DESIGN AND IMPLEMENTATION OF SECURITY SYSTEMS FOR SMART HOME BASED ON GSM TECHNOLOGY

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Abstract

A smart home or building is a home or building, generally a fresh one fitted with unique structured wiring to allow occupants to control or program a range of automated home electronic appliances remotely by entering a single command. A traditional home safety system provides alarm signals. However, safety schemes based on the GSM (Global System for Mobile Communications) provide improved safety as a text message is sent to a required amount to take the required activities whenever a signal from the sensor happens.

Key words: electronic appliances, GSM, alarm.

Introduction

From the last decade, home security[1] has altered a lot and will change in the coming years. In intelligent home apps, security is a significant element or feature. The new and emerging smart home concept provides occupants with a comfortable, convenient and safe environment. By providing the indication, conventional safety systems keep homeowners and their property secure from intruders. This paper focuses primarily on a home's safety when the user is away from the location. Two schemes are being suggested, one based on GSM[2] technology and another using web camera to detect the intruder. The first security system uses a house-installed web camera that is operated by PC-installed software and uses the Internet to communicate.

The camera detects motion[3]–[5] in front of the camera size or camera range of any intruder. The software communicates via the Internet network to the expected customer and provides noise warning at the same moment. The second security system is based on SMS and sends the SMS to the proprietor using GSM technology. The system proposed is intended to protect home from intruders and fire. In any of the above cases, while the owners are away from home, the device sends SMS to the system's emergency number.

Methodology

The system is equipped with sensors, Atmega644p microcontroller, sim548c (GSM module), Buzzer, system programmer and device control relays.

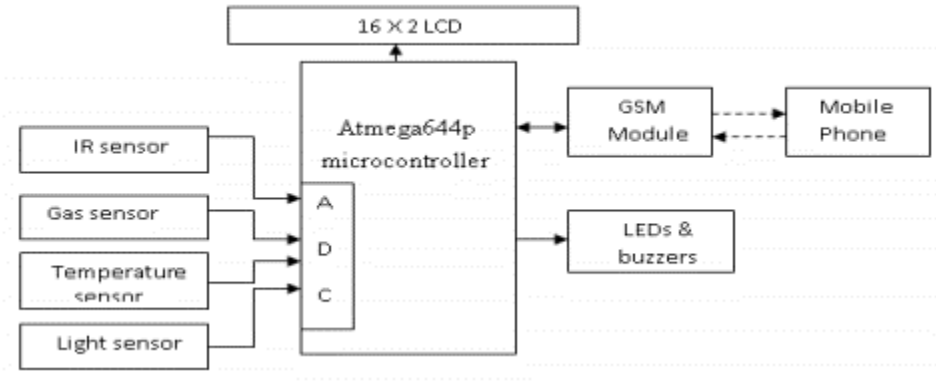

Figure 1

Referring to figure 1, which illustrates a block diagram for the proposed system, all sensor inputs are linked to ADC. At the window, one IR is connected and one at the door. Window entry will be regarded as unauthorized entry and gate entry will be handled as unpermitted entry. Temperature is controlled continually if it is high (higher than 45 degrees) in case of fire, an SMS ("Fire at home") is sent to the proprietor of the house. If the gas sensor[6], [7] is ON indicating the gas leakage, the proprietor (' Gas Leakage ') will receive SMS.

Conclusion

The paper provided an embedded linear PM synchronous machine with a linear magnetic equipment for generating direct drive wave power. By carefully combining the linear magnetic equipment and the linear PM generator, the device can capture the slow reciprocating wave movement straight and take the high-speed generator design.

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