Bai1SmsActivity.java

package com.example.lab4;  
  
import android.content.\*;  
import android.os.Bundle;  
import android.telephony.SmsMessage;  
import android.widget.TextView;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class Bai1SmsActivity extends AppCompatActivity {  
 private BroadcastReceiver smsReceiver;  
 private TextView tvContent;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_bai1*);  
  
 tvContent = findViewById(R.id.*tv\_content*);  
 initReceiver();  
 }  
  
 private void initReceiver() {  
 smsReceiver = new BroadcastReceiver() {  
 @Override  
 public void onReceive(Context context, Intent intent) {  
 Bundle bundle = intent.getExtras();  
 if (bundle != null) {  
 Object[] pdus = (Object[]) bundle.get("pdus");  
 if (pdus != null) {  
 for (Object obj : pdus) {  
 SmsMessage sms = SmsMessage.*createFromPdu*((byte[]) obj);  
 String sender = sms.getDisplayOriginatingAddress();  
 String msg = sms.getMessageBody();  
  
 Toast.*makeText*(context, "Hey! You have a new message", Toast.*LENGTH\_LONG*).show();  
 tvContent.setText(sender + ":\n" + msg);  
 }  
 }  
 }  
 }  
 };  
 }  
  
 @Override  
 protected void onResume() {  
 super.onResume();  
 registerReceiver(smsReceiver, new IntentFilter("android.provider.Telephony.SMS\_RECEIVED"));  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 unregisterReceiver(smsReceiver);  
 }  
}

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AI-generated content may be incorrect.  
Bai2PowerActivity.java  
package com.example.lab4;  
  
import android.os.Bundle;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class Bai2PowerActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_bai2*);   
 }  
}  
  
PowerStateChangeReceiver.java  
package com.example.lab4;  
  
import android.content.BroadcastReceiver;  
import android.content.Context;  
import android.content.Intent;  
import android.widget.Toast;  
  
public class PowerStateChangeReceiver extends BroadcastReceiver {  
 @Override  
 public void onReceive(Context context, Intent intent) {  
 if (Intent.*ACTION\_POWER\_CONNECTED*.equals(intent.getAction())) {  
 Toast.*makeText*(context, "Điện thoại đang cắm sạc", Toast.*LENGTH\_SHORT*).show();  
 } else if (Intent.*ACTION\_POWER\_DISCONNECTED*.equals(intent.getAction())) {  
 Toast.*makeText*(context, "Điện thoại đã rút sạc", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
}

A white screen with black text

AI-generated content may be incorrect.

Bai4EmergencyActivity.java  
package com.example.lab4;  
  
import android.content.BroadcastReceiver;  
import android.content.Context;  
import android.content.Intent;  
import android.content.IntentFilter;  
import android.os.Build;  
import android.os.Bundle;  
import android.telephony.SmsManager;  
import android.widget.ArrayAdapter;  
import android.widget.Button;  
import android.widget.ListView;  
import android.widget.Switch;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.util.ArrayList;  
  
public class Bai4EmergencyActivity extends AppCompatActivity {  
 private Switch swAuto;  
 private Button btnSafe, btnMayday;  
 private ListView lvMessages;  
 private ArrayAdapter<String> adapter;  
 private ArrayList<String> requesters = new ArrayList<>();  
 private BroadcastReceiver broadcastReceiver;  
 public static boolean *isRunning* = false;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_bai4*);  
  
 swAuto = findViewById(R.id.*sw\_auto\_response*);  
 btnSafe = findViewById(R.id.*btn\_safe*);  
 btnMayday = findViewById(R.id.*btn\_mayday*);  
 lvMessages = findViewById(R.id.*lv\_messages*);  
  
 adapter = new ArrayAdapter<>(this, android.R.layout.*simple\_list\_item\_1*, requesters);  
 lvMessages.setAdapter(adapter);  
  
 btnSafe.setOnClickListener(v -> respond(true));  
 btnMayday.setOnClickListener(v -> respond(false));  
  
 swAuto.setOnCheckedChangeListener((b, isChecked) -> {  
 btnSafe.setVisibility(isChecked ? Button.*GONE* : Button.*VISIBLE*);  
 btnMayday.setVisibility(isChecked ? Button.*GONE* : Button.*VISIBLE*);  
 });  
  
 initReceiver();  
  
