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The Essence of the Matter of Intelligent Computer Communication

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ABSTRACT.

In this paper, I introduce automatic information retrieval system (AINRS) as an essential matter of intelligent computer communication (ICC). Automatic information retrieval system (AINRS) is a system of information retrieval and communication with an intelligent modem and a communication software by recognition of attention commands in a computer. There is a presentation of the human age in computer and automation especially for human intelligence. A look at current media of communication that includes texts and pictures used with short messaging service (SMS) and multi-media messaging service (MMS) respectively. The paper shows the aims or objectives that an ICC application helps to achieve in the communication context. In this paper, I discuss scope of work constituent to the system of intelligent computer communication.

KEYWORDS

ACMICC2017; information retrieval, communication, computer, intelligent computer communication, application, automation.

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1 INTRODUCTION

In this present age, Humans are gradually being replaced by computers in order for tasks and processes to be automated. The fundamental question is : What is the automation of information processing in communication? To have a dynamic intelligent information retrieval system whereby people can retrieve certain kinds of information based on their needs and wants at any convenient time, day or night is one area in which a computer technology will do well to replace a human but no completely. This is the essence of

matter of intelligent computer communication. Providing a system in an educational or community facility where communicators or students can make telephone calls or send SMS text messages to access information about their courses as well as courses for a particular semester, time table on specific days and others will reduce the burden students go through in order to access basic information. This system has as its objectives to provide flexible dynamic access to basic information especially in this situation where most communicators or students do not have constant Internet access.

Telephony has come a long way. In this present age of the twentieth century where technology is moving almost at the speed of light, the need for automation has become more pronounced than ever. Services and goods are demanded on the basis of quality rather than quantity. As such automation can now be found in almost every business entity. From the price scanners at supermarkets, level indicators in bottling companies are just a few to mention.

Communication with regard to telephony has evolved into the cellular dimension whereby in a country such as ours it is very uncommon nowadays to find a teenager without a cellular phone. This is not to say that telephones are issues of the past. In actual fact telephones and telephone lines are still being used a lot. The internet for example is one area in which telephone lines are still being used. Bridging the created gap or more to say combining technology from a software aspect to a hardware device such as a telephone line is therefore a best way to combine technologies. Software packages are being developed everyday and as such new programming languages are being developed everyday to make development of these software packages easier. One such language which will be used in this development is the Java programming language. Advancement in Java has made telephony applications easy to deal with either to a first party user such as the provider or to a third party user such the owner of a telephone line. Also two other technologies that can be used for databases are MySQL and XML. Section 2 is a description of the current media of communication and the creation of the computerset. Section 3 describes the ICC application and its usage in the context of messaging services. The ICC constituents are discussed in section 4 with the definition of database and ICC analysis. The conclusion of the matter of essence of intelligent computer communication is remarked.

2 CURRENT COMMUNICATION (SMS and MMS)

SMS is a text messaging service of most telephone and mobile telephony system. It uses a standardized communication protocols to enable mobile phone devices to exchange short text messages. The protocols allows the sending and receiving of text messages up to 160 alpha-numeric characters to and from the GSM handset. Here, it is a USB GSM modem attached to a computer to create GSM *computerset* or *communicationset*. MMS is a multi-media messaging service that extends the core SMS capability allowing the exchange of short video, image, multi-images and audio. The sending mobile device encodes in a similar MIME fashion and it is then forwarded to a carrier MMS store and forward server called MMS centre. MMS specification considers the flow of peer-to-peer MMS messaging that involves over-the-air transactions but it inefficient for bulk messaging. A runtime queue system can help reduce in the overhead transactional bulk-messaging case.

3 ICC APPLICATION

Intelligent computer communication applies to the concept of information retrieval system that uses telecommunication service based on current communication services like SMS (for data application) as a text messaging component of most telephones, world wide web and mobile technology systems. ICC applies also multi-media messaging service in it’s communication service. ICC application can be used as the processing software of distribution list or method to many number of recipients in multi-media messaging service. The data application of text messages from mobile devices adds to the functionality of the ICC system. ICC system relies on GSM modem to play its major role of information acquisition and dissemination from a universal serial bus connection upon a text message received and a text message sent respectively. The system indirectly place services or facility offered on request by a registered third-party. It is an uncontrolled intermediary service between the mobile radio system (provider) and the mobile handset (user). The intermediary service is developed to exchange and process data in a format described by the

modidentifier commands. ICC application like AINRS is an observatory and analyzer of data (about 120-160 characters) for responding to a format request of a mobile handset. The signaling format of the application is done by the GSM modem and stored in the device ‘s memory. There are memory issues to address because of the device’s small footprint that is small memory. An ICC application will have to build a fast queuing system most likely on at the computer side to read immediately on request and store in a database or file or data structure for further processing. The scheduling in ICC system most likely will be a round-robin mechanism of design or first-in-first-out FIFO design.. This This infrastructure will help accommodate the growing SMS traffic from many request users. The ICC system bases a single modem to a multi-modem device(s) in the communication fabric of the application software by a hub. This is called the *ICC hub or network*. The ICC network implements a large-class of SMS-capable terminal and network. This new element of network works independent of the SMS center. The ICC network attracts the normal charge of the BOSS(Billing and Order Support System) application but an enhancement can be the negotiation of charges to the specific mobile network identification number (mobile phone number) at the SMS center. The ICC application do submit in responds to request by delivering the query format data to a network called specialized short message service center provided by the mobile network provider. Then the mobile application station is created. The ICC application has an over-the-air (OTA) processing dedicated to the network provider. This paper is written to provide the matter of essence to the computer professionals and students :

