

Dynamic Quiz Application Using Java and Firebase

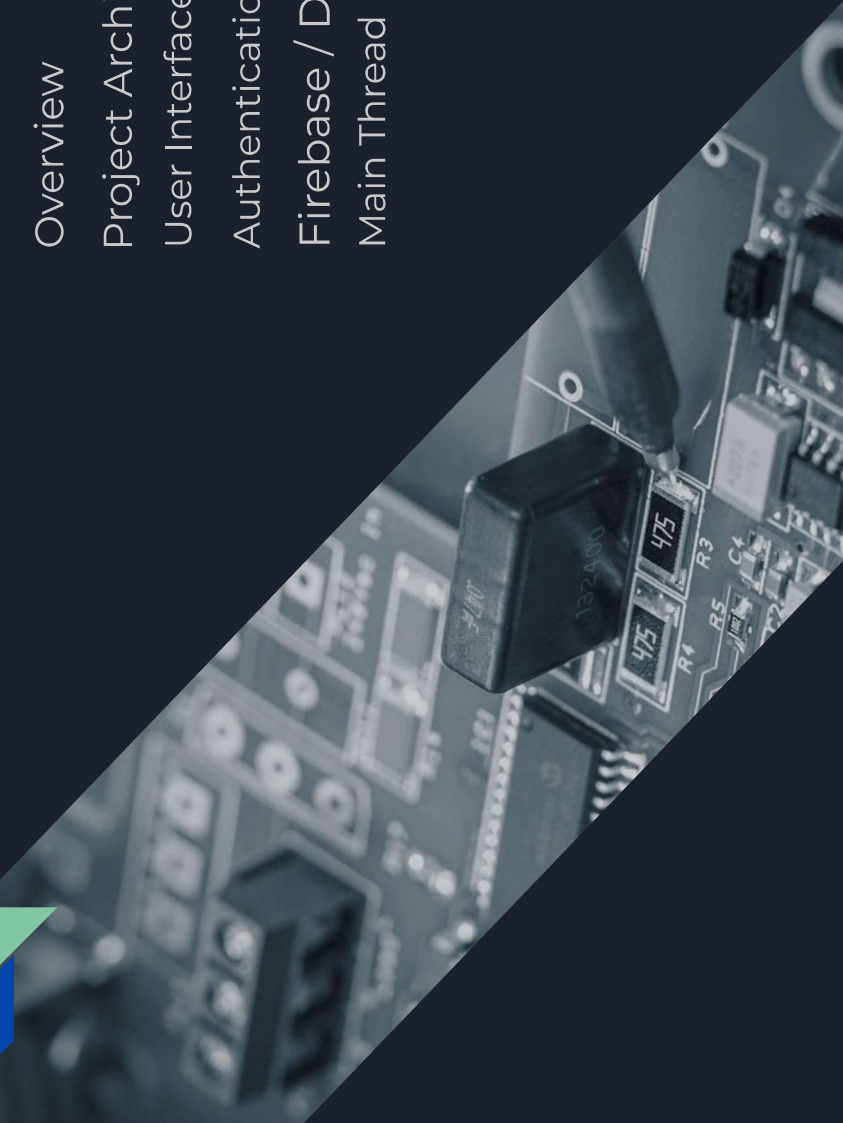
Dynamic Android Application

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Context

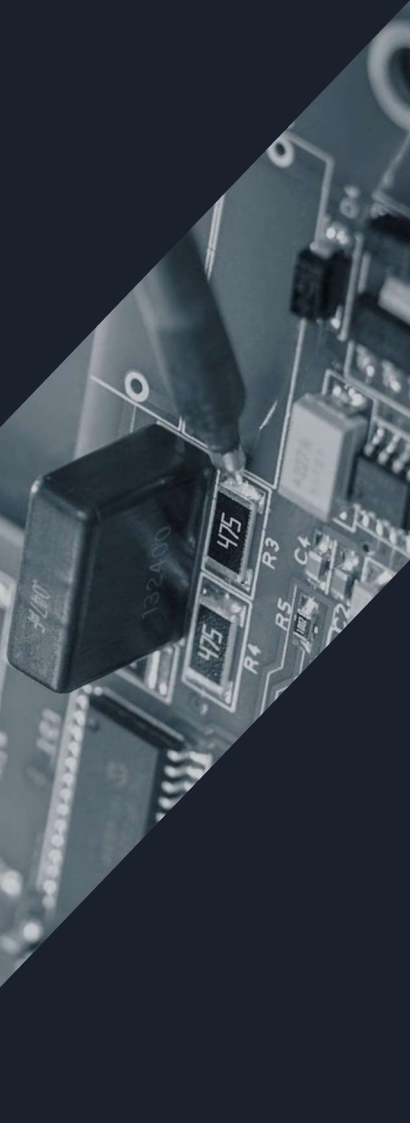
Overview
Project Architecture
User Interface
Authentication
Firebase / DataBase
Main Thread





Overview

This application will provide convenience in the MCQ mode of examinations and screening tests. This application will eliminate paperwork and will be able to effectively store all the information in the database. The purpose of this application is to save student data, measure the marks obtained by each student, and point out their mistakes.





