

GLOBAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY NETWORK, WEB & SECURITY Volume 12 Issue 15 Version 1.0 Year 2012 Type: Double Blind Peer Reviewed International Research Journal Publisher: Global Journals Inc. (USA) Online ISSN: 0975-4172 & Print ISSN: 0975-4350

## GSM Based Operating of Embedded System Cloud Computing, Mobile Application Development and Artificial Intelligence Based System

By Prashant Kumar, Dr. Suyash Narayan Mishra & Zoheb Rahman

Amity University, Lucknow

*Abstract* - The purpose of this paper is to identify and explore the challenges for potential solutions in the field of Mobile Application, Cloud Computing, Artificial Intelligence, Robotics and Home – made Devices (Television, Refrigerator, Air Conditioner, Air Cooler, Mixer Grinder) in Embedded Systems. This paper is an attempt to introduce the reader into the world of GSM based Operating of Embedded Systems in voice based talking GSM technology and its applications (for updating the new technologies in old device) in the industry of home – made appliances and devices in Embedded Systems.

The objective of the series will be a general discussion of GSM based new operating technologies for Mobile Applications Development and Mobile Computing in terms of Artificial Intelligence. Its application will working from non – mobile devices in home - made appliances and robotics.

Keywords : Cloud Computing, Mobile Application Development, Artificial Intelligence, Embedded Systems, Robotics, Home – Made Appliances.

GJCST-E Classification : C.3



Strictly as per the compliance and regulations of:



© 2012. Prashant Kumar, Dr. Suyash Narayan Mishra & Zoheb Rahman. This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License http://creativecommons.org/licenses/by-nc/3.0/), permitting all non-commercial use, distribution, and reproduction inany medium, provided the original work is properly cited.

# GSM Based Operating of Embedded System Cloud Computing, Mobile Application **Development and Artificial Intelligence Based** System

Prashant Kumar<sup>a</sup>, Dr. Suyash Narayan Mishra<sup>o</sup> & Zoheb Rahman<sup>o</sup>

Abstract - The purpose of this paper is to identify and explore the challenges for potential solutions in the field of Mobile Application, Cloud Computing, Artificial Intelligence, Robotics and Home - made Devices (Television, Refrigerator, Air Conditioner, Air Cooler, Mixer Grinder) in Embedded Systems. This paper is an attempt to introduce the reader into the world of GSM based Operating of Embedded Systems in voice based talking GSM technology and its applications (for updating the new technologies in old device) in the industry of home - made appliances and devices in Embedded Systems.

The objective of the series will be a general discussion of GSM based new operating technologies for Mobile Applications Development and Mobile Computing in terms of Artificial Intelligence. Its application will working from non - mobile devices in home - made appliances and robotics.

Keywords : Cloud Computing, Mobile Application Development, Artificial Intelligence, Embedded Systems, Robotics, Home – Made Appliances.

#### INTRODUCTION I.

ith the advancement in technology [1]we can create and developing the new technologies in the operating of mobile application development in non - mobile devices. The technologies of Information Technology are also fast developed in the field of Mobile Communication and Field of Electronics.

There are various technologies present which become to easier the daily life of human people. This paper is an idea for making and giving the operating features of embedded systems through Mobile Computing and Mobile Application Development [1,5] by using the concept of Artificial Intelligence. This concept was used for controlling the embedded systems in Robotics and Home Made Appliances. The application of this project [1] in terms of paper has given a new generations of home - made devices in mobile application of cloud computing.

#### Principle П.

The project of this principle is used for controlling the embedded systems through taking the application of Robotics and Home - Made Appliances. This principle is also useful for controlling the home made appliances and robots through voice talking based GSM Technology [3] with updating the new technologies in old devices for making the WAP connection through cloud computing [4] for operating the system. This technology is also useful for developing the principle of Artificial Intelligence at the updating of new technologies. The positive effect of this point is useful for less repairing and automatic mode repairing [2] of embedded systems, robotics and home - made appliances through updating the device or cloud computing system. This principle also gives the High Speed Internet Connectivity [1] through Cloud Computing System. This technology will also helpful for increased production [2] of home - made appliances in developing countries.

