RTSP Android Class Test

Duration: 2 Hours

Note: Solve any one of two

Question No 1 (50 Marks)

The Android mobile platform provides many sensors that let you monitor various environmental properties such as relative ambient humidity, illuminance, ambient pressure, and ambient temperature near an Android-powered device.

Problem Statement

A. Use any one of these sensors to show current value of that sensor in a Text View. Sensor reading frequency is 1 second. (20)
B. In addition, plot the 100 latest sensor values in a graphs (30)

Hints

Take a help from android official site to understand environmental sensors
https://developer.android.com/guide/topics/sensors/sensors_environment.html

Question No 2 (50 Marks)

Snoring is typically a result of a respiratory blockage and can be related to the serious affliction of sleep apnea. A sizable portion of the human population snores (**44% of men and 28% of women**), and for this group, we can apply our approach to solve using smartphone microphone sensor.

Problem Statement

A. Write an Android code to capture real-time audio at 48KHz and show overall noise in dB in a Textview. Calculate noise level of 1 second audio block at every second. (20)
B. Plot audio level (dB) in a graph. (20)

Hints

You can follow these articles
http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7056317
https://developer.android.com/guide/topics/media/mediarecorder.html

Important Notice:
You need to upload your full project on GitHub public repository. Neither individual java and .xml file nor .zip upload would be evaluated. You need to use proper methods to upload your project on GitHub. You might need to download git and set its proxy before using behind the IIT proxy.
Upload your code here: https://forms.gle/HbQrAZkLN8UvJzEv9