Foreword and Editorial

International Journal of Smart Home

We are very happy to publish this issue of an International Journal of Smart Home by Science & Engineering Research Support soCiety.

This issue contains 11 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

In the paper "Hotel Customized Product Design and Implementation Based on Intelligent Hardware Devices", the vigorous development of intelligent hardware technology and the increase of customer's personalized demand will cause that hotel not only meets basic demand of customer's accommodation and food, but also provides customer with healthy, cheerful and novel hotel experience. The hotel customized product based on intelligent hardware technology which can provide customers with comprehensive experience of health and recreation turns to be the most importance choice for hotel. The purpose of this study is to design the four types customized products, including dotted, chain, modular and full customized products in the services of housekeeping, food and beverage and recreation according to customer demands, and then the implementation tactics from the point of technology and management are brought forward.

The study "A Comprehensive Study on Ant Colony Optimization Technique with Special Reference to Wireless Sensor Network for Smart Home" states that Wireless Sensor Networks consists of smaller nodes. These have limited power and when deployed gathers useful information. In WSNs, it is critical to collect the information in an efficient manner. Routing in Wireless Sensor Network is also a tough job. In order to avoid the problem Bio-Inspired mechanism for routing, Ant Colony Optimization (ACO) can be utilized. ACO is a dynamic and reliable protocol. It provides energy-aware, data gathering routing structure in wireless sensor network. It can avoid network congestion and fast consumption of energy of individual node. Then it can prolong the life cycle of the whole network. ACO algorithm reduces the energy consumption. It optimizes the routing paths, providing an effective multi-path data transmission to obtain reliable communications in the case of node faults. The main goal of this comprehensive study is to provide newer researchers with utmost information and to let them know how to maintain the maximum lifetime of network, during data transmission in a efficient manner.

In the study "Series Hybrid Active Power Filter For Power Quality Improvement in Distribution System", the term power quality usually refers to voltage quality rather current quality. Maintaining voltage quality is the responsibility of utilities and maintaining current quality is the responsibility of the consumers connected to different loads. The harmonic current due to the nonlinear loads flows through the system impedance that causes disturbance to the voltage waveform. In this proposed research, a series hybrid active power filter was designed to eliminate both current and voltage harmonics. To eliminate current harmonics a double tuned filter was designed and for elimination of voltage harmonics series active filter was designed.

In the article "Injection Parameter Optimization of Water Wells in Low Permeability Reservoirs" low permeability reservoirs are characterized by poor porosity, low

permeability, complicated pore structure and productions, high exploitation difficulty, high costs and insufficient natural energy. Water injection as a means of enhancing recovery has been practiced worldwide for many years in the oil industry. In order to enhance the recovery of those low porosity and ultra-low permeability reservoir, advanced water injection and synchronous water injection, and other water injection methods were applied to replenish reservoir energy. In this paper, a five spot well pattern was built to optimize the appropriate injection parameters for Z23 low permeability reservoir in Shengli Oilfield. The range of injection time and injection rate were pre-established, and then the influence of injection parameter on block oil saturation, block oil recovery, total oil production, water cut and block water breakthrough time were analysed.

The paper "Design and Implementation of a Reliable and Environmental Friendly Smart House System" states that with the advance of technologies, design and development of smart houses is becoming a very important area of research applications. The expectations of smart house users are a more rational use of resources, greater security and safety, and increased comfort. In this paper the design and implementation of a reliable and environmental-friendly smart home system is presented. The research project focuses on energy savings, security, safety and increased comfort for the users. The human interaction with the system is achieved through intelligent and user's friendly interfaces, allowing both local and remote control of the house. The entire system is built around an inexpensive microcontroller platform, the Arduino platform, using real sensors and actuators.

Authors of the paper "Design of Intelligent Water Heater Remote Monitoring and Control System Based on IoT Platform" states that the Internet of Things technology has been developing rapidly in recent years, bringing great convenience to daily life. This article elaborates a solution of the remote monitoring system for intelligent water heater based on Ayla IoT platform. An Ayla module is adopted to connect Ayla cloud services with microcontroller of intelligent water heater. An iOS APP is designed by using Model-View-Controller framework and asynchronous socket technology and provides users an effective way to operate and monitor the intelligent water heater.

In the study "Research and Realization of Security Software for Smart Phone Based on Android Platform", in order to reduce the security threat caused by the leakage of personal private information due to the stolen or lost smart phone, design scheme of security software for smart phone based on Android platform is proposed in this paper. In addition, realizing method and corresponding key codes of each module are also presented in detail. Technologies of background monitoring and secure phone number binding are used to realize remote control over the stolen smart phone by sending short controlling message from the phone bound with security number to the stolen smart phone. The security of the stolen or lost smart phone can be protected by performing remote control functions such as anti-theft tracking, voice warning, screen locking and private information wiping.

In the article "Design Nonlinear Model-free Neuro-fuzzy ARX Algorithm to Control of System's Temperature", control of system's temperature is one of the active research areas in field of energy consumption. In this research they have following objectives: temperature data collection from system, intelligent system identification based on neuro-fuzzy Auto Regressive eXternal model input (ARX) methodology and design a nonlinear controller to fixed a temperature and improve the energy efficiency. To control the system's temperature, data collection and data analysis are two most important factors.

In the paper "IOT Application of a Remote Weather Monitoring & Surveillance Station", numerous critical weather occasions have influenced humanity throughout the years. For quite a while climate checking was to a great extent a leisure activity of eager beginners. Yet in the course of the most recent century, it has advanced into an efficient and expert worldwide action that mirrors its vital significance for an extensive variety of economic, natural, civil assurance and farming exercises. Present day climate observing frameworks and systems are intended to be developed in a financially savvy way. This requires the aggregate life-cycle cost of an observing framework is minimized, and one approach to do this is to minimize the maintenance of the weather monitoring framework. Utilizing a solid-state system to quantify the weather, including the wind speed and bearing, is principal to minimize hardware adjusting and costs. The conventional weather monitoring framework comprised of individual sensors to quantify one meteorological variable, each associated with an data collection gadget or recorder. Modern day innovation has permitted the combination of a few sensors into one coordinated weather station that can be for all time situated at one site, or transported to a site where localized climate is required. The fundamental aim of this paper is to design a remote weather monitoring system which allows the monitoring of weather parameters and provides continuous surveillance at the same time.

Paper "Design and Implementation of Indoor Environment Parameter Monitoring System for Smart Home" states that according to the reports shown by World Health Organization, the four factors that affect comfort of human living are environment temperature, humidity, light intensity and CO_2 concentration in the air. Therefore, in order to intelligently control and improve living environment in a real-time acquisition method, a kind of indoor environment parameter monitoring system for smart home is designed in this paper, which based on the Zigbee chip CC2530F256 microprocessor.

The research entitled "A Study on the Effects of Switch Intention on Customer Attribution: the Case of the Galaxy, Xiaomi and Brand Type" includes a survey conducted by an entrusted internet research agency among smart-phone users of Samsung Galaxy which aims to secure its market share in the Chinese smart-phone market as well as the global market and Xiaomi that is taking the lead of the Chinese smart-phone market in order to examine the effect of monetary value, non-monetary value, user satisfaction, product trust, information reliability, attachment, commitment, and brand types on switch intention.

January 2017

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Editor of the January Issue on
International Journal of Smart Home

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