

# GPS Enabled Smart Decibel Meter

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**Abstract:** *This research project focuses on the integration of a sound sensor with GPS technology using the ESP8266 microcontroller for real-time noise monitoring and location tracking. Through a combination of hardware and software development, the system aims to detect sound levels in the environment and correlate them with precise geographical coordinates obtained from GPS satellites. Challenges encountered during the project, including component compatibility issues and calibration difficulties, were addressed through proactive problem-solving and collaborative efforts among team members. The completed system demonstrates the feasibility of integrating sound sensing capabilities with GPS technology, offering valuable insights into noise pollution patterns and their spatial distribution. Future enhancements include refining calibration processes, implementing advanced noise pattern recognition algorithms, and enhancing connectivity for real-time data transmission and remote monitoring. Overall, this project contributes to the advancement of IoT-based solutions for noise monitoring and location tracking, with potential applications in urban planning, transportation management, and environmental conservation*

**Keywords:** Sound Sensor, GPS Technology, Real-time monitoring, Location tracking

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