Functionality

Dynamic App

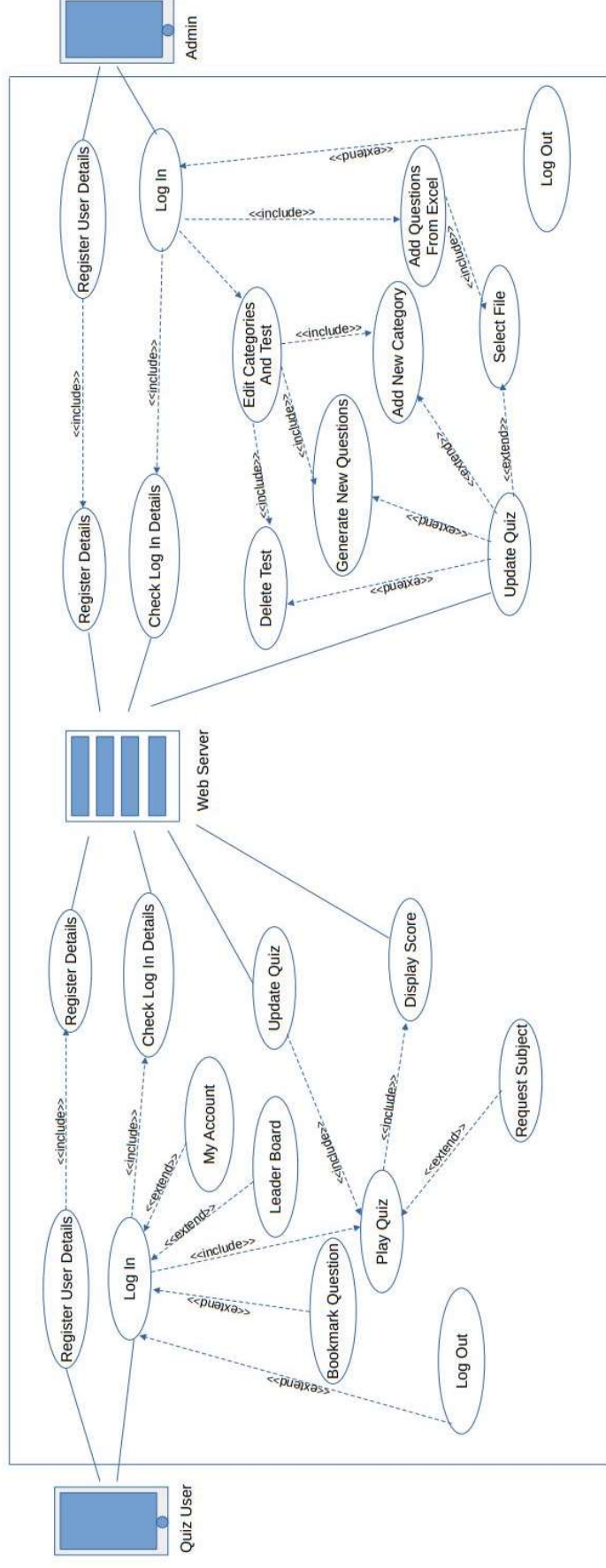
01

One DataBase connected and 2 application

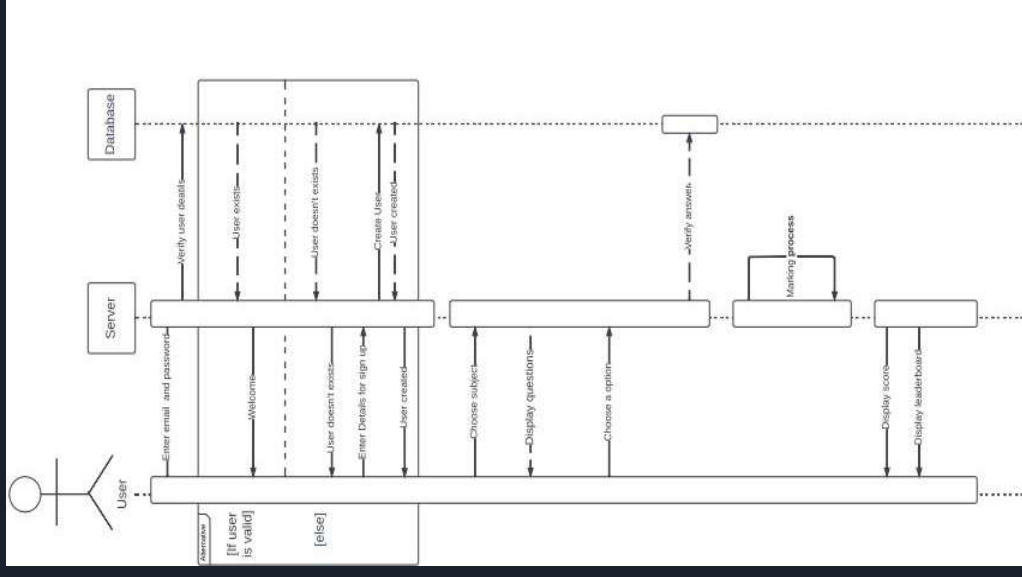
02

CRUD Operation from the application as well as by the main admin (Firebase)

