

Abstract

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A Security System and Employees Performance Evaluation Using RFID Sensors and Fuzzy Logic

This paper introduces an efficient security system that, not only prevents intruders from being in unauthorized places, but also evaluates the performance of the employees by monitoring their movements in the facility and analyzing their behavior using the fuzzy logic theory. Rules were constructed using Mamdani fuzzy modeling; the design is made using the MATLAB fuzzy logic tool. The security system is extended to include employee performance evaluation. This paper was made for a machining workshop; the approach was setup using the data submitted from that workshop to determine the effective working hours that a worker actually makes. The salary is paid for the time the employee spends in his department working under the supervision of his supervisor. The employee is paid also to work in other departments for some time according to his work credibility; the relation of this department with his original department. The access of the employee to any department is monitored by IR and RFID sensors for security reasons; for the fuzzy evaluation of his performance. The base station is provided by a microcontroller to analyze the data obtained from the related stations. Fuzzy logic is used to determine for each employee the allowed time he can spend outside his original department