Employee Productivity Monitoring system with Attendance and Access control system EPMS with A2MS

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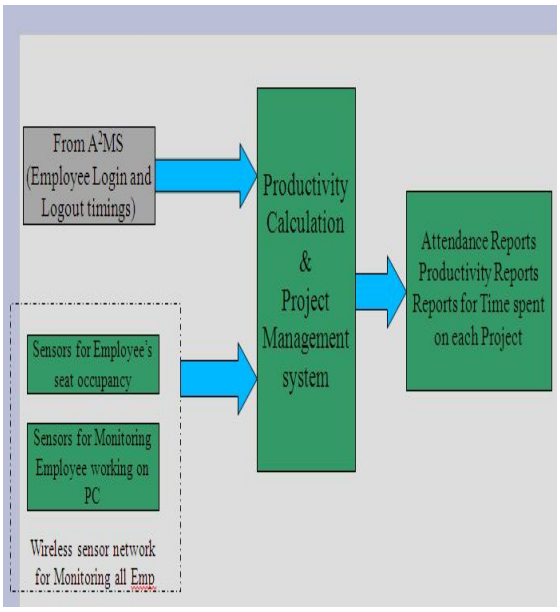
Abstract- *Attendance system is being implemented in almost all offices using various technologies; out all RFID based attendance is most common and widely used. But only attendance is not measure of the employees work, once he entered the office doesn't mean he is going to be always on this desk and working sincerely. Hence we propose an employee monitoring system, which uses various sensors and wireless networking to monitor all the employees and helps in generating performance report weekly or monthly*

I. INTRODUCTION

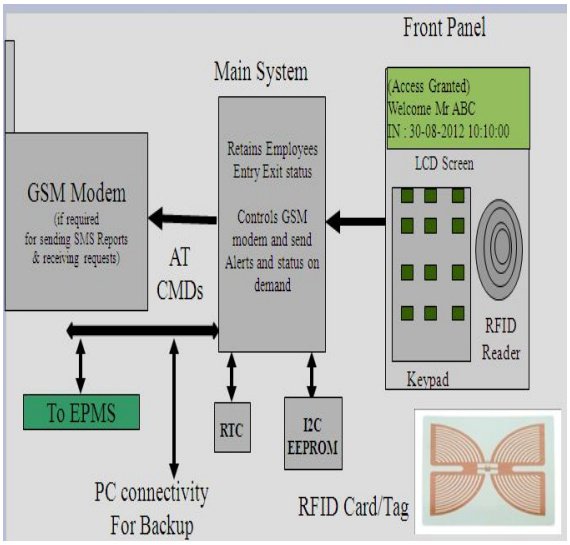
In most of the offices some sort of Access Control or Access Monitoring is present, entry and exit of employees is being monitored using such system. These timings are logged and used latter for salary and other purposes. This is also called Attendance Management System.

But such systems cannot calculate productivity of Employee or how much time is spent by employee on particular project, as it may happen employee after entering to campus need go to his working place instead he goes to canteen or library or chit-chatting here and there. For this we need some sort of employee monitoring system. And even Some times there is a need of reports of entry and exit to be sent manager or boss who is currently not in office or gone out of station. In such cases we can use GSM modem to send alerts and even status of employees on demand, even one can stop or start alerts by sending SMS to system correct security code same can be done using keypad and menu based system which is more widely accepted option.

In this project consist for three sub projects: Employee productivity monitoring system using wireless sensors, an attendance system using RFID, and Access control system. Technologies like RFID, GSM, Wireless sensors are used to achieve the goal and realize the system. All above requirements are fulfilled by our project which is designed considering problems encountered in corporate offices and MNC. Block Diagram:

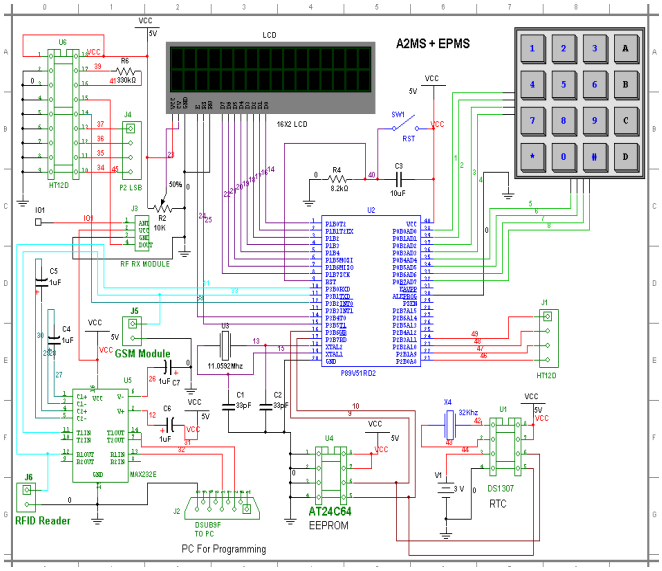


Design of Attendances and Access control System



Circuit diagram

EPMS System Block Diagram



Description:

This project is divided in to three parts:

Employee Productivity monitoring system (EPMS) this uses sensors for seat occupancy and keyboard in use sensor to monitor employee activity. This information is transmitted wirelessly to central monitoring system. For seat occupancy one can use pressure/force sensor (micro switches will work), proximity sensor or passive infrared sensor. And for detecting keyboard in use we can deploy microphones, piezoelectric sensor or Hall Effect sensor. We test one by one all sensor till we get satisfactory and that will be deployed. This information will be transmitted with ISM band transmitter at regular interval to central monitoring system.

Second and third part of the project consists of RFID and access control and attendance system (A2MS) are built which will have alert mechanism for indiscipline employees. This can be merged with central monitoring system (CMS). Real time clock is used to keep track of time and date. EEPROM is also used in the system to store all the attendance details of the employees along with productivity details. Both chips use I2C protocol whose drivers will be installed in CMS. PC connectivity is provided to download the weekly report to PC for report generation and back purpose.

Advantages

- Our system does not invade any ones privacy or enters into personal space of employees as it does not employs camera or vision system.
- Along with seat occupancy we are monitoring keyboard activity which ensures better monitoring of the employee work ethics.
- Wireless networking is done between the employees and central monitoring system so system is simple to install and use.
- Our system not only does employee monitoring but it has inbuilt attendance and access control system. So user doesn't have to buy separate attendance or access control system.
- System can work without pc hence it takes low power, less space and low cost.

Disadvantages

- System cannot tell what user is doing, if he typing personal stuff or chatting on Facebook system will think employee is productive.
- Sensitivity of keyboard in use sensor may not be able to sense key strokes at some occasions.
- System uses RFID for access and attendance which is not as secure as biometric system.
- Low cost wireless interface is used which is having low range of 30 to 40mtrs

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