

Building Strain Parameter Using IOT

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Abstract - Building intelligence starts with monitoring and controlling information services known as Smart Building IOT System for smart city development. building strain parameter in automation project is an integrated building solution system that facilitates firing system, lighting control, earthquake warning system and access control to share information. The strategies with an eye to improve energy efficiency management, reduce energy consumption, provide value-added functionality and make the building easy to operate. An integrated system cannot solely increase energy and operational potency, however it may also offer a level of inhabitant management unmatched by single-purpose, non-integrated systems.

Keywords - Building strain parameter Using IOT, Sensor, Arduino, Internet Of Things.

INTRODUCTION

1.1 Aim of Project

The main aim of project is to develop a system that will provide remotely, safely and security to the building.

1.2 Introduction Building strain parameter using IOT

A android based application which helps end user send notification about building condition. If something goes wrong in the building, using the various sensor and send the notification to the municipal corporation. Home of the 21st century will become more and more self-controlled and automated due to the comfort it provides, especially when employed in a private home. A Building automation system is a means that allow users to control electric appliances of varying kind. Many existing, well-established Building automation systems are based on wired communication. This doesn't create a haul till the system is planned well before and put in throughput physical construction of the building. But for already existing buildings the implementation price goes terribly high. In distinction, Wireless systems can be of great help for automation systems. With the advancement of wireless technologies like Wi-Fi, cloud networks within the recent past, wireless systems square measure used daily basis and everywhere.

1.3 Need of the System and Problem Definition

Currently there is an existing building strain monitoring of the system. The drawback of the current system is that it provides less security and safety. Problems: Due to building collapsed 4 children died in New Delhi. Building collapsed on Wednesday morning resulting in the death of one woman and four children and left at least seven others injured. On July 17, twin building collapsed in shahberi village in greater Noida, killing nine person and injuring several others. Building collapsed in thane city during early hours on Saturday and died 19 persons. It was an old ground plus three structures. A huge part of a slab collapsed around 12.40am on Saturday.



2. LITERATURE REVIEW

2.1 Deepali Javale, Mohd. Mohsin, Shreerang Nandanwar. The prime objective of this paper to help handicapped/old aged folks. It offers basic plan a way to management varied home appliances and supply a security victimization automaton phone/tab. The design consists of Android phone with Bulding automation application, Arduino Mega ADK. User will act with the android phone and send managment signal to the Arduino ADK that successively canmanagement alternative embedded devices/sensors.

2.2 Basma M. Mohammad El-Basioni, Sherine M. Abd Elkader and Mahmoud Abdelmonim Fakhreldin. This paper proposes a brand new style for the good home victimization the wireless device network and also the biometric technologies. The projected system employs the biometric within the authentication for home entrance which boosts home security in addition as easiness of home enter method. The paper ends with AN imagination for the longer term of the smart home once employs the biometric technology in a very larger and I lot of comprehensive type. The paper ends withan imagination for the longer term of the smart homes once employs the biometric technology in a very larger and a lot of comprehensive type.

2.3 Basil Hamed The main objective of this Paper is to design and implement a control and monitor system for smart house. Smart house system consists of the many systems that controlled by LabVIEW package because the main dominant system during this paper. Also the smart house system was supported by device control system as a sub dominant system. The system is also connected to the web to observe and managment the house equipment's from anyplace within the world victimization LabVIEW

2.4 Based on the idea of "A Survey on Internet of Things Based Home Automation System". A Remote parole Operated Home Appliances Management Project rules Algorithm was designed to browse the info from Bluetooth module Initialize the LCD digital and UART protocol and display the status standing of the electrical loads on LCD. The status of the appliances i.e. weather it is on/off can be known by using this GUI. Any changes within the standing of the appliances, immediate intimation is shown on the GUI. In case, the Bluetooth associatin between the laptop or portable computer and also the instrument panel fails, then connection can be re-established by using USB cable

2.5 The model consists of different sensors like temperature, gas, motion and LDR. Initially the Intel stargazer connects to the web through WiFi. When the association is established it'll begin reading the parameters of sensors like p1, p2, p3 etc. In the planned model the temperature, gas leakage, motion in the house is monitored. The temperature and also the motion detection hpld on in cloud for analysis

3. SYSTEM DESIGN AND IMPLEMENTATION

3.1 Software Requirement ARDUINO 1.8.3

The ASCII text file Arduino code (IDE) makes it straightforward to write down code and transfer it to the board. It runs on Windows, Mac OS X, and Linux. The setting is written in Java and supported process and different ASCII text file code.

