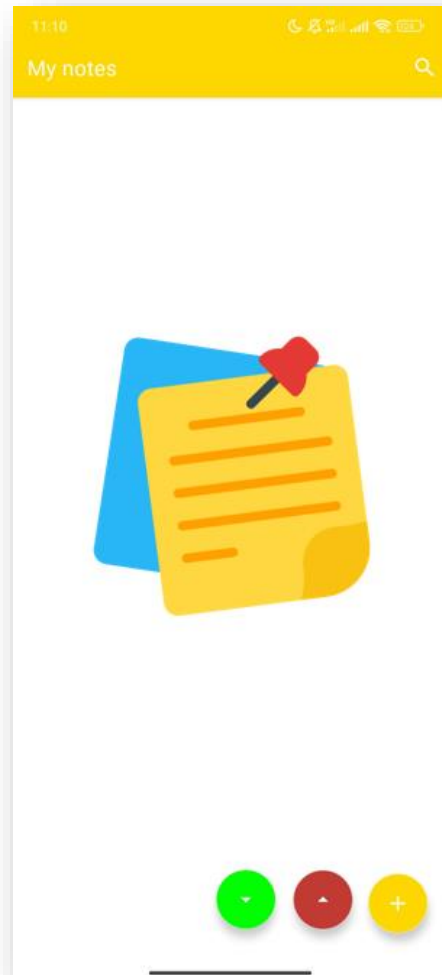


Delete Menu

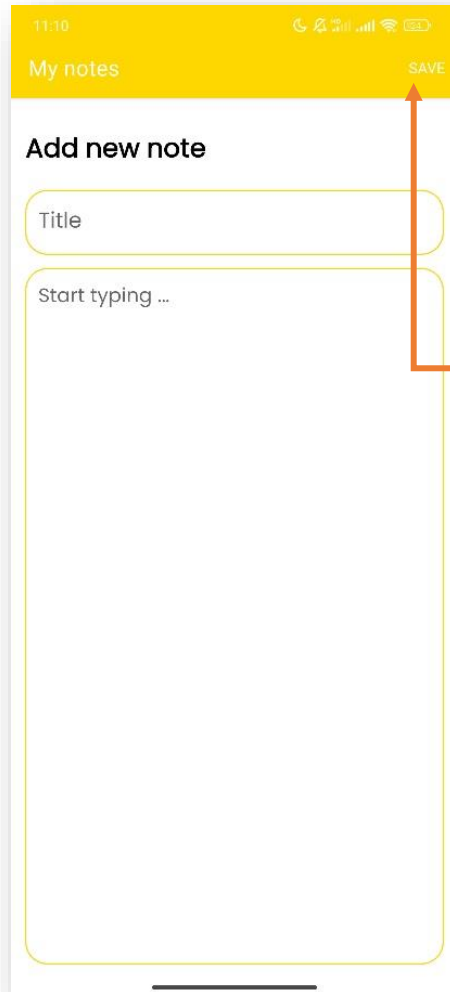


III. UI/UX





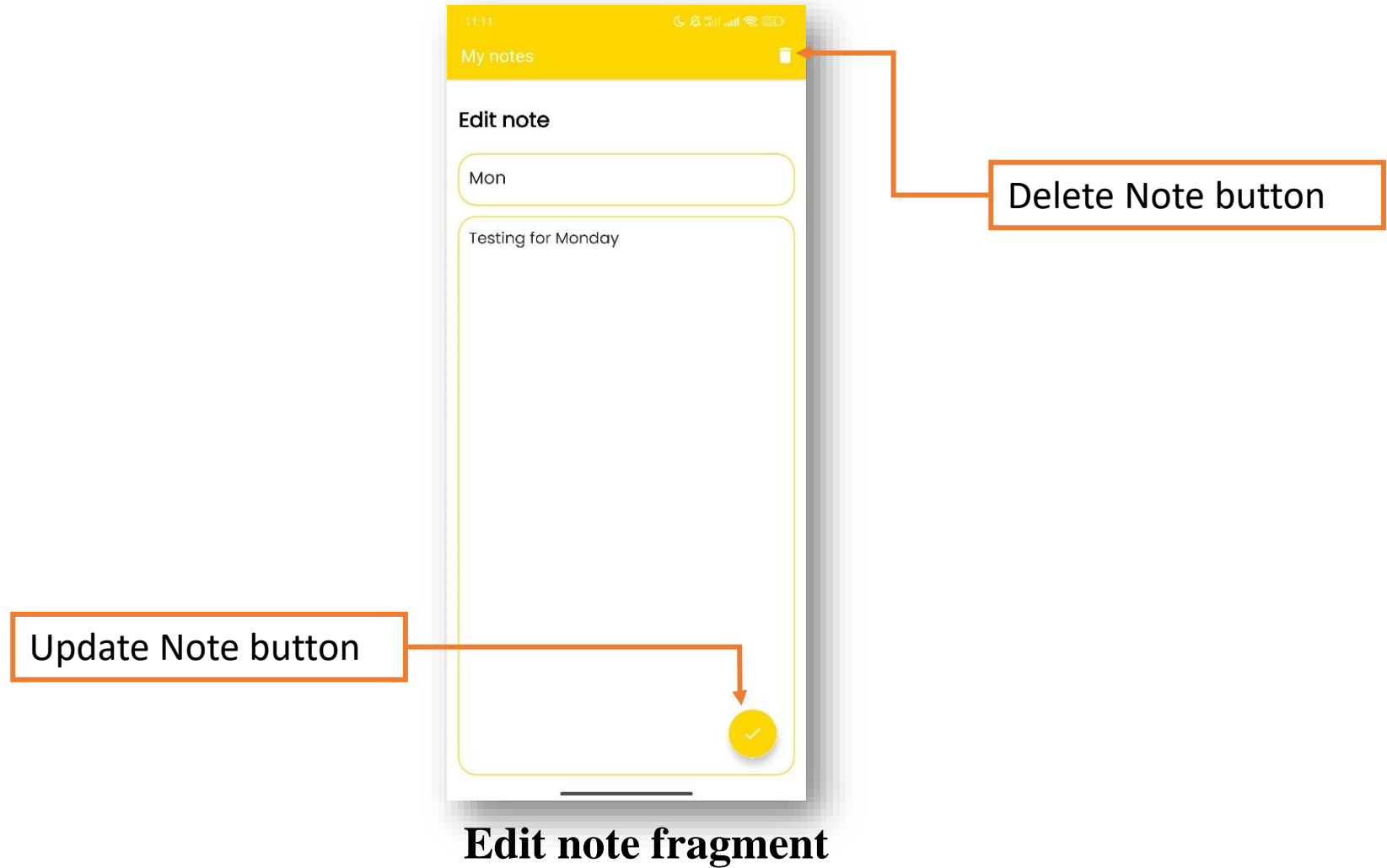
Home fragment when there is no note

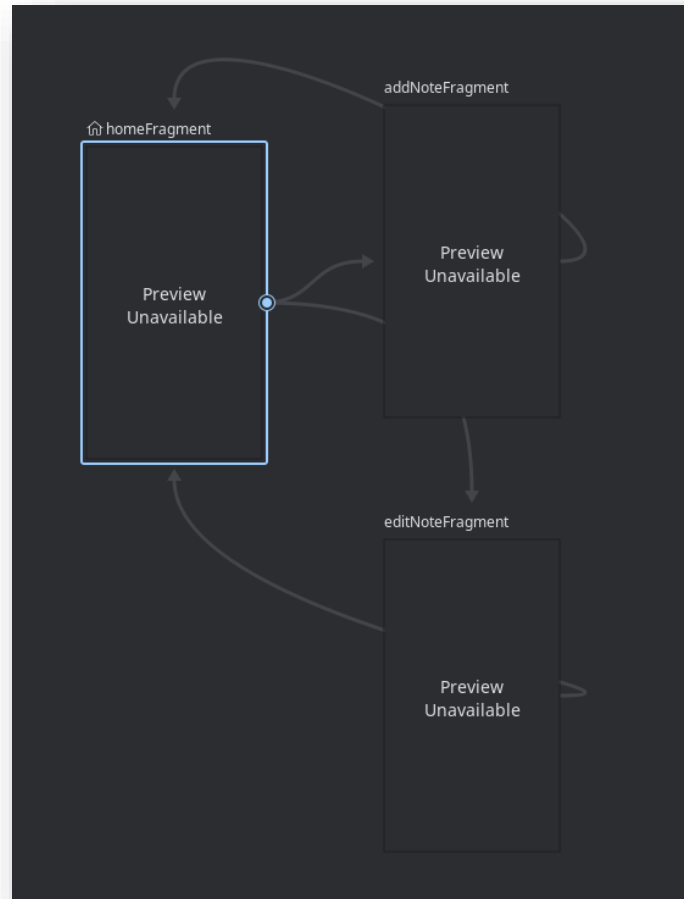


Save Note button

Add note fragment

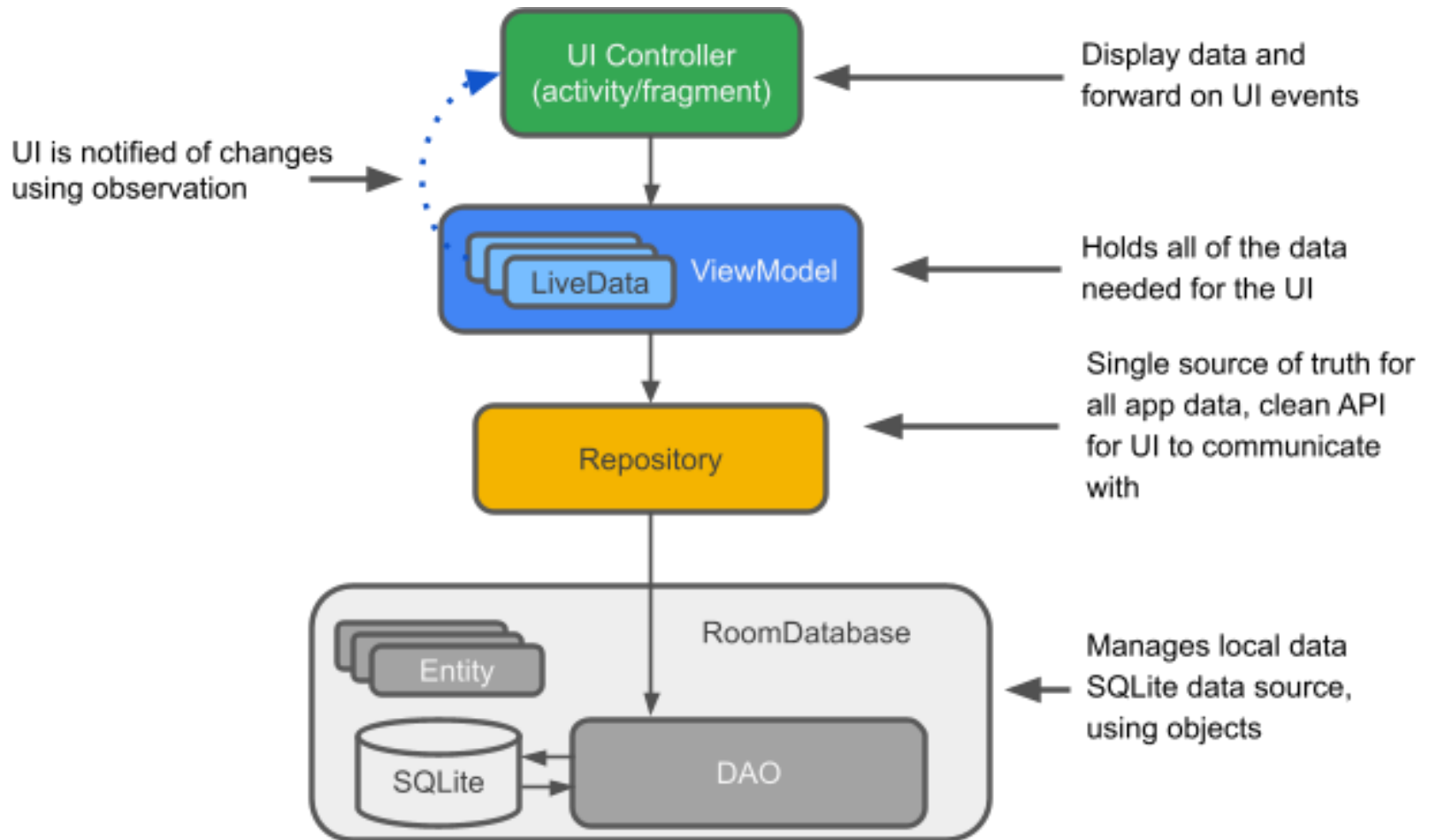
