**ภาคผนวก ง**

โปรแกรมการทำงานของแอพพลิเคชั่นแสดงค่าฝุ่นละออง

package com.example.dust\_pm\_rmutr;

import android.os.Bundle;

import com.google.android.gms.auth.api.signin.GoogleSignIn;

import com.google.android.gms.auth.api.signin.GoogleSignInClient;

import com.google.android.gms.auth.api.signin.GoogleSignInOptions;

import com.google.android.gms.tasks.OnCompleteListener;

import com.google.android.gms.tasks.Task;

import com.google.android.material.snackbar.Snackbar;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import android.util.Log;

import android.view.View;

import androidx.navigation.NavController;

import androidx.navigation.Navigation;

import androidx.navigation.ui.AppBarConfiguration;

import androidx.navigation.ui.NavigationUI;

import com.example.dust\_pm\_rmutr.databinding.ActivityMainBinding;

import com.google.firebase.auth.AuthResult;

import com.google.firebase.auth.FirebaseAuth;

import com.google.firebase.auth.FirebaseUser;

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 android.view.Menu;

import android.view.MenuItem;

import android.widget.TextView;

import android.widget.Toast;

import java.util.Map;

public class MainActivity extends AppCompatActivity {

// [START declare\_auth]

private FirebaseAuth mAuth;

private static final String TAG = "AnonymousAuth";

// [END declare\_auth]

private GoogleSignInClient mGoogleSignInClient;

private AppBarConfiguration appBarConfiguration;

private ActivityMainBinding binding;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

binding = ActivityMainBinding.inflate(getLayoutInflater());

setContentView(binding.getRoot());

setSupportActionBar(binding.toolbar);

TextView textViewPm1 = (TextView) findViewById(R.id.textViewPM1);

TextView textViewPm25 = (TextView) findViewById(R.id.textViewPM25);

TextView textViewPm10 = (TextView) findViewById(R.id.textViewPM10);

TextView textViewDateTime = (TextView) findViewById(R.id.textViewDateTime);

DatabaseReference mRootRef = FirebaseDatabase.getInstance().getReference();

System.out.println(mRootRef);

// Read from the database

mRootRef.addValueEventListener(new ValueEventListener() {

@Override

public void onDataChange(DataSnapshot dataSnapshot) {

// This method is called once with the initial value and again

// whenever data at this location is updated.

Map<String, Object> value = (Map<String, Object>) dataSnapshot.getValue();

//String value = dataSnapshot.getValue(String.class);

Log.d(TAG, "Value is: " + value);

//System.out.println(value.get("Dust\_station\_01"));

Map<String, Object> value\_Dust\_station\_01 = (Map<String, Object>) value.get("Dust\_station\_01");

//System.out.println((value1.get("data")));

Map<String, Object> value\_data = (Map<String, Object>) value\_Dust\_station\_01.get("data");

Map<String, Object> value\_1 = (Map<String, Object>) value\_data.get("PM\_1");

Map<String, Object> value\_2p5 = (Map<String, Object>) value\_data.get("PM\_2p5");

Map<String, Object> value\_10 = (Map<String, Object>) value\_data.get("PM\_10");

textViewPm1.setText("PM 1 = "+ value\_1.get("PM\_1")+ " ug/m3");

textViewPm25.setText("PM 2.5 = "+ value\_2p5.get("PM\_2p5")+ " ug/m3");

textViewPm10.setText("PM 10.0 = "+ value\_10.get("PM\_10")+ " ug/m3");

textViewDateTime.setText("" + value\_1.get("datetime"));

}

@Override

public void onCancelled(DatabaseError error) {

// Failed to read value

Log.w(TAG, "Failed to read value.", error.toException());

}

});

}

}