

# **Penerapan *Sensor Fusion* pada Sistem *Monitoring* Pemanfaatan Ruang Publik**

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## **Abstract**

**In this study, researchers designed and built a monitoring system for public space by applying sensor fusion. In urban planning, it is necessary to collect data (surveys) related to the circumstances of each space in it. The results of the data collection (survey) will be used as a reference for future urban planning. But in its implementation, the process of collecting data (surveys) is still done in a conventional manner where officers must visit and observe each and every public space to obtain data. This process is considered less effective and efficient because it requires large resources and a long time to get results. This system will conduct data collection / monitoring of a public space using sensor fusion. The sensor fusion is a combination of sensors that have the same characteristics to get a new value or function. In the system that was built there was a false alarm or an error in the PIR sensor data output due to the high pearson correlation value between the PIR sensor, the temperature sensor and the light sensor. To overcome this, filtering needed using the likelihood function to eliminate false alarms. The filtering process that is applied produces a data accuracy value of 94%. With the existence of this system, the process of collecting data is more effective and efficient without the need for large resources and a long time. The results of this study are monitoring data of a public space in the form of a graph which can then be used as a reference for the developer or government concerned to plan urban spatial planning.**

**Keywords: urban planning, monitoring, sensor fusion, pearson correlation, likelihood function.**

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