#### Practical applications III.

This is the project for generating the concept of cloud computing [1] through the updating of various devices like Television, Refrigerator, Air Conditioner etc. and getting the High Speed Internet Connectivity for another devices. This project also generates the [4] concept of Artificial Intelligence through by giving the concept of Automatic Mode Repairing or Updating of various devices like Television, Refrigerator, Air Conditioner etc. It also generates the concept of Mobile Application Development through our devices in Embedded Systems. We have wanted to make a two Embedded Systems:-

- 1. Server
- 2. Client

Both of these two systems are connected through Internet Connectivity by using the concept of [1] ABP Software or any Internet Coding Software in Embedded Systems.

Global Journal of Computer Science and Technology (E) Volume XII Issue XV Version I 😽 Year 2012

Author a : B.Tech. Scholar at Amity School of Engineering and Technology in Amity University, Lucknow.

Author  $\sigma$  : Assistant Professor at Amity School of Engineering and Technology in Amity University, Lucknow.

Author ρ : B.Tech. (M.E.) at Bengal College of Engineering and Technology, West Bengal University of Technology.

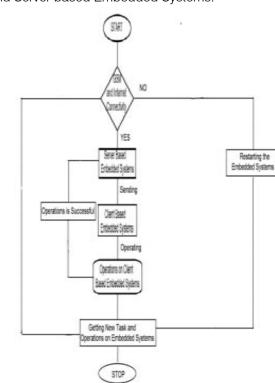
E-mails : kumar.prash3@gmail.com, drsnm2010@gmail.com, zuvicks@gmail.com

Official E-mails : prashant.kumar2@student.amity.edu, snmishra@lko.amity.edu

When we will send any information to the client through server based Embedded Systems. The server information will reach and operation will perform to the client based Embedded Systems. When the operations will have performed, the client based Embedded Systems will send the message through server to "Operation is Successful."

So, both the client and server embedded systems are to be connected in High Speed Internet Connectivity and GSM Communication Systems. This project also gives the concept of Automatic Mode Repairing [2] and Updating of New Technologies in various devices based Embedded Systems. This is the technology for designing the embedded system [1] in Television, Refrigerator, Air Conditioner and various devices. This Embedded System also giving the applications of Robotics System. This system enables:

- 1. Any Mobile Phone is not using in our project for making GSM Communication Systems.
- 2. It also requires two Embedded Systems connected through the Internet Connectivity and GSM Communication Systems
- 3. LCD's are also available for both making the Client and Server based Embedded Systems.

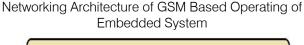


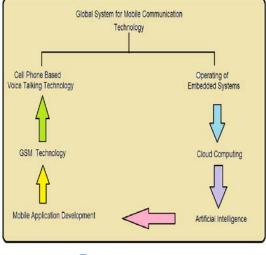
Flow Chart Diagram of Embedded System

This Embedded System has giving the future applications of Home-made Appliances for designing and updating the system. Although this application is possible in Robotics System and Home- Made Appliances. This technology has also used in Mobile and Cell Phone Industries. It has reduced the Cell Phone Radiation through Cloud Computing System. This technology also gives the free High Speed Internet Connectivity and Internet Phoning for Home – Made Appliances. The concept arises for the best idea and few years of research in GSM technologies for Homemade Appliances.

#### IV. GSM NETWORKING ARCHITECTURE

The GSM Networking indicates that Global System for Mobile Communication Networking. This architecture represents the many features and applications on daily life of human people. GSM is a digital mobile telephony system [1,9] that is widely used in Europe and other parts of the world. GSM uses a variation of Time Division Multiple Access (TDMA) and it is the most widely used of the three digital wireless telephony technologies (TDMA, GSM and CDMA). GSM digitizes and compresses data, then sends it down a channel with two other streams of data for making the communication. It operates at either [1] the 900 MHz or 1800 MHz frequency band. This networking architecture is also useful and connects the devices with million distances of the world. This networking architecture also connected to the many users and millions of devices.





