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

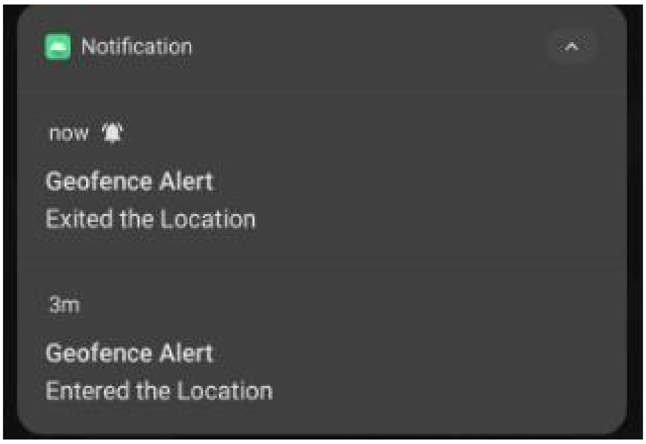
Coding :

```
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 :



Notification

now

Geofence Alert
Exited the Location

3m

Geofence Alert
Entered the Location