Intro to The Arduino

Arduino is an ASCII text file natural philosophy prototyping platform supported versatile, easy-to use hardware and software code. It's supposed for artists, designers, hobbyists, and anyone inquisitive about making interactive objects or environments. Arduino will sense the atmosphere by receiving input from a range of sensors and might have an effect on its surroundings by dominant lights, motors, and different actuators. The microcontroller on the board is programmed exploitation the Arduino artificial language and therefore theArduino Development atmosphere. Arduino projects comes are often complete, or they will communicate with computer code running on a laptop. There are plenty of other microcontrollers available. So you will be ask, why opt for the Arduino? Arduino extremely simplifies the method of building comes on a microcontroller creating it an excellent platform for amateurs. You can simply begin acting on one with no previous natural philosophy expertise. That is what this Arduino guide is about. In addition to Arduino's simplicity, it is also inexpensive, cross platform and open source. The Arduino is predicted on Atmel's ATMEGA8 and ATMEGA168 microcontrollers. The plans for the modules are published under a Creative Commons license, so experienced hobbyists and professionals can make their own version of the Arduino, extending it and improving it.

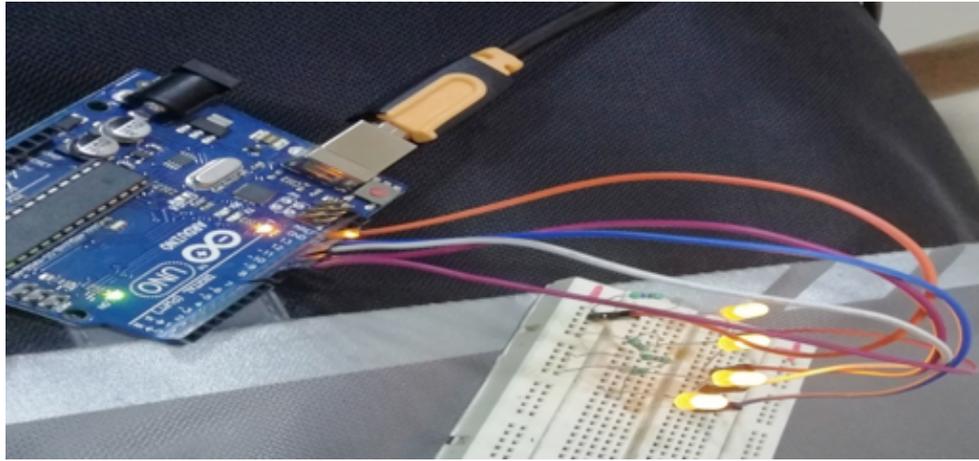
What Is Inside an Arduino?

Although there are many alternative varieties of Arduino boards accessible, this manual focuses on the Arduino Uno. This is the most popular Arduino board around. So what makes this thing tick? Here are the specifications

- Processor: 16 MHz ATmega328
- Operating Voltage: 5V
- Ram: 2kb
- Input Voltage: 7-12 V
- Flash memory: 32 KB
- Number of analog inputs: 6
- Number of digital I/O: 14 (6 of them pwm)

The could seem meager compared to your microcomputer, but remember that the Arduino is an embedded device. We have plenty less to method than your desktop.