V. CLOUD COMPUTING

Cloud Computing refers to the delivery of computing and storage capacity [6,7] of a service. The name comes from the use of clouds as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts services with a user's data, software and computation [5] over a network. It has considerable overlap with software as a service. Cloud computing relies on sharing of resources to achieve coherence and economies of scale similar to a utility (like the electricity grid) over a network.

The cloud computing also connects and establishes the network of operating many devices [1] through a server access portal. This technology is also

making the cloud for controlling and operating the many devices.

#### VI. MOBILE APPLICATION DEVELOPMENT

lt the process by which application is low-power handheld software is developed for devices [6] such as personal digital assistants. enterprise digital assistants or mobile phones. These applications are either pre-installed on phones during manufacture, can be downloaded by customers from various mobile software distribution platforms, or web applications delivered over HTTP which use server-side or client-side processing (e.g. JavaScript) to provide an "application-like" experience within a Web browser. The mobile application is very useful [10] and developed in the operating of mobile phones. The mobile application is very famous for generating the new technologies and operating features of mobile device.

## VII. ARTIFICIAL INTELLIGENCE

It is the intelligence of machines and the branch of computer science [3] that aims to create it. It defines the field as "the study and design of intelligent agents" where an intelligent agent is a system that perceives its environment and takes actions that maximize its chances of success. Artificial intelligence has been the optimism, subject of but has also suffered setbacks and, today, has become an essential part of the technology industry, providing the heavy lifting for many of the most difficult problems in computer science. This device is the basic principle of Artificial Intelligence. The Artificial Intelligence is also useful for developing his sense [4] in any system of machine. This project is also developing the artificial intelligence for giving the updating of new technologies through which it become automatic mode repairing in home - made device and embedded system.

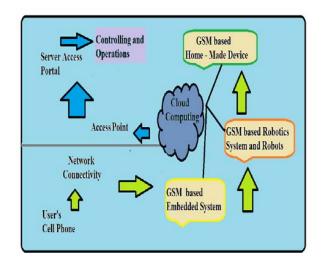
## VIII. Working in Embedded System

The project of this paper is to make a wireless GSM connection [1] in between user and embedded system of home - made devices (Television, Refrigerator, Air Conditioner etc) and Robotics.

This device presents a sensor from Artificial Intelligence for controlling of Embedded Systems in Voice Talking Technology based GSM System. This technology developed a new generation for developing WAP connection on cloud computing [7,8] with operations of home – made devices. Its application is important for updating and controlling the operations or work processing of home – made devices. This GSM technology based device is developing the many work stage in operating the Embedded System by making the main application of homemade appliances.

#### These work stages include:

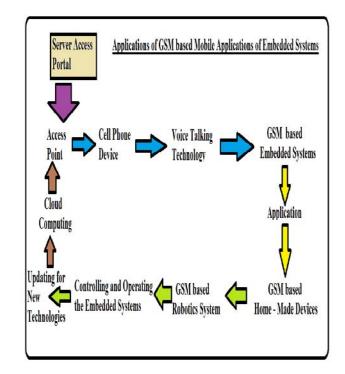
- a) To establish the GSM connection in Embedded Systems.
- b) To establish the voice talking technology based GSM system.
- c) To establish the cloud computing for controlling the operation of Embedded Systems.
- d) To establish the WAP connection for updating the operation of mobile application in home made appliances through Mobile Cloud Computing.



Working Process of GSM based Operating Embedded System

## IX. APPLICATION

The applications of this project in terms of research paper developed a new technology for using the mobile application development [6] in non – mobile devices like Robotics and Home – Made Devices. This technology developed the operations of current – voltage power supply, controlling and operating the all parts and connecting through new technologies. Used Applications of home – made devices in Television, Refrigerator, Air Conditioner, Air Cooler, Mixer Grinder is controlling all the parts and current – voltage power supply for establishing the cloud computing [7] in various devices of networks. This technology will also developing the principle of Artificial Intelligence for operating and automatic mode repairing in home – made appliances and embedded system.



