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Anti-Theft Security System With Reporting and Safety Using Android Application

Smart Industrial System using Android ADK

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Abstract - *Today we are living in 21st century where security is playing important role in human life. This paper put forward design of flexible standalone, low cost smart industrial system, which is based on the Android ADK communicating with the Arduino Platform providing industrial security and emergency system to be activated. Devices such as light switches, power plugs, Temperature sensors, Touch sensor, Sound sensor, intrusion detection sensors, smoke/gas sensors, IR sensor and sirens with bilking LED have been integrated in the system to demonstrate the feasibility and effectiveness of the proposed smart industrial system. The smart application is tested and it is able to successfully perform the smart operations such as switching functionalities, automatic environmental control and intrusion detection, in the latter case where message will be come to your smart phone and the siren goes on. As well as we can control functionalities by android application. The main objective of industrial security and reporting is to help handicapped and old aged people who will enable them to control home appliance and alert them in critical situations.*

Key Words: ***Anti-theft security; Arduino; Embedded System; Android ADK; Android phone***

1. INTRODUCTION

Today we are living in 21st century where security is playing important role in human life. Automation allows us to control household appliances like light, door, fan, AC etc. It also provides industry security and emergency system to be activated. It not only refers to reduce human efforts but also energy efficiency and time saving. The main objective of this system is to help handicapped and old aged people which will enable them to control industrial appliances and alert them in critical situations. The device with low cost and scalable to less modification to the core is much important. It presents the design and implementation of automation system that can monitor and control industrial appliances via android phone or tablet. Smart industry is an industrial equipped with special facilities to enable occupants to control program an array of automated industry electronic devices. For example, an industrial on vacation can arm an industry security system, control temperature gauges, switch appliances on or off, control lighting, program a home theater or entertainment system, and perform many other tasks.

If a simple mobile phone takes the added responsibility to control the smart home then the control is reachable from almost everywhere people travels and lives on earth. Mobile telephony offers a wide range of communication services like voice and data transfer through SMS and other enhanced data transfer protocols like GPRS, EDGE at a relatively low price and at a wide variety of places on the earth. On the other hand, the security is better achieved by the use of strict traffic control. We adhered to this method of remote controlling of home appliances because of its unparalleled availability and modest security at the affordable price. Home automation is automation of

the industry, housework or household activity. Automation may include centralized control of lighting, HVAC (heating, ventilation and air conditioning), appliances, and other systems, to provide improved convenience, comfort, energy efficiency and security.

The concept of automation has been around for a long time and products have been on the market for decades, though no one solution has broken through to the mainstream yet. It can also provide a remote interface to home appliances or the automation system itself, via telephone line, wireless transmission or the internet, to provide control and monitoring via a smart phone or web browser.

2. IMPLEMENTATION

2.1 BLOCK DIAGRAM

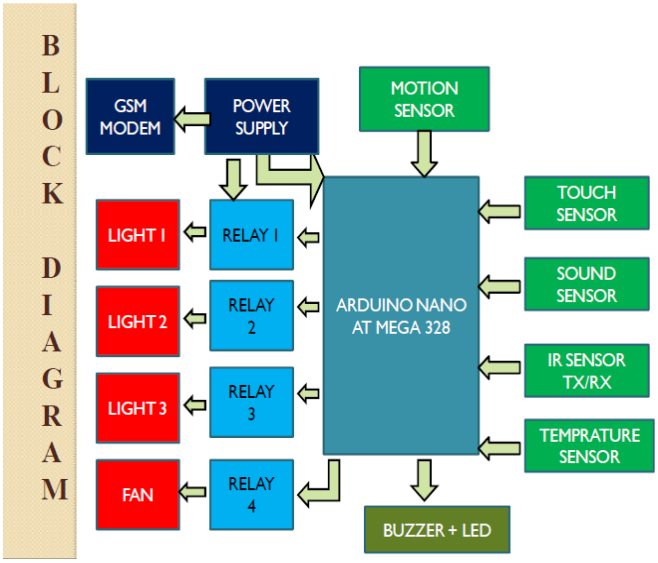

Fig-1:Block diagram

2.2 COMONENTS USED

- Arduino nano controller atmega328
- Temperature sensor [lm 35]
- Infrared sensor
- Motion / PIR sensor
- Touch sensor

2.3. CIRCUIT DIAGRAM

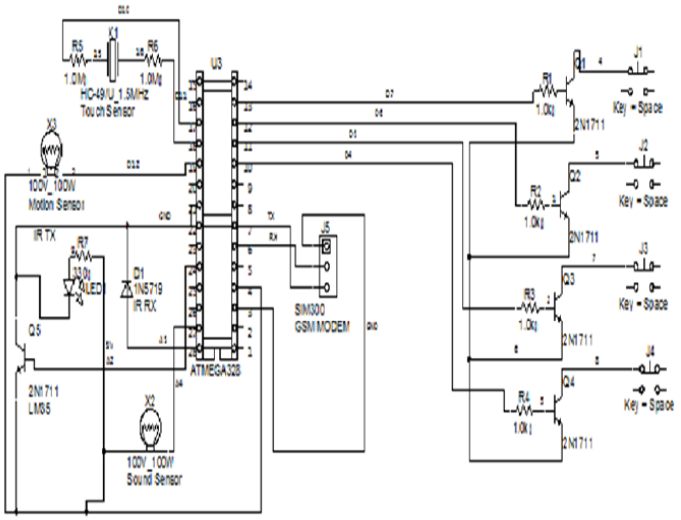

Fig-2: Circuit diagram

2.4. WORKING MODEL

Fig-3: Working model

2.5. ANDROID APPLICATION

We develop this application by using Android development studio software. Here developing tools are provided by this software and generate APK file for the android application.

There are total 16 possibilities for the controlling of our home appliance ex. #a1b1c1d1 is used for to ON all the lights &fan. and # a1b0c1d0 is use for to turn ON the light 1 & light 3.This type of total 16 possibilities are use for the controlling of our home appliances.

2.6. CONTROLLING OF INDUSTRIAL APPLIANCES BY USING ANDROID APPS

Fig-4: Controlling of appliances

2.7. ADVANTAGES

- The main advantage of our project is to reduce a wastage of electricity.
- The system security is high.
- Adds safely through appliances and light control.
- Save Time and money.
- Increase the peace of mind
- Allows you control when out of town.
- Smart industry technology promises tremendous benefits for an elderly person living.

2.8. APPLICATION

- Automatic vehicle parking system
- Precise and safe blind control.
- In terms of lighting control, it is possible to save energy when hours of wasted energy in both residential and commercial applications by auto on/off light at night time in all major city office buildings, say after 10pm.
- Control and integration of security systems
- Security systems can include Infrared sensors that will detect any kind of unauthorized movement and notify the user through the security system or via cell phone.

CONCLUSION

The goal of the project is to implement a smart industry system by controlling the electronic devices at company remotely with an android apps of smart phone and to receive alerts message on phone whenever any sensor is active. The goal is achieve successfully. We became familiar with software analysis, designing, implementation, testing and maintenance concerned with our project.

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