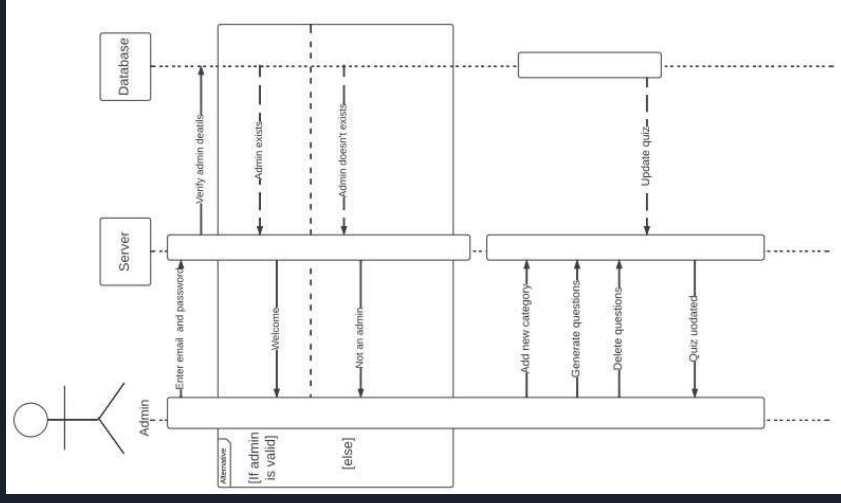
03



Sequence diagram for User

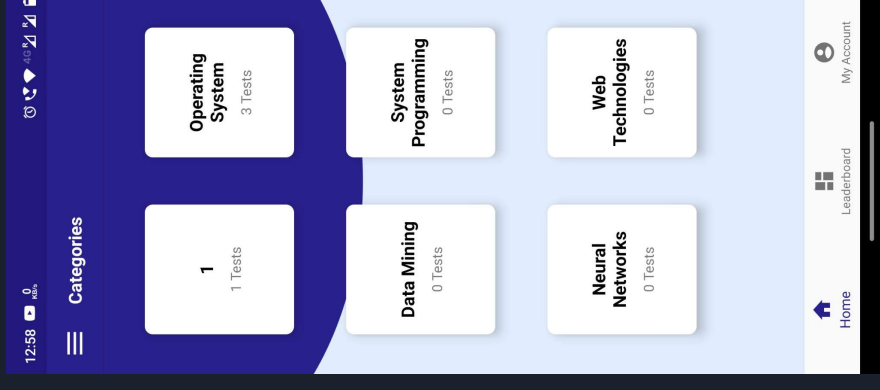


Sequence Diagram for Admin section



User Interface

The user interface (UI) is the point of **human-computer interaction and communication in a device**. This can include display screens, keyboards, a mouse and the appearance of a desktop. It is also the way through which a user interacts with an application or a website.



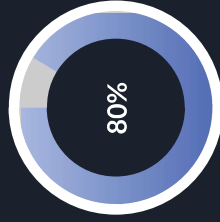


Persona 01

Authentication

- Using Google API service
- Using Own custom Email-Password Login

Both data are updating in Firebase



Google Login API





Validation

App ID ②	Type ②
1:998527329905;android.id:52cea8c7be5242c27a5dd0	SHA-1
App nickname	
QcekTest 	
Package name	
com.blankspace.qcek_test	
SHA certificate fingerprints ②	
4a:d1:66:01:69:3b:a2:8c:0d:41:bc:c8:f1:b3:c2:fa:f8:65:86:18	

Q

Search by email address, phone number or user UID

Add user

Identifier	Providers	Created	Signed In	User UID