III. UI/UX





Use navigation graph to move between fragments

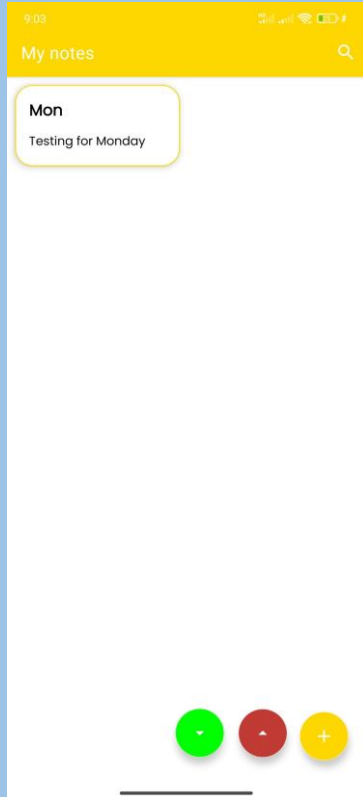
IV. Architecture



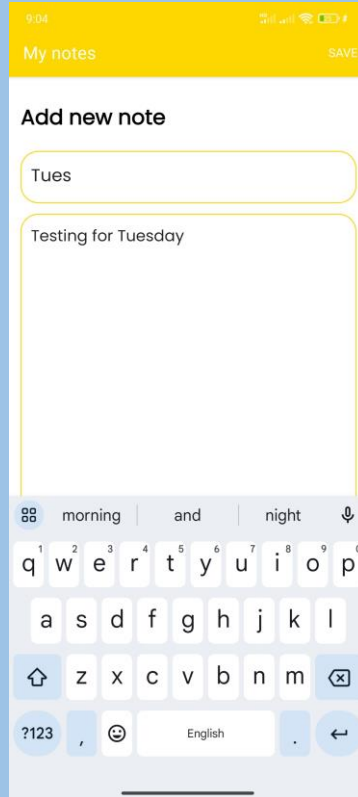
IV. Architecture

```
SNote-IT4785E
└─ app/src/main
   └─ java/com/example/snote/
      ├── adapter/
      │   └─ NoteAdapter.kt
      ├── database/
      │   ├── NoteDAO.kt
      │   └─ NoteDatabase.kt
      ├── fragments/
      │   ├── AddNoteFragment.kt
      │   ├── EditNoteFragment.kt
      │   └─ HomeFragment.kt
      ├── model/
      │   └─ Note.kt
      ├── repository/
      │   └─ NoteRepository.kt
      ├── viewmodel/
      │   ├── NoteViewModel.kt
      │   └─ NoteViewModelFactory.kt
      └─ MainActivity.kt
└─ res/
   ├── layout/
   │   ├── fragment_home.xml
   │   ├── fragment_edit_note.xml
   │   ├── fragment_add_note.xml
   │   └─ note_layout.xml
   └─ menu/
       ├── home_menu.xml
       ├── menu_add_note.xml
       └─ menu_edit_note.xml
```

