

REAL TIME CHAT AND COMMUNICATION APP

TEAM MEMBERS :

THAMARAI AJ

KIRUTHI R

SRINITHI A

OBJECTIVE:

- The Real-Time Chat and Communication App is a comprehensive digital platform designed to facilitate instant messaging and multimedia sharing among users.
- Enhancing Communication: To create an efficient platform for real-time interactions that mimics in-person conversations.
- User Engagement: To implement engaging features such as message reactions, emojis, and notifications that keep users connected.
- Scalability: To ensure the application can handle a growing number of users without sacrificing performance.
- Cross-Platform Compatibility: To deliver a consistent experience across web and mobile platforms.
- Community Building: To foster community interaction through features like group chats and collaborative tools.

SYSTEM REQUIREMENTS:

- Software: Android Studio, Kotlin, Firebase Console
- Hardware: Android device or emulator (Android 7.0 or higher)
- Libraries/Dependencies: Firebase Firestore, Authentication, and Realtime Database
- Android Jetpack (Lifecycle, LiveData, ViewModel)
- Internet access for Firebase services

SOURCE CODE:

```
package com.av.avmessenger;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;


import android.annotation.SuppressLint;
import android.app.Dialog;
import android.content.Intent;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
```

```
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.database.DataSnapshot;
import com.google.firebase.database.DatabaseError;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.database.ValueEventListener;
import java.util.ArrayList;
```

```
public class MainActivity extends AppCompatActivity{
    FirebaseAuth auth;
    RecyclerView mainUserRecyclerView;
    UserAdpter adapter;
    FirebaseDatabase database;
    ArrayList<Users> usersArrayList;
    ImageView imglogout;
    ImageView cumbut,setbut;
```

```
@SuppressWarnings("MissingInflatedId")
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    getSupportActionBar().hide();
    database=FirebaseDatabase.getInstance();
    auth = FirebaseAuth.getInstance();
    cumbut = findViewById(R.id.camBut);
    setbut = findViewById(R.id.settingBut);
    DatabaseReference reference = database.getReference().child("user");
    usersArrayList = new ArrayList<>();
    mainUserRecyclerView = findViewById(R.id.mainUserRecyclerView);
    mainUserRecyclerView.setLayoutManager(new LinearLayoutManager(this));
    adapter = new UserAdpter(MainActivity.this,usersArrayList);
    mainUserRecyclerView.setAdapter(adapter);
    reference.addValueEventListener(new ValueEventListener() {
```

```
@Override
```

```
    public void onDataChange(@NonNull DataSnapshot snapshot) {
```

```
        for (DataSnapshot dataSnapshot: snapshot.getChildren())
```

```
no.setOnClickListener(new View.OnClickListener() {
```

```
    @Override
```

```
    public void onClick(View v) {
```

```
        dialog.dismiss();
```

```
    }
```

```
});
```

```
    dialog.show();
```

```
}
```

```
});
```

```
setbut.setOnClickListener(new View.OnClickListener() {
```

```
    @Override
```

```
    public void onClick(View v) {
```

```
        Intent intent = new Intent(MainActivity.this, setting.class);
```

```
        startActivity(intent);
```

```
});
```