- For the practicing software engineer, we show how to efficiently develop intelligent computer communication and it's system.

- In the role as a analyst or computer communication engineer, we show you how to effectively implement computer communication systems from the requirement to the design.

- For the student, we provide the instruction necessary for you to begin acquiring several important skills in the developing of intelligent operating system.

To be able to use the software application in different sectors such as

banking, laundry services, restaurants and hotels, etc. two components would have to be changed. These are the database and the set of commands to the system as well as their corresponding configuration class files. These will have to be done in order to be able to generate the correct queries to retrieve the correct data.

4 ICC CONSTITUENTS

In this scope, the following constitute work that should be done within the purpose of this paper:

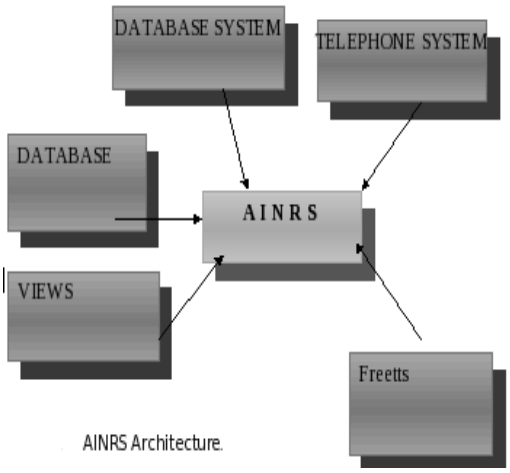
- Building a custom test database and other related databases for students.
- Building a telephone system to manage incoming and outgoing DTMF data on the telephone line.
- Build a mobile system to manage the inflow of requests and outflow of results.
- Testing of the various units.
- Putting the various units together and finally testing.

ICC Design will be the determination of processing structures given the desired input and desired output of a system.

Let us now discuss the AINRS architecture to determine the procedural processing of information.

Automatic information retrieval system is made up of 6 architectural components namely, database system (software application) , database models (information structure), views (graphical user interfaces), telephone system (mobile application station, network) and freets (text-to-speech). Each component is responsible for a particular functioning of ICC .

ICC analysis [4] will be the determinant flow of information from the input (mobile handset component) to the processing components, made up of 6 processing structures. The outputs of each component is to be determined for the program correctness and good functioning.



Let us now look at each program characteristics one-by-one.

MySQL[6] is a database management system. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL. It will provide the output / input correctness of the program. The information in a database will be sent to a mobile handset as it appears in table or mobile handset will request a save of information to a table in a database.

A database is a structured collection of data.[1]

MySQL is a relational database management system. A relational database stores data in separate tables rather than putting all the data in one big storeroom. This adds speed and flexibility. The tables are linked by defined relations making it possible to combine data from several tables on request. MySQL is a client/server system that consists of a multi-threaded SQL server that supports different back ends, several different client programs and libraries, administrative tools, and several programming interfaces.

Now let me discuss the telephony side of the ICC system.

The Java Telephony API [5] (JTAPI) is a portable, object-oriented

application programming interface for Java-based computer-telephony applications. Similar APIs for other platforms are the Telephony API (TAPI) for the Microsoft Windows platform and the TSAPI for the Novell Netware platform.

SMSLib [7] is a Java compatible library that enables the sending and receiving of SMS messages via a GSM phone or GSM modem.

A typical deployment consists of:

1. Computer with free COM port

2. Mobile phone, which can be connected to COM port

3. Cable to connect mobile phone to the COM port.

The computer and the mobile/GSM modem forms the Mobile Terminal (MT). The Mobile Adaptor is the cable/USB connecting the mobile. The library has support for several phones simultaneously. The concept of gateway is been introduced. This is an interface to a device or service that can send and/or receive SMS messages. A gateway could be a GSM modem or a supported bulk SMS provider. SMSLib can handle multiple gateways at the same time. Let us conclude now.

5 CONCLUSION REMARKS

The ICC core is made up three main parts namely: the database , telephony and executable/runtime software. The database is implemented with MySQL and persistence library of Java (database model). The telephony part of the ICC core is implemented with JTAPI and SMSLib of Java. The runtime software is made up of executable code of Java and it does the real processing of information.

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