

SMART HOME MOBILE APPLICATION

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Abstract:

The growing use of internet and communication technologies has made a variety of smart gadgets approachable and controllable from anywhere in the world. Using the Internet of Things (IoT) technology, smart gadgets from smart homes and smart cities, can communicate with one another. Various applications of IoT have been implemented in business, healthcare, agriculture, government and education. The purpose of this study is to develop an IoT-based mobile smart home surveillance application that can be used to control smart homes with the objective of reducing human intervention, increasing security, privacy, and energy efficiency. A mobile application that utilizes technology is used to control smart sensors in this application. Data from the sensors in our smart home prototype can be stored in the database periodically, then interpreted by the mobile application and made available to users. The application is an example of monitoring smart homes to provide solutions to problems that arise with IoT applications and to provide insight into how smart homes will be used in the future.

1 Introduction

Throughout history, human development efforts have reflected the demands of the times in which we live. As a result of the invention of the steam engine, which could use coal for power, the industrial revolution continued by utilizing electric power to produce large quantities, and as a result of the introduction of cyber-physical systems and the Internet of things (IoT), the fourth industrial revolution was achieved [1]. We live in a world where the IoT technology is rapidly changing our life standards as a result of the digital world's innovations. Smart devices that are equipped with identity, networking, and processing capabilities can use IoT, networking, and communication technology to communicate with each other and accomplish different tasks regardless of their geographic location. These days, the Internet of Things (IoT) is highly popular since it makes it possible to access, manage, and control IoT things remotely for societal benefits. As a result, IoT technology offers developers the opportunity to develop profitable applications for a wide range of industries, including business, education, agriculture, manufacturing, healthcare, emergency services, first aid, government, transportation, smart home, smart factory, smart city, energy, tourism, and many others [4]. Additionally, IoT technology is particularly crucial for assuring data transmission between devices[5]. It is especially crucial in this data era to access, collect, harness, and analyze data collected from various IoT objects in order to take the right actions in the right time frame [6].

Additionally, people who live in smart homes benefit from convenience, comfort, security, and energy efficiency. Smart home systems can be controlled by residents remotely using a mobile application, for example, can be controlled by temperature sensors to activate/deactivate the heating system, motion sensors to turn on and off the lights when motion is detected, or even by turning on the lights when you get home from a busy day.

The objective of this study is to develop a mobile application that can control lighting, heating, humidity, and gas units of our smart home system from a mobile phone. In our

mobile application, we control the light to turn on and off manually, also, when motion is detected in a room for security purposes the lights turn on. using the smart home system. Data on gases, temperatures, and humidity can also be collected and stored periodically by the mobile app in order to gain insight and knowledge. When an abnormal or emergency situation occurs in the smart home system, our mobile application can notify users where ever they are by sending a push notification or via email.

2 Systems Modelling

2.1 UML / Requirement diagrams

3 System Analysis

4 Conclusion

5 Declaration of Originality

We, Izuchukwu George Enekwa and Mmesomachukwu Chukwunyere Azogu, herewith declare that we have composed the present paper and work by ourselves and without the use of any other than the cited sources and aids. Sentences or parts of sentences quoted literally are marked as such; other references with regard to the statement and scope are indicated by full details of the publications concerned. The paper and work in the same or similar form have not been submitted to any examination body and have not been published. This paper was not yet, even in part, used in another examination or as a course performance. I agree that my work may be checked by a plagiarism checker.

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