Smart Water Geyser System

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***Abstract*- We know the wide applications of internet of things. In this work we will present a model of IOT based Water Geyser System.This proposes model will replace the normal water geyser system into the Smart Water Geyser System. Some times we forget tostart Geyser. This Smart Water Geyser System contains the mobile application which directly ON/OFF the Geyser and also itprovides the facility if the user want to start the Geyser after half an hour of morning wake-up. This System automatically ON theWater Geyser after half an hour of morning wake-up. This system takes the morning wake-up timing from the alarm system of theuser's mobile.**

***Keywords*-Water Geyser System, Cloud Computing, Internet of Things.**

I. INTRODUCTION

Internet of Things (IoT) has the ability of network devices to sense and collect data from world, and that data is share through the internet where it can transfer to various devices across the world. The Internet has changed radically the way we live, moving communications between people at a virtual level in several ways from the professional life to social relationships. The IoT is embed the technology with smart machines/object which interacting and communicating with each other. In Today's era each and every persons are connected with each other using lots of communicating devices. One of the most well-liked communicating technologies is internet which bond peoples. The Internet of Things (IoT) is the network of physical objects or "things" embedded with electronics, software, sensors and connectivity to enable it to achieve greater value and service by exchanging data with the manufacturer, operator or other connected devices. In existing Internet infrastructure, through embedded computing system each and every thing is uniquely identifiable but is able to interoperate [7].

This paper organized as follows: section II contains literature review that gives information about the various recent IoT based applications/IoT technologies have been used in societies. Section III explains the working of Water Geyser System. Finally, we conclude the paper with use of IoT in today's era.

II. RELATED WORK

Different researchers are provides different types of IoTapplication/technology. Applications of IoT which is currentlyused in various areas like home, retail, cities, medical,agriculture, automotive/transportation, industrial and energy.E. Padma and Prof. Dr. S. Rajlakshmi [1] have proposedmethodology of Trusted Platform Module (TPM) to assist thesecure mechanism. They have built cloud-based architectureand have merged the TPM on IOT to handle the IOT and tovalidate the users. Using this methodology, the users getbenefits in performance, security feature and deploymentthrough three-step authentication process. The authorsclaimed that the result shows the better performance which hasbeen verified experimentally.

Nikesh Gondchawar and Prof. Dr. R. S. Kawitkar [2] haveintroduced concept of smart agriculture through automationand IOT technologies. They have made smart GPS basedremote controlled robot who perform various tasks likespraying, moisture sensing, weeding etc. They have also madesmart irrigation and smart warehouse management whichincludes humidity maintenance, temperature maintenance etc.All of these operations have been controlled by any remotesmart device and performed by Wi-Fi, camera, actuators etc.with micro-controller and raspberry pi. The authors haveclaimed that the implementation o f such system is an entiresolution to develop the yield of the crops and overallproduction.

Aarti Kurde and Prof V. S. Kulkarni [3] have introducedsmart power metering based on IOT which helps to increaseattention of energy consumption. The authors have designedthe device which has included capability to determine andreport the energy use over the network. They claimed that in the coming future, each individual device can share their ownidentity and communicate the information over the IP network.

Jayavardhana Gubbi et. al. [4] have implemented usercentriccloud based model using Aneka through the interactionof private and public clouds. The authors have proposed aframework enabled by a scalable cloud which allowsnetworking, storage etc. to provide the capability of utilizingthe IoT. They claimed that the IOT vision can be expanded onthe need for convergence of WSN, the Internet

and distributedcomputing directed at technological research community.

Ms.Pradnya.A. Hukeri and Mr.P.B.Ghewari [5] haveintroduced a system which enables monitoring and controlling
of machines from remote places and also gives informationabout the maintenance. They have developed technologywhich includes feature of remote access through high speedinternet and also have developed a system for controllingdevices which are far away from industry having low cost.