sun108chandramail@gm...		9 May 2022	9 May 2022	nB4F1LpCKuUsv7daijcy9Q0dZ
sun123chandramail@gm...		9 May 2022	9 May 2022	Q58Bn0Gslag4QvcsqPYW5Wzskw...
sunj123chandramail@gm...		9 May 2022	9 May 2022	qHUNQHZ9WhtB8ZcZvKfRS...
lyndhart.02119@gmail.co...		9 May 2022	9 May 2022	EGYKjldco1s8tMEGH5YJHCWLL...
santipriyadeha@gmail.com		8 May 2022	8 May 2022	SackXkMdeFrdlCtcmzCfG1Ez3w783
test@test.com		22 Apr 2022	8 May 2022	fqgjet5uXvM5iaaBwWUvZRUH463
documentclint@gmail.com		17 Apr 2022	9 May 2022	4ZboLBM4H6JDVDFxLcy3f5t7vc2

Rows per page501 - 7 of 7

Updating the count of the user

⌕ > USERS > TOTAL_USERS

qcek-test

+ Start collection

USERS

USERS

+ Add document

TOTAL_USERS

n84FkLRcdKUsW1dsiIjs0yX9D6f2

rkqye15nUrVtmLaAamWUVZR1UH63

TOTAL_USERS

+ Start collection

+ Add field

COUNT : 9

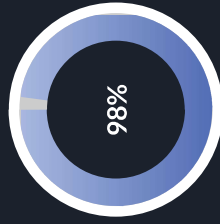


Persona 02

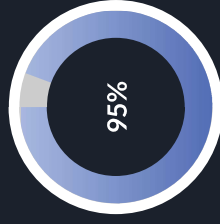
2. Firebase as Database

Firebase is used for many purposes that can help your apps to develop, grow and make it a quality app.

