**[Homework#12](https://bb-csuohio.blackboard.com/webapps/assignment/uploadAssignment?content_id=_6362380_1&course_id=_168060_1&group_id=&mode=view)**

Modify the demo app for the proximity sensor such that you will see the spectrum of colors (at least 5) while the object is getting closer and closer to the phone. For example, if the max range is 1.0, when the distance from phone is 0.9, the background color is brown, when the distance from phone is 0.7, the background color changes to red, when the distance from phone is 0.5, the background color changes to pink, when the distance from phone is 0.3, the background color changes to yellow, and when the distance from phone is 0.1, the background color changes to blue. If the stance from phone is larger than the max range, the background color is set to green as before.

Solutions:

Java code to change color according to proximity sensor value:

public void onSensorChanged(SensorEvent event) {  
 distanceFromPhone = event.values[0];  
 Log.*w*(TAG, "onSensorChanged: "+distanceFromPhone);  
 Log.*w*(TAG, "onSensorChanged: "+(mSensor.getMaximumRange() / 100.0f) \* 10);  
  
 myLabel.setText("Sensor Range : "+distanceFromPhone);  
  
 if(distanceFromPhone >= (mSensor.getMaximumRange() / 100.0f) \* 90) {  
 llBackground.setBackgroundResource(R.color.*brown*);  
 }else if(distanceFromPhone >= (mSensor.getMaximumRange() / 100.0f) \* 70) {  
 llBackground.setBackgroundResource(R.color.*red*);  
 }else if(distanceFromPhone >= (mSensor.getMaximumRange() / 100.0f) \* 50) {  
 llBackground.setBackgroundResource(R.color.*pink*);  
 }else if(distanceFromPhone >= (mSensor.getMaximumRange() / 100.0f) \* 30) {  
 llBackground.setBackgroundResource(R.color.*yellow*);  
 }else if(distanceFromPhone >= (mSensor.getMaximumRange() / 100.0f) \* 10) {  
 llBackground.setBackgroundResource(R.color.*blue*);  
 }else{  
 llBackground.setBackgroundResource(R.color.*white*);  
 }  
}

xml code for the same:

<TextView  
 android:id="@+id/label"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Sensor Range : "  
 android:textColor="@color/black"  
 android:textAlignment="center"  
 android:textSize="25sp"/>

Screenshots:

A screen shot of a cell phone

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a phone

Description automatically generated

A screenshot of a computer

Description automatically generated