Sprint 4

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Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification

Sprint 4 is send alert notification when entered and exited the geofence

Coding:

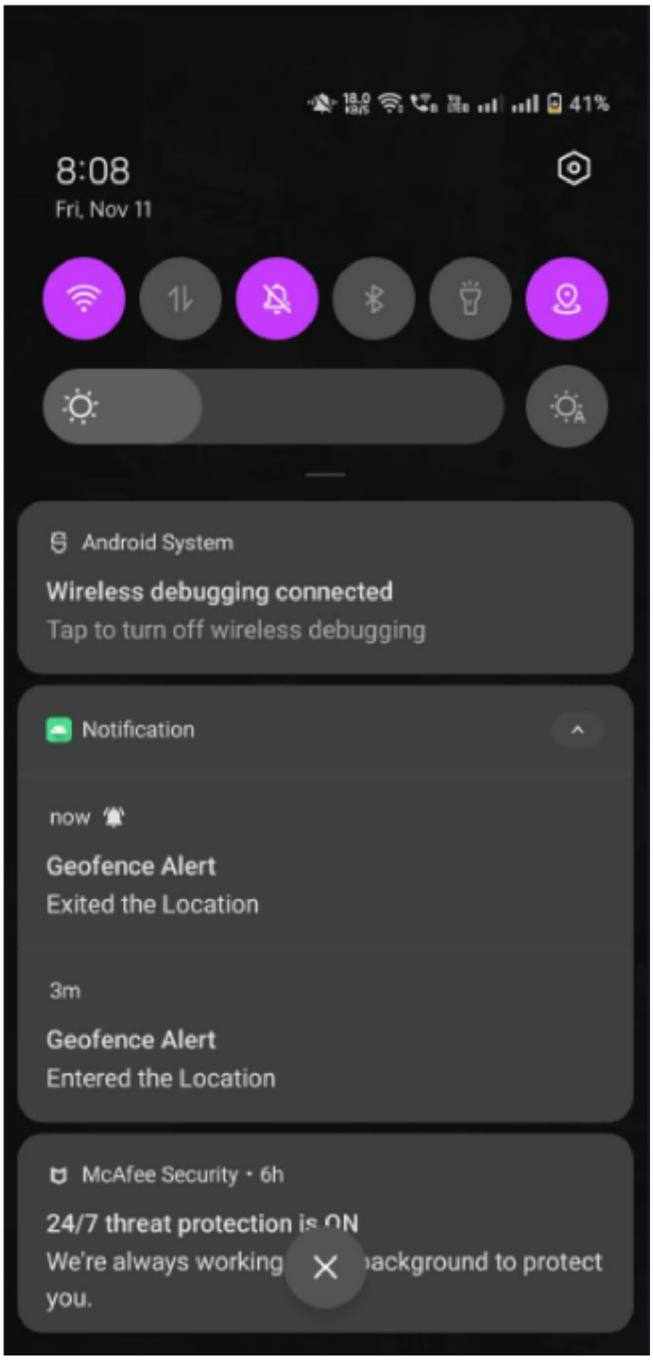
```
package com.example.geofence;


import android.content.BroadcastReceiver;
import android.content.Context;
 import android.content.Intent;
import android.location.Location;
 import android.os.CountDownTimer;
import android.util.Log;
 import android.widget.Toast;


import com.google.android.gms.location.Geofence
; import com.google.android.gms.location.GeofencingEvent;
 import java.util.List
; import android.os.Handler;


public class GeofenceBroadcastReceiver extends BroadcastReceiver {


   private static final String TAG = "GeofenceBroadcastReceiv";
   @Override
   public void onReceive(Context context, Intent intent) {
      // TODO: This method is called when the BroadcastReceiver is receiving
      // an Intent broadcast
      //.
    /*Toast.makeText(context, "GEOFENCE_ENTERED",
Toast.LENGTH_SHORT).show();


      final Toast mToastToShow;
      int toastDurationInMilliSeconds = 1200000;
      mToastToShow = Toast.makeText(context, "GEOFENCE_EXITED", Toast.LENGTH_LONG);



      // Set the countdown to display the toast        CountDownTimer toastCountDown;
      toastCountDown = new CountDownTimer(toastDurationInMilliSeconds,
100000) {
         public void onTick(long millisUntilFinished) {              mToastToShow.show();
         }

         public void onFinish() {
mToastToShow.cancel();            }
      };

      // Show the toast and starts the countdown
mToastToShow.show();        toastCountDown.start();*/



   NotificationHelper notificationHelper = new
NotificationHelper(context);

notificationHelper.sendHighPriorityNotification("GEOFENCE_TRANSITION_ENTER" , "",
MapsActivity.class);

    GeofencingEvent geofencingEvent = GeofencingEvent.fromIntent(intent);

     if (geofencingEvent.hasError()) {
         Log.d(TAG, "onReceive: Error receiving geofence event...");            return;
      }

      List<Geofence> geofenceList =
geofencingEvent.getTriggeringGeofences();        for (Geofence
geofence: geofenceList) {
         Log.d(TAG, "onReceive: " + geofence.getRequestId());        }
//       Location location = geofencingEvent.getTriggeringLocation();        int transitionType =
geofencingEvent.getGeofenceTransition();
       switch (transitionType) {            case
Geofence.GEOFENCE_TRANSITION_ENTER:
```

```
            notificationHelper.sendHighPriorityNotification("Entered the Location", "",
MapsActivity.class);                break;
                  case Geofence.GEOFENCE_TRANSITION_EXIT:


            notificationHelper.sendHighPriorityNotification("Exited the
Location ", "", MapsActivity.class);                break;
      }


   }
  }
```