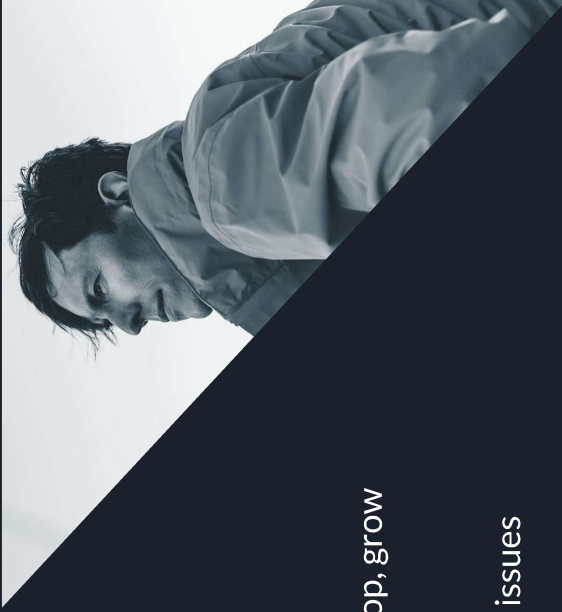
Moreover, Firebase is made with a developer in mind to solve all the issues they might face when making an app.



Response Rate
Comparison with
MySQL



Active time





Architecture of our Database (NoSQL)

1. Quiz Architecture

🏠 > QUIZ > Categories

🔍 qeekt-test

+ Start collection

📄 QUIZ

+ Add document

Categories

F0pJ2J8jxB95Q7ZcPwSe
VoLHrDDnxxGPf5rrzR1m
bDBbtoNktUNAONTGQPK
ju6Xfw9ke8bEcellyPMBD
w6BbWb0AOv41auomOfaz
zzbeWCjNq3KbexxB07Z9

Categories

+ Start collection

+ Add field

CAT1_ID: "bDBbtoNktUNAONTGQPK"
CAT2_ID: "zzbeWCjNq3KbexxB07Z9"
CAT3_ID: "F0pJ2J8jxB95Q7ZcPwSe"
CAT4_ID: "VoLHrDDnxxGPf5rrzR1m"
CAT5_ID: "w6BbWb0AOv41auomOfaz"
CAT6_ID: "ju6Xfw9ke8bEcellyPMBD"
COUNT: 6

QUIZ

+ Add document

Categories

F0pJ2J8jxB95Q7ZcPwSe
VoLHrDDnxxGPf5rrzR1m
bDBbtoNktUNAONTGQPK
ju6Xfw9ke8bEcellyPMBD
w6BbWb0AOv41auomOfaz
zzbeWCjNq3KbexxB07Z9

Test list

📄 F0pJ2J8jxB95Q7ZcPwSe

+ Start collection

+ Add field

CAT_ID: "F0pJ2J8jxB95Q7ZcPwSe"
NAME: "Data Mining"
NO_OF_TESTS: 0





3. Main Thread

The Main thread in Java is the one that begins executing when the program starts. All the child threads are spawned from the Main thread. Also, it is the last thread to finish execution as various shut-down actions are performed by it.

```
builder.setView(view);

final AlertDialog alertDialog = builder.create();

cancel.setOnClickListener((view) → { alertDialog.dismiss(); });

confirm.setOnClickListener((view) → {

    alertDialog.dismiss();
    timer.cancel();
    QuestionsActivity.this.finish();

});

alertDialog.show();
```



```
@Override
protected void onPause() {
    super.onPause();
    timer.cancel();
    Toast.makeText(context, QuestionsActivity.this, text: "Your Test has been submitted.", Toast.LENGTH_SHORT).show();
    Intent intent = new Intent(context, QuestionsActivity.this, ScoreActivity.class);
    long total = q_testList.get(selected_test_index).getTime()*1000;
    intent.putExtra("name", "TIME_TAKEN", values: total - timeLeft);
    startActivity(intent);
    QuestionsActivity.this.finish();
}
```