

Review of: "IoT Noise And Air Quality Observation System"

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Potential competing interests: No potential competing interests to declare.

The paper presents an idea for an IoT system for monitoring sound levels and gas leakage, which includes various microelectronic components such as sound and gas sensors, microcontrollers, and data transmission devices. The quality of the publication in terms of writing, methodological contribution, presentation clarity, and analysis of results is quite deficient. There are several issues that need to be addressed to enhance the quality of the research:

- 1) The level of English is insufficient, with short expressions that do not provide the necessary depth to the subject. Additionally, there are many typographical errors, such as "Blink" and "Bylnk."
- 2) Throughout the text, there is a mixture of verb tenses (past, present, and future), which makes it difficult to understand what has been accomplished and what is proposed.
- 3) The authors use the first-person singular in several instances. It would be more appropriate to write the entire text in an impersonal and objective manner, as this would not detract from the presentation. If the first person is used, it should be pluralized since there are two authors.
- 4) The keywords are not correctly presented and formatted.
- 5) The initial sections of the article are extremely repetitive.
- 6) The used bibliography is not referenced in the text.
- 7) There is extensive literature available on the topic that is ignored by the authors. They do not reflect on or contextualize where their supposed contributions fit within the state of the art. Thus, it appears that there is no significant contribution, as there are already numerous proposals and implementations of IoT systems for the purposes presented.
- 8) The authors state, regarding air pollution, "there is no solution that can solve this problem." Indeed, the problem is complex and multidimensional, but there are several possibilities to address it, such as energy transition for decarbonization, regulation, monitoring, and control of industrial and vehicular emissions, promotion of sustainable agricultural practices, among others.
- 9) It would be interesting to explore other application areas, as hospitals typically deal with external noises, such as car horns in traffic. Additionally, there are inherent internal noises in hospital activities, such as patients' expressions of pain or alarms from vital parameter monitoring equipment. It is important to distinguish between alarms and noises. Furthermore, it seems contradictory that a device aimed at improving noise conditions in hospitals produces additional

noise as output (buzzer). These practical aspects deserve a more in-depth discussion in the article.

10) The authors mention applications and microdevices without contextualizing the reader about what they are.

11) The text describes the architecture of a potential monitoring solution but does not adequately detail the implemented testing procedure. Nothing is shown or discussed regarding software, for example.

12) Some figures are application logos and do not contribute to the text.

13) The figures depicting the "system diagram," "block diagram," and "system operation" are redundant and should be condensed into a single flowchart.

14) The numerous figures showing the circuit are repetitive and could be condensed into a single figure.

Based on the points raised, **I do not recommend the publication** of this work.