

Abstract

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Intelligent detection and control for environmental noise pollution

Noise pollution is a common environmental problem that directly indirectly affects people health, productivity, behavior, sometimes leading to death. Harmful noises are extensively found within specific environments such as airports, power stations, railway lines, road works, factories, construction, demolition sites, etc. Countries around the world initiated regulations in terms of monitoring as well as controlling treating such pollution. These regulations raised the issue of finding a suitable, cost-effective, reliable technology to encounter the noise pollution effects. Traditional manual noise detection treatment solutions are not scalable to the high demand in time space. So, Wireless Sensor Networks (WSNs) can provide an effective, inexpensive, flexible real-time acquisition platform to support the detection control process of noise pollution sources. This paper brings the concept of noise pollution to the light. Also, a model is proposed for automatically monitoring, detecting, controlling abnormal sound pressure levels representing noise pollution in the ambient environments. The proposed approach utilizes the integration of wireless sensing Smartphone technologies for dealing with that type of pollution.