Now monitor noise pollution with smartphone

Indian engineers develop new system

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New Delhi, April 28 (India Science Wire): Due to urbanization, widening network of roads and increasing number of vehicles, the problem of noise pollution on Indian roads is increasing steadily.

Indian researchers have now developed a new way to monitor noise pollution using smartphones. Scientists have named this process as `community sensing' as it involves community of phone users to monitor noise levels.

The noise pollution brain monitoring system is based on an application running on smartphones of participating individuals. It can detect noise levels and transmit the information to a server and share it on a Google map in the form of images. Due to the participation of the public in the process of sensing, mapping of noise can be done on real time basis.

Presently, special sound meters with sensitive microphones are used to monitor noise pollution. These sensors are deployed at selected locations. However, it cannot be used on a wide scale as it would require huge investments and lot of manpower. On the other hand, the new system developed by engineers at Thapar University, Patiala, is low-cost and is also easy to implement at a city-wide level.

A major advantage with smartphones is that they come with a variety of sensors like accelerometer, gyroscope, magnetometer, light, microphone and position sensors (GPS). In addition, they have processing and communication capabilities and storage. All these features make smartphones the best candidates for monitoring environmental noise.

The system has been tested in Khanna-Mandigobindgarh, a rapidly growing semi-urban area in Punjab. Noise levels at different parts of the industrial cluster-- residential, commercial and educational areas including "silence zones" were monitored. The results were very promising.

The team that developed the system consisted of Rajiv Kumar and V.P. Singh of Department of Computer Science at Thapar University of Patiala and Abhijit Mukherjee of the Civil Engineering department of Curtin University of Australia. They have published research findings in scientific journal *Environment Monitoring and Assessment Journal*. **(India Science Wire)**