V. Demo – Add new note



Add new note



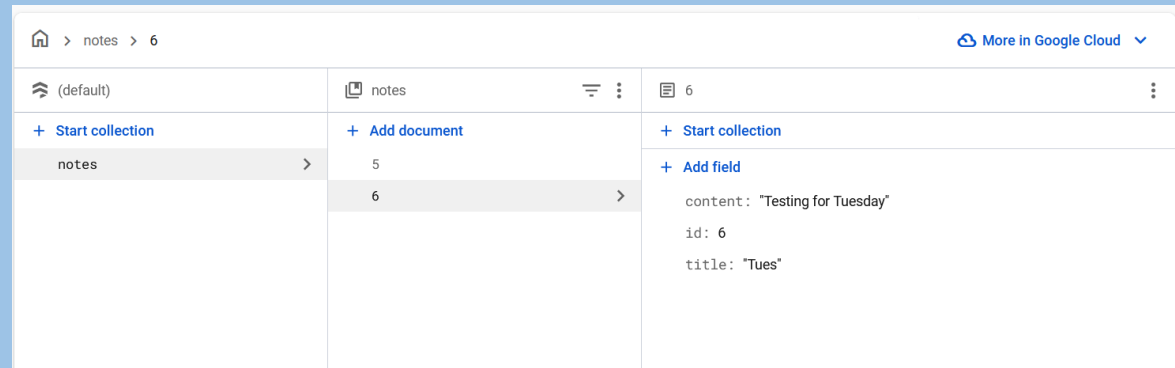
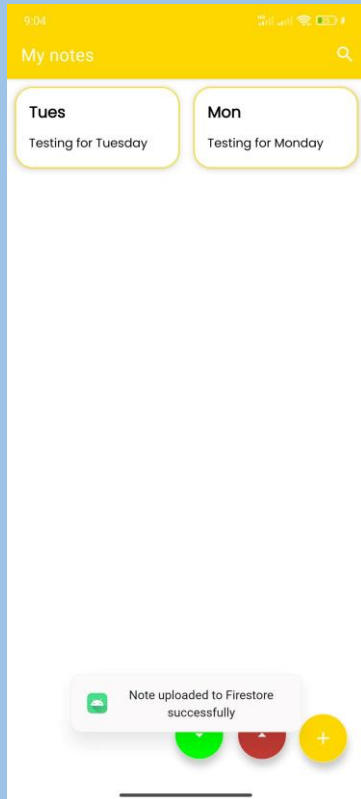
Update UI