 // ✅ Nếu app được mở từ SmsReceiver khi đang tắt  
 Intent intent = getIntent();  
 if (intent != null && intent.hasExtra(SmsReceiver.*SMS\_MESSAGE\_ADDRESS\_KEY*)) {  
 ArrayList<String> addresses = intent.getStringArrayListExtra(SmsReceiver.*SMS\_MESSAGE\_ADDRESS\_KEY*);  
 if (addresses != null) {  
 requesters.addAll(addresses);  
 adapter.notifyDataSetChanged();  
 if (swAuto.isChecked()) respond(true);  
 }  
 }  
 }  
  
 private void initReceiver() {  
 broadcastReceiver = new BroadcastReceiver() {  
 @Override  
 public void onReceive(Context context, Intent intent) {  
 ArrayList<String> addresses = intent.getStringArrayListExtra(SmsReceiver.*SMS\_MESSAGE\_ADDRESS\_KEY*);  
 if (addresses != null) {  
 requesters.addAll(addresses);  
 adapter.notifyDataSetChanged();  
 if (swAuto.isChecked()) respond(true);  
 }  
 }  
 };  
 }  
  
 private void respond(boolean safe) {  
 if (requesters.isEmpty()) return;  
 String msg = safe ? "I am fine and safe. Worry not!" : "Tell my mother I love her";  
 SmsManager sms = SmsManager.*getDefault*();  
 for (String phone : requesters) {  
 sms.sendTextMessage(phone, null, msg, null, null);  
 }  
 requesters.clear();  
 adapter.notifyDataSetChanged();  
 }  
  
 @Override  
 protected void onResume() {  
 super.onResume();  
 *isRunning* = true;  
 IntentFilter filter = new IntentFilter(SmsReceiver.*SMS\_FORWARD\_BROADCAST\_RECEIVER*);  
 if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*TIRAMISU*) {  
 registerReceiver(broadcastReceiver, filter, Context.*RECEIVER\_NOT\_EXPORTED*);  
 } else {  
 registerReceiver(broadcastReceiver, filter);  
 }  
 }  
  
 @Override  
 protected void onStop() {  
 super.onStop();  
 *isRunning* = false;  
 try {  
 unregisterReceiver(broadcastReceiver);  
 } catch (IllegalArgumentException ignored) {  
 }  
 }  
}

SmsReceiver.java  
package com.example.lab4;  
  
import android.content.BroadcastReceiver;  
import android.content.Context;  
import android.content.Intent;  
import android.os.Build;  
import android.os.Bundle;  
import android.telephony.SmsMessage;  
  
import java.util.ArrayList;  
  
public class SmsReceiver extends BroadcastReceiver {  
 public static final String *SMS\_FORWARD\_BROADCAST\_RECEIVER* = "SMS\_FORWARD";  
 public static final String *SMS\_MESSAGE\_ADDRESS\_KEY* = "addresses";  
  
 @Override  
 public void onReceive(Context context, Intent intent) {  
 if (intent == null || intent.getExtras() == null) return;  
  
 Bundle bundle = intent.getExtras();  
 ArrayList<String> addresses = new ArrayList<>();  
  
 Object[] pdus = (Object[]) bundle.get("pdus");  
 if (pdus != null) {  
 String format = bundle.getString("format");  
 for (Object obj : pdus) {  
 SmsMessage sms;  
 // ✅ Tương thích Android 6+  
 if (Build.VERSION.*SDK\_INT* >= Build.VERSION\_CODES.*M*) {  
 sms = SmsMessage.*createFromPdu*((byte[]) obj, format);  
 } else {  
 sms = SmsMessage.*createFromPdu*((byte[]) obj);  
 }  
 if (sms == null) continue;  
  
 String msg = sms.getMessageBody();  
 String sender = sms.getDisplayOriginatingAddress();  
 if (msg != null && msg.toLowerCase().contains("are you ok")) {  
 addresses.add(sender);  
 }  
 }  
 }  
  
 // Nếu có sender chứa keyword "are you ok?"  
 if (!addresses.isEmpty()) {  
 if (Bai4EmergencyActivity.*isRunning*) {  
 // Trường hợp app đang mở → gửi broadcast nội bộ  
 Intent i = new Intent(*SMS\_FORWARD\_BROADCAST\_RECEIVER*);  
 i.putStringArrayListExtra(*SMS\_MESSAGE\_ADDRESS\_KEY*, addresses);  
 context.sendBroadcast(i);  
 } else {  
 // Trường hợp app đang tắt → mở activity với dữ liệu kèm theo  
 Intent iMain = new Intent(context, Bai4EmergencyActivity.class);  
 iMain.putStringArrayListExtra(*SMS\_MESSAGE\_ADDRESS\_KEY*, addresses);  
 iMain.addFlags(Intent.*FLAG\_ACTIVITY\_CLEAR\_TOP* | Intent.*FLAG\_ACTIVITY\_NEW\_TASK*);  
 context.startActivity(iMain);  
 }  
 }  
 }  
}

