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

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Potential competing interests: No potential competing interests to declare.

Review of "IoT Noise And Air Quality Observation System" by Afiq Daniel Bin Azmi Faried and Samshul Munir:

Strengths:

Relevance and Timeliness: Addressing noise and air pollution in sensitive areas like hospitals is a pressing need, making the project highly relevant.

Innovative Integration of Technologies: The combination of various components such as Arduino UNO R3, NodeMCU, gas and sound sensors, and Blynk application showcases a commendable effort in creating an integrated IoT solution.

Practical Application: The project has a clear practical application, potentially enhancing safety and environmental monitoring in healthcare settings.

Comprehensive Methodology: The paper provides a detailed description of the hardware and software components, system operation, and schematic diagrams, aiding in the understanding of the project.

Weaknesses:

Simulation-Based Evaluation: The reliance on simulation results using Tinkercad limits the validation of the system in real-world scenarios.

Lack of Comparative Analysis: The paper does not compare this system with existing solutions, which would have provided a clearer understanding of its advantages or uniqueness.

Limited Discussion on Data Privacy and Security: With IoT devices collecting sensitive data, a discussion on data privacy and security measures would be beneficial.

Hardware Limitations: The substitution of certain sensors in the simulation could raise questions about the accuracy and reliability of the test results.

Suggestions for Improvement:

Conduct Real-World Testing: Implement the system using actual hardware components to validate its effectiveness in a real-world environment.

Expand on Comparative Analysis: Include a comparison with existing air and noise monitoring systems to highlight the project's unique contributions or improvements.

Address Data Privacy and Security: Discuss the measures taken to secure the data collected by the IoT system, especially since it is intended for use in sensitive environments like hospitals.

Technical Simplification for Broader Audience: While the technical details are comprehensive, a section summarizing the key findings in simpler terms could make the paper more accessible to a non-technical audience.

Future Scope Inclusion: Elaborate on future plans for scalability, integration with existing hospital systems, or enhancements to improve accuracy and reliability.

Overall, the manuscript presents a promising IoT-based solution for monitoring noise and air quality in critical environments like hospitals. Addressing the outlined weaknesses and incorporating the suggested improvements could significantly enhance its contribution to the field of environmental monitoring and IoT applications in healthcare.