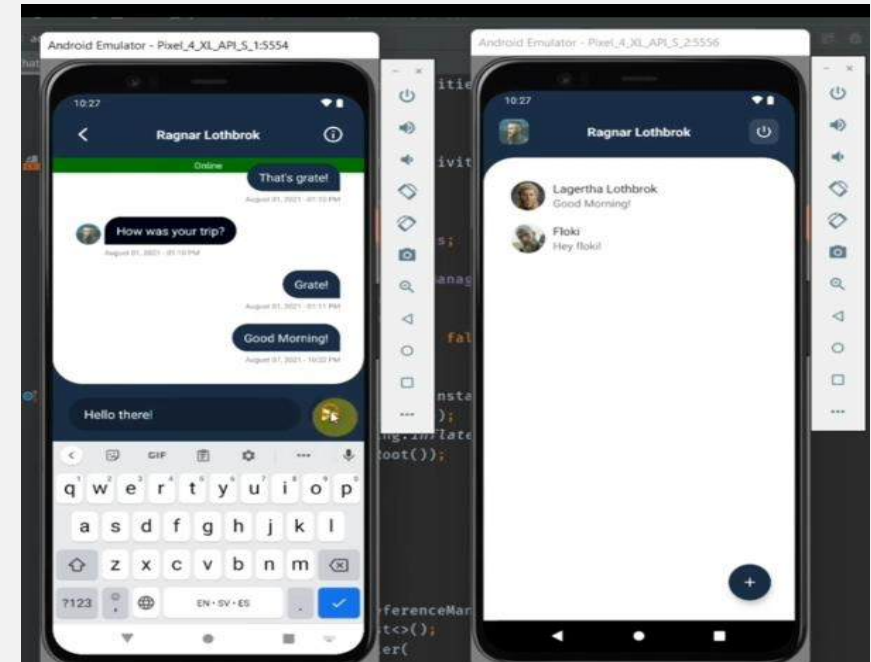
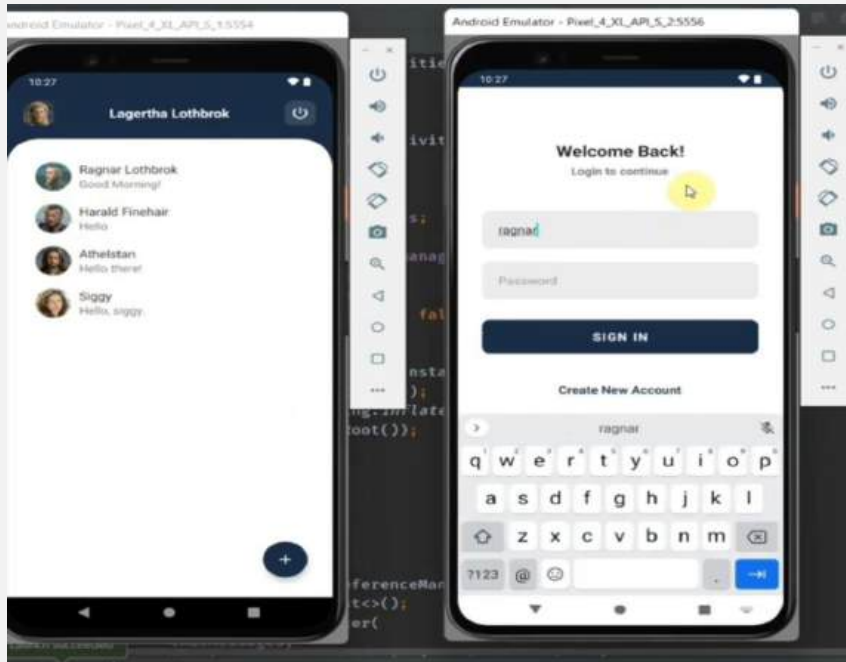
```
cumbut.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        Intent intent = new Intent(android.provider.MediaStore.ACTION_IMAGE_CAPTURE);  
        startActivityForResult(intent,10);  
    }  
});
```

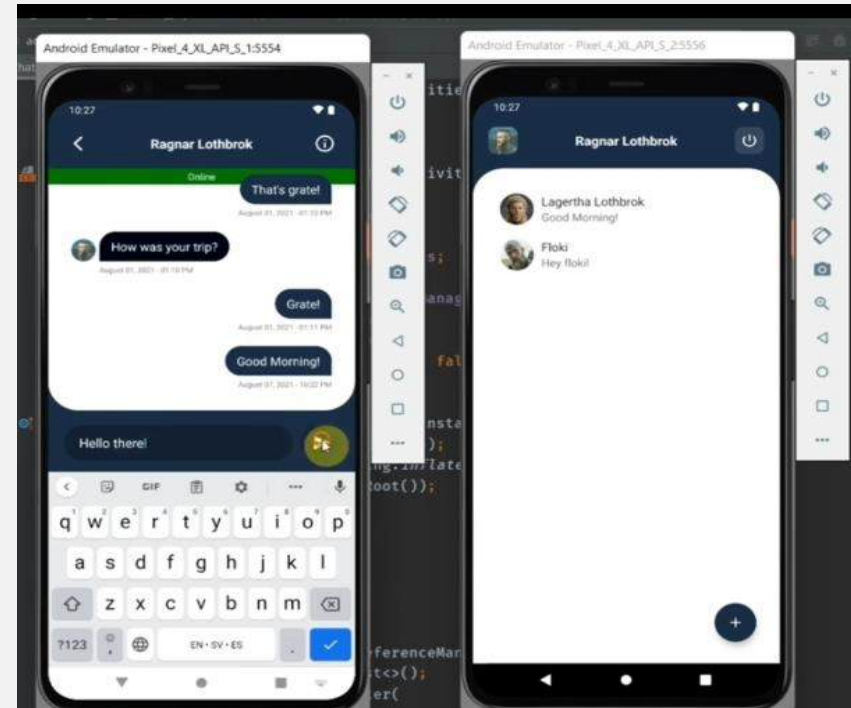
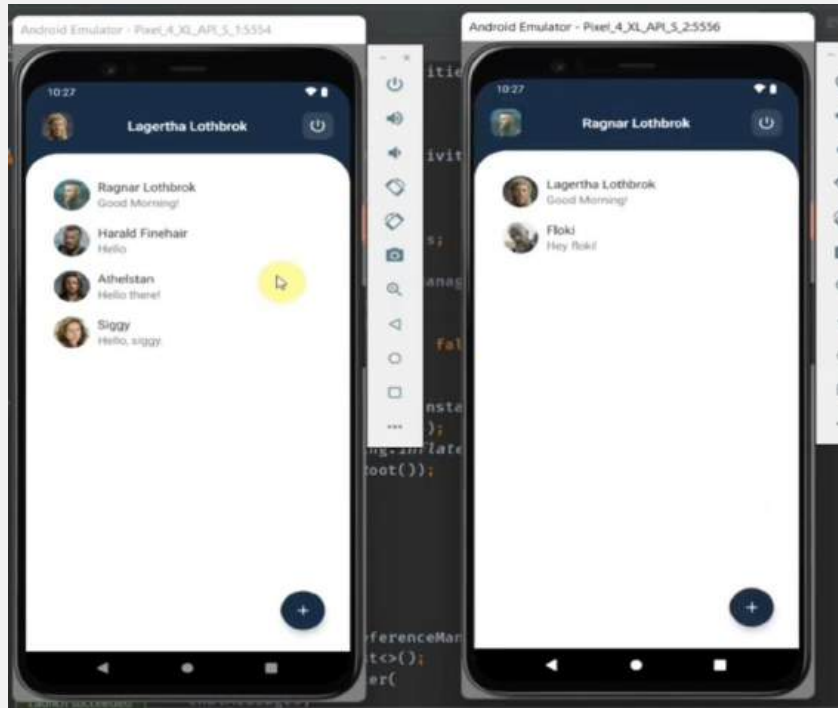
```
if (auth.getCurrentUser() == null){  
    Intent intent = new Intent(MainActivity.this,login.class);  
    startActivity(intent);  
}
```

```
}
```