#### X. Embedded Systems

An Embedded System is a computer designed system for specific control function within a larger system [2] often with real time computing constraints. It is embedded as a part of completed device often including hardware and mechanical parts. Embedded Systems [8] control many devices in common use today. Embedded Systems contain processing cores that are typically either Microcontroller or Digital Signal Processor. The designing of Embedded Systems is to make a computer through computing of device.

#### XI. ROBOTICS

The world we interact in everyday and the technology that we [9] utilize are making the new technology of Robotics in Embedded System. The Robotics System provides the engineering foundation for the design, implementation and analysis of embedded system with an emphasis in autonomous robotics system. It creates the many features [10] of mechanical design, control electronics, embedded programming machine and adaptive programming development.

"The technology for an automatic device that perform functions normally describe to human or a machine in the form of human people."

#### XII. Home – Made Appliances

The Home – Made Appliance are using in home and easy the daily work of human people. Home – Made Appliances also become the easier and comfortable life of human people. The work applications [4] of home – made appliances:

- a) Television gives the World of Entertainment.
- b) Refrigerator gives the preservation of food, making ice and cold water.
- c) Air Conditioner gives the cold room at longer time.
- d) Air Cooler gives the cool air in every season of time.
- e) Mixer Grinder gives the various spices for grinding and many things.

#### XIII. CONCLUSION

There are various technologies developed in the field of electronics and mobile application development. This paper is an attempt for developing the application of mobile in embedded systems. This technology will also useful for making the mobile application based home – made appliances by giving the [3] controlling principle of Artificial Intelligence. This principle is also useful for robotics through cloud computing [7] in which user can already access his robot through cloud computing. The application of mobile in robotics system is operating the function of robots. It will also give the concept of Artificial Intelligence for operating and updating the Embedded System.

This technology is also give the concept of GSM Based Controlling Device through Voice Talking Technology [1] in which human people is connecting and controlling the operation of electronic device [2] and home – made appliance with any part of the world. This paper is introducing the concept of computer based technology in Home – Made Appliances (Television, Refrigerator, Air Conditioner, Air Cooler and Mixer Grinder) and Robotics System. This technology will also give its application and future aspects of computer based home – made appliances in embedded system.

## References Références Referencias

- 1. Prashant Kumar, Professor (Dr.) O.P. Singh "Recent Trends in Mobile Communication", Evaluation of Term Paper, June 2012, Amity University Uttar Pradesh Lucknow Campus.
- Prashant Kumar, "Piezo Electricity Generations & Its Devices", Volume -2, Issue – 3, July 2012, International Research Journal of Humanities, Engineering and Pharmaceutical Sciences.
- 3. Nick Bostrom, Eliezer Yudkowsky, "The Ethics of Artificial Intelligence", Cambridge Handbook of Artificial Intelligence, Cambridge University Press, 2011.
- 4. Markus Weiss, Adrian Helfenstein, Friedemann Mattern, Thorsten Staake, "Leveraging smart meter data to recognize home appliances."
- 5. David Burford, "Cloud Computing: A Brief Introduction", LAD Enterprizes, 2010.
- 6. Vini Madan, S.R.N. Reddy, "GSM-Bluetooth based Remote Monitoring and Control System with

Automatic Light Controller", Volume – 46, No. – 1, May 2012, International Journal of Computer Applications.

- 7. Rob Lovell, White Paper: "Introduction to Cloud Computing", Think Grid.
- 8. Parineeth M Reddy, "Embedded Systems", December 2012, Resonance.
- 9. Jayanta Kumar Pany, R.N. Das Choudhury, "Embedded Automobile Engine Locking System,
- Using GSM Technology", Volume- 1, Issue 2, 2011, International Journal of Instrumentation, Control and Automation.
- Abid Khan, Ravi Mishra," GPS GSM Based Tracking System", Volume – 3, Issue – 2, December 2012, International Journal of Engineering Trends and Technology.