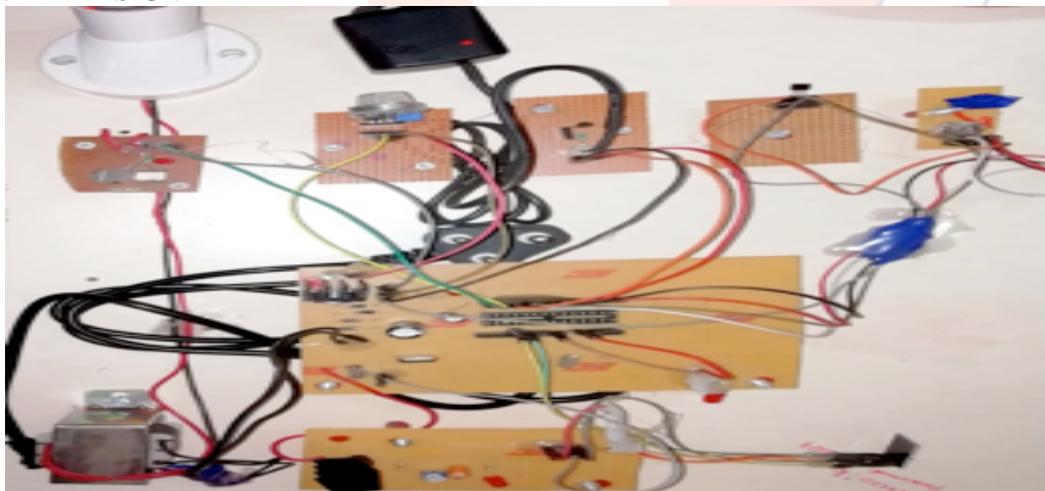
IMPLEMENTATION OF ARDUINO



3.2 Hardware Specifications and Hardware Requirement

- Atmega328
- Wi-Fi Modem
- Diodes
- Transformer
- Relays
- Voltage Regulator
- Crystal
- Vibration sensor
- Fire sensor
- LDR sensor
- Relay Driver IC

HARDWARE DESIGN



APPLICATION

- (a) Lighting Control: Leaving the Dark Ages and Stepping Into the Light
- (b) HVAC Regulation: No Longer Burned by Your Heating Bill
- (c) To help Handicapped people
- (d) Where less energy consumption is major factor

ADVANTAGES

- (a) Adds Safety Through Appliance and Lighting Control
- (b) Secures Home Through Net Management will Increases Convenience through Temperature Adjustment
- (c) Save time.

CONCLUSIONS

The building automation exploitation net of Things has been through an experiment established to figure satisfactorily by connecting straightforward appliances to that and the also the appliances were with success controlled remotely through net. The designed system not solely monitors the device knowledge, like temperature, gas, light, motion sensors, but also actuates a process according to the requirement, for example switching on the light when it gets dark. It additionally stores the device

parameters within the cloud (Gmail) during a timely manner. This will facilitate the user to analyse the condition of various parameters within the home anytime anyplace.

FUTURE WORK

Using this technique as framework, the system may be dilated embrace varied different choice that may include home security feature like capturing the photos of an individual on the road the house and storing it onto the cloud. This will scale back the info storage than mistreatment the CCTV camera which is able to record all the time and stores it. The system is expanded for energy observation, or weather stations. This kind of a system with various changes is enforced within the hospitals for disable folks or in industries wherever human invasion is not possible or dangerous, and it can also be implemented for environmental monitoring.

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REFERENCES

- [1] Sirsath N. S, Dhole P. S, Mohire N. P, Naik S. C & Ratnaparkhi N.S Department of Computer Engineering, 44, Vidyanagari, Parvati, Pune-411009, India University of Pune, "Home Automation using Cloud Network and Mobile Devices"
- [2] Twinkle Gondaliya ,"A Survey on an Efficient IOT Based Smart Home", International Journal of Review in Electronics and Communication Engineering Volume 4, No 1 February 2016.
- [3] Deepali Javale, Mohd. Mohsin, Shreerang Nandanwar "Home Automation and Security System Using Android ADK" in International Journal of Electronics Communication and Computer Technology (IJECCCT) Volume 3 Issue 2 (March 2013)
- [4] Basma M. Mohammad El-Basioni¹, Sherine M. Abd El-kader² and Mahmoud Abdelmonim Fakhreldin³, "Smart Home Design using Wireless Sensor Network and Biometric Technologies" at Volume 2, Issue 3, March 2013.
- [5] S.D.T. Kelly, N.K. Suryadevara, S.C. Mukhopadhyay, "Towards the Implementation of IoT for Environmental Condition Monitoring in Homes", IEEE, Vol. 13, pp. 38463853, 2013.
- [6] Sirsath N. S, Dhole P. S, Mohire N. P, Naik S. C & Ratnaparkhi N.S Department of Computer Engineering, 44, Vidyanagari, Parvati, Pune-411009, India University of Pune, "Home Automation using Cloud Network and Mobile Devices.
- [7] Basil Hamed, "Design & Implementation of Smart House Control Using LabVIEW" at International Journal of Soft Computing and Engineering (IJSCE) ISSN: 2231-2307, Volume-1, Issue-6, January 2012.