Notification Class:

```
package com.example.geofence;


import android.app.Notification; import
android.app.NotificationChannel; import
android.app.NotificationManager; import
android.app.PendingIntent; import
android.content.Context; import
android.content.ContextWrapper; import
android.content.Intent; import android.graphics.Color;
import android.os.Build;


import androidx.annotation.RequiresApi; import
androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;


import java.util.Random;


public class NotificationHelper extends ContextWrapper {


   private static final String TAG = "NotificationHelper";


   public NotificationHelper(Context base) {        super(base);
      if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {           createChannels();
      }
   }
   private String CHANNEL_NAME = "High priority channel";
   private String CHANNEL_ID = "com.example.geofence" + CHANNEL_NAME;
   @RequiresApi(api = Build.VERSION_CODES.O)     private void
createChannels() {
      NotificationChannel notificationChannel = new
NotificationChannel(CHANNEL_ID, CHANNEL_NAME, NotificationManager.IMPORTANCE_HIGH);
notificationChannel.enableLights(true);        notificationChannel.enableVibration(true);
      notificationChannel.setDescription("this is the description of the channel.");
      notificationChannel.setLightColor(Color.RED);

notificationChannel.setLockscreenVisibility(Notification.VISIBILITY_PUBLIC) ;
      NotificationManager manager = (NotificationManager)
getSystemService(Context.NOTIFICATION_SERVICE);
      manager.createNotificationChannel(notificationChannel);     }
   public void sendHighPriorityNotification(String title, String body, Class activityName) {

      Intent intent = new Intent(this, activityName);
      PendingIntent pendingIntent = PendingIntent.getActivity(this, 267, intent,
PendingIntent.FLAG_UPDATE_CURRENT);
      Notification notification = new NotificationCompat.Builder(this, CHANNEL_ID)
//             .setContentTitle(title)
//             .setContentText(body)
            .setSmallIcon(R.drawable.ic_launcher_background)
            .setPriority(NotificationCompat.PRIORITY_HIGH)             .setStyle(new
NotificationCompat.BigTextStyle().setSummaryText("summary").setBigContentTi
tle(title).bigText(body))
            .setContentIntent(pendingIntent)
            .setAutoCancel(true)
            .build();

      NotificationManagerCompat.from(this).notify(new Random().nextInt(), notification);
}
}
```

Output :



Android System

Wireless debugging connected

Tap to turn off wireless debugging

Notification

now

Geofence Alert

Exited the Location

3m

Geofence Alert

Entered the Location

McAfee Security • 6h

24/7 threat protection is ON

We're always working ackground to protect you.