Confirm message



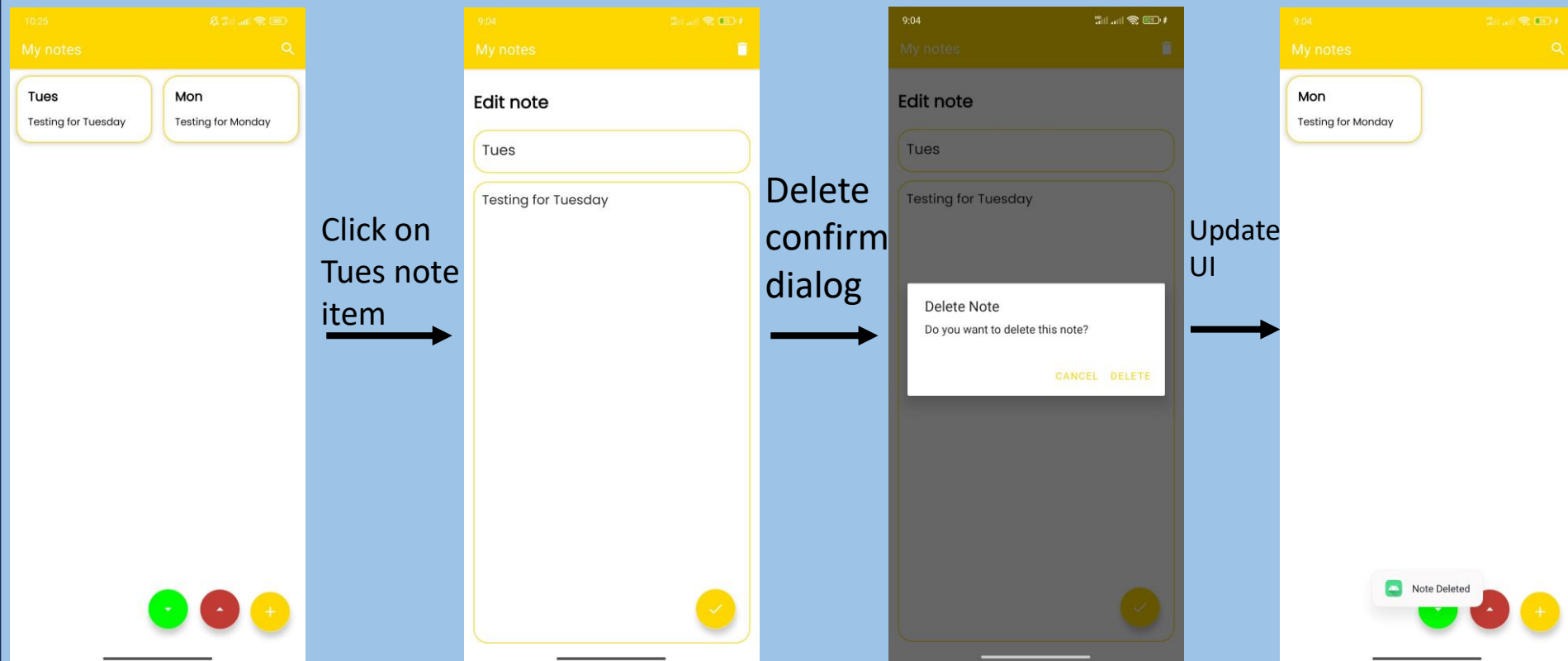
V. Demo – Upload



Check on the Firebase Cloud website, we see two corresponding Note object

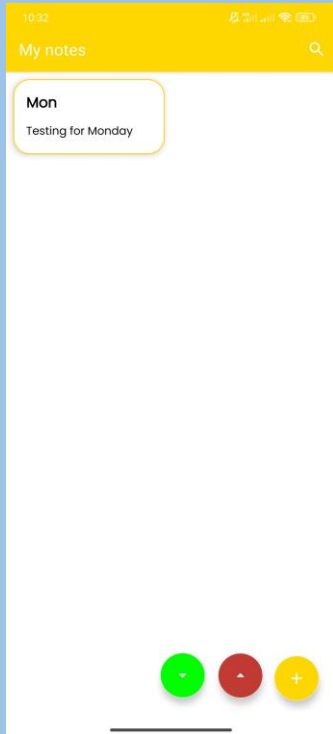
Click the red upload button

V. Demo – Edit note



V. Demo – Fetch note

Currently, there are two notes in the cloud database



Click on
Green Fetch
button

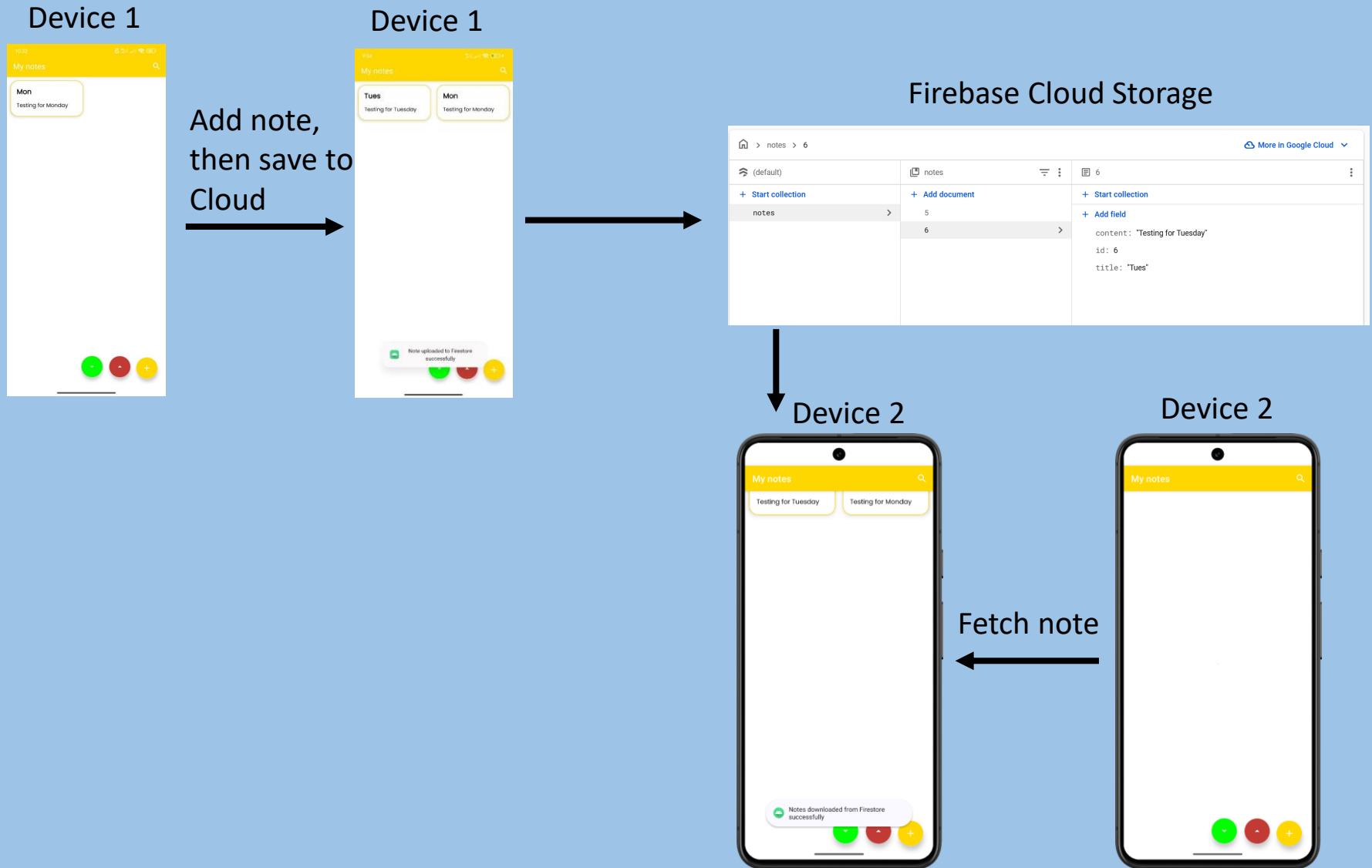


notes > 6		
(default)	notes	6
+ Start collection	+ Add document	+ Start collection
notes >	5	+ Add field
	6 >	content: "Testing for Tuesday"
		id: 6
		title: "Tues"



Update local
database and UI

V. Demo – Sync between devices



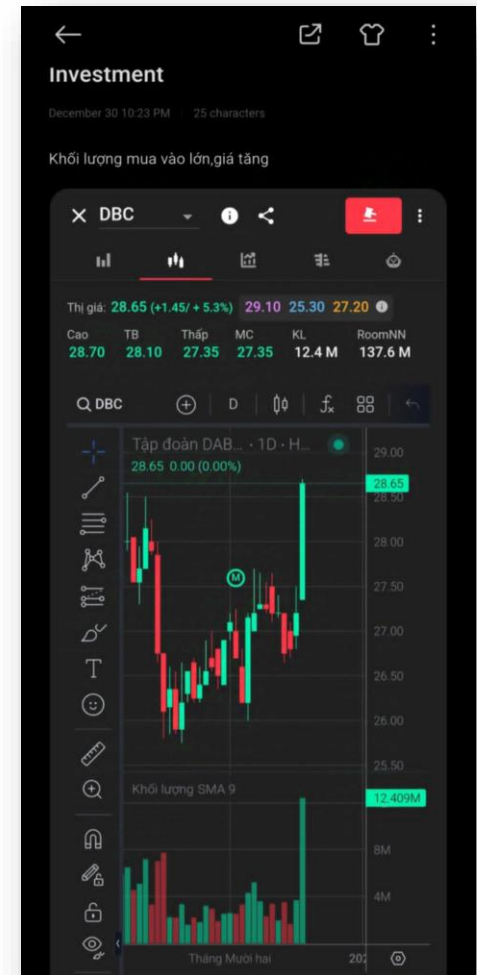
VI. Conclusion

- Successfully developed a feature-rich note-taking app with offline and online capabilities.
- Seamless synchronization between local SQLite storage and a remote server.
- User-friendly interface designed for ease of navigation and functionality

For the detail code implementation and explanation, visit our GitHub repository: <https://github.com/chutrunganh/SNote-IT4785E.git>

VI. Future Work

- Let user change background of the app
- Enable adding picture to the note. Example:
- Tag/pin the notes
- Have permissions control (notes that only the owner can see)
- AI-integrated to remind event through virtual assistant on the phone



A large, stylized graphic of the HUST logo, composed of concentric circles of dots in a lighter shade of red, set against a solid red background.

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THANK YOU !