Tom´as Robles et. al. [6] have proposed a model whichcollaborates with decision support systems and businessprocesses coordination for water management. The authorshave developed an architecture based on integrating IoTcapabilities for water management process to achieve ascalable and feasible industrial system. Processes are relatedwith automation principles and using the widely used standardOPC UA (Object Linking and Embedding for Process ControlUnified Architecture) platform for the control of processes inthe logistic and manufacturing sectors. They claimed that theintegration of OPC UA and IOT facilitate water managementcompanies the access to global market and gives new benefitsto decisions support systems, water governance, monitoringand also water-energy nexus.

Antonio J. Jara, Latif Ladid, and Antonio Skarmeta [7] haveintroduced about the addressing the challenges in order toreach the Internet of Everything in terms of connectivity,reliability, mobility and security of the Internet of Thingsthrough IPv6. They discussed the key challenges, how theyhave been solved with IPv6 and the roadmap of the Internet ofEverything to reach an interoperable, mobile, trustable,distributed, powerful and valuable enabler for emergingapplications such as Smarter Cities, Cyber-Physical Systems,Human Dynamics, Smart Grid, Intelligent Transport Systems,Green Networks and ubiquitous healthcare.

Qi Jing , et. al. [8] found two issues the cross-layerheterogeneous integration and security. They have focused onthe security architecture and security issues of IoT, and havedivided IoT into three layers: perception layer, transportationlayer and application layer. The features and security issues ofeach layer has been analyzed, and later on introduced thetypical solutions for these issues. After analysis of RFID andWSNs, they analyzed the new challenges for the RSN, whichis the combination of RFID and WSNs. At the end, authors in[5] compared security issues between traditional network andIOT, and claimed that IoT system lives in a more dangerousenvironment and less network guards with limited resources,thus lightweight solutions would always be the first choice forIoT security.

Dieter Uckelmann, Mark Harrison, Florian Michahelles [9]have proposed architecture of the Internet of Things that includes definition, review of developments, a list of keyrequirements and a technical design for possibleimplementation of the future Internet of Things. It gives thepossible solution for different infrastructures and networks.The proposed architecture such as the EPC global Network hasachieved a high level of popularity in business environments.The authors claimed that it will compete and interact in thefuture Internet of Things.

The Cloud Things architecture has been proposed by JiehanZhou et. al. [10] which is the integration of the Internet ofThings (IoT) and Cloud Computing. The designed architecturehelps information exchange and synergic performance betweenThings and people via global massive-scale M2M (machineto-machine) networks. It provides M2M automatic metering,universal control of electricity or water utilities, embeddedWeb services etc.Rupali A. Meshram, et. al. [11] provides the recentapplication of IoT. They reviews the recent researches on IoTfrom the all the perspective it focuses on IoT applications andhighlights the challenges.

III. PROPOSED WORK

This proposes model will replace the normal water geyser system into the Smart Water Geyser System. Some times we forget to start Geyser.

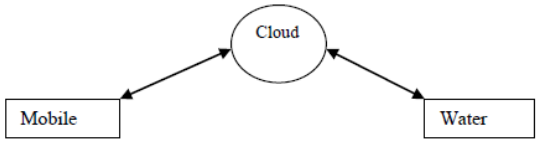

Fig: Water Geyser System

This Smart Water Geyser System contains the mobile application which directly ON/OFF the Geyser and also it provides the facility if the user want to start the Geyser after half an hour of morning wake-up. This System automatically ON the Water Geyser after half an hour of morning wake-up. This system takes the morning wake-up timing from the alarm system of the user's mobile. After taking that information mobile application directly start the Water Geyser after 30 min. this application it send the data to the cloud then servers read the signals which is connected to the mobile and perform the operation according to the message send by server. We add the temperature sensors which sense the temperature of water and OFF the geyser automatically.

IV. CONCLUSION

In this paper, IoT based Water Geyser has been proposed. Smart Water Geyser System contains the mobile application which connected to the Water Geyser through server. It utilize the time of human being. This application is helpful to all employees that don't have the much more time and who like to use devices which are based on technology. Anyone can operate this system.

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