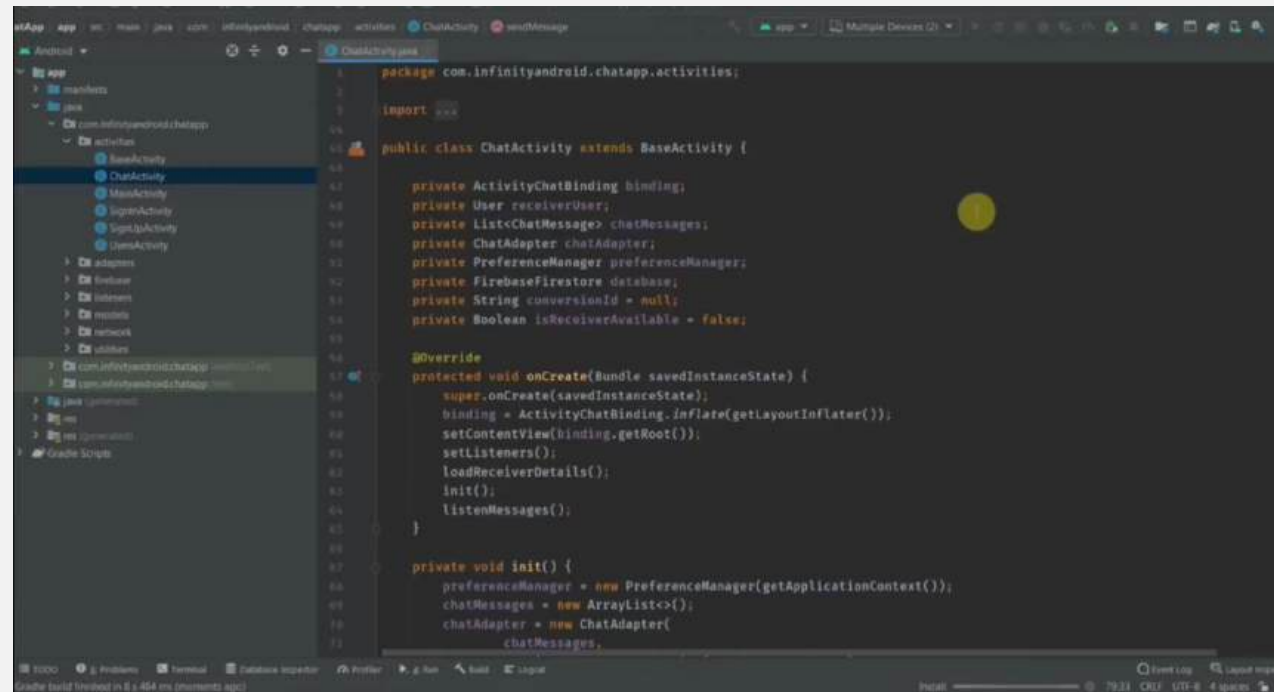
```
}
```


OUTPUT (screenshots):





- DEMO VIDEO:



```
1 package com.infinityandroid.chatapp.activities;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 public class ChatActivity extends AppCompatActivity {
6
7     private ActivityChatBinding binding;
8     private User receiverUser;
9     private List<ChatMessage> chatMessages;
10    private ChatAdapter chatAdapter;
11    private PreferenceManager preferenceManager;
12    private FirebaseFirestore database;
13    private String conversionId = null;
14    private Boolean isReceiverAvailable = false;
15
16    @Override
17    protected void onCreate(Bundle savedInstanceState) {
18        super.onCreate(savedInstanceState);
19        binding = ActivityChatBinding.inflate(getLayoutInflater());
20        setContentView(binding.getRoot());
21        setListeners();
22        loadReceiverDetails();
23        init();
24        listenMessages();
25    }
26
27    private void init() {
28        preferenceManager = new PreferenceManager(getApplicationContext());
29        chatMessages = new ArrayList<>();
30        chatAdapter = new ChatAdapter(chatMessages);
31    }
32}
```