

# VOICE TO TEXT SYSTEM – EMMA: A DESKTOP APPLICATION

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Rahat Ali Khan<sup>1</sup>, Muhammad Hussain<sup>2</sup>, Tariq<sup>3</sup>, Rozina Khan<sup>4</sup>

<sup>1,2,3</sup> *Institute of Information and Communication Technology, University of Sindh Jamshoro Pakistan*

<sup>4</sup> *College of Management Sciences, PAFKIET Karachi Pakistan*

**Abstract:** In this paper we present smart and intelligent computer-based application. This application has been designed to provide efficient and fast ways of searching and performing the operation whatever is required. The proposed application will be communicating to its 455555 user and also the user will be able to communicate with it with the help of voice commands as well as by text commands also. This desktop application is named as EMMA. This is an Artificial Intelligence based which is able to respond to the requirements of the users and based on their requirements it will perform operations.

**Keywords:** Voice, Message, Desktop, Intelligent

## 1. Introduction

There has been a vast development in the field of science and technology especially towards the betterment of mankind in almost all aspects of life like in education, healthcare sector, transportation, information technology and many others [1-4]. This development is to provide humans the better facilities of life so that they may be able to enjoy a prosperous life. The statistics of world population reveal that the elder population is increasing and this is one of the major concerns in countries to provide better facilities to these senior citizens. There has been a lot of project and researches carried out to provide assistance using the human voice [5]. The researchers [5] have tried to develop a voice controlled based home automation system targeting the old population and also disable persons who cannot move. They have developed a prototype which is able to control appliances either at home or at office. They have used Microsoft Speech APIs for the purpose of speech recognition. The signals are transmitted wirelessly using ZigBee wireless technology. ZigBee is used here for its low consumption of power and its efficient working.

Research presented in [6] target people with motor impairments. They have proposed a assistance technology based on voice control. They used their prototype for initial implementation for web browsing using voice control and then confirming the feasibility of their system. Researchers in [7] have designed and developed a system for the purpose of supporting people inside their homes. This is based on detecting the voices that whether the generated voice is for home automation control or an emergency scenario. On recognizing the voice that it is an emergency situation a call is generated to a person who is already defined in the database. The emergency scenario detection is based on the abnormal acoustic signal.

## 2. Methodology / Working Mechanism

The flow chart of the working mechanism is shown in figure 1. In the initialization phase the proposed system gets itself started and then loads the database and its commands in it.

In the proposed has been designed to get instructions or commands through three ways. One is to give command through voice mean using natural language. Second way of giving instructions is by using the text box means giving text commands. Third and the last way of giving instructions is to use the database of the proposed system which already exist. These three ways can be used to properly instruct the proposed system in order to let it perform

Considering the first case of giving the instruction that is by using the voice to observe that what happens when a command is generated? Before the operation of the proposed system to get started the user need to store his/his voice into the database for recognition and for security purposes. As the voice command is given to the proposed system then the database compared this with the stored voice. If the given voice is not recognized then the system goes into halt position and no instruction is executed. If it is a recognized voice then the system moves forward to understand what the meaning of the said word is and then executes the required task.

In the second case the user gives the instructions in to the command box by writing the command by text. Once the command is given then that command is forwarded to the database for understanding the meaning of the given command and after the process it execute the instructions.

Third case is to use the available library and stored commands in the database. The user only needs to select the required command and then after processing it is executed.

In all of these three modes of giving the instruction to the system has one feature in common and that is after the successful execution of the instructions the proposed system EMMA replies in voice speech synthesis and then the system is guided back for the next instruction to be given.

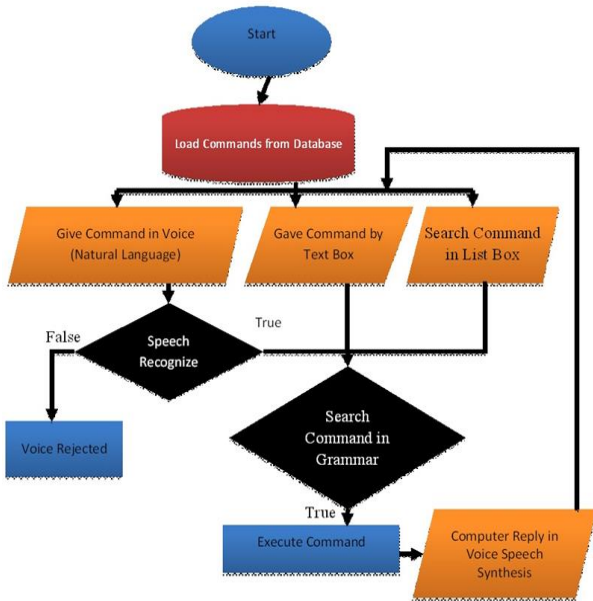


Figure 1: Working Mechanism

### 3. System Development Process and Working

We have used Visual Studio to develop API and algorithms for the proposed application. the code is written in Visual Studio as shown in figure 2. For Database Design and Development we have used is Microsoft SQL Server 2008 software.

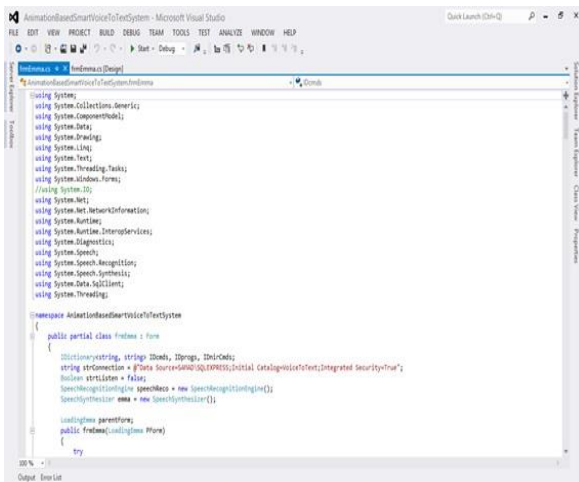


Figure 2: Coding in Visual Studio

The proposed system EMMA is initiated and there is a Welcome screen or most specifically Welcome screen appears before during loading of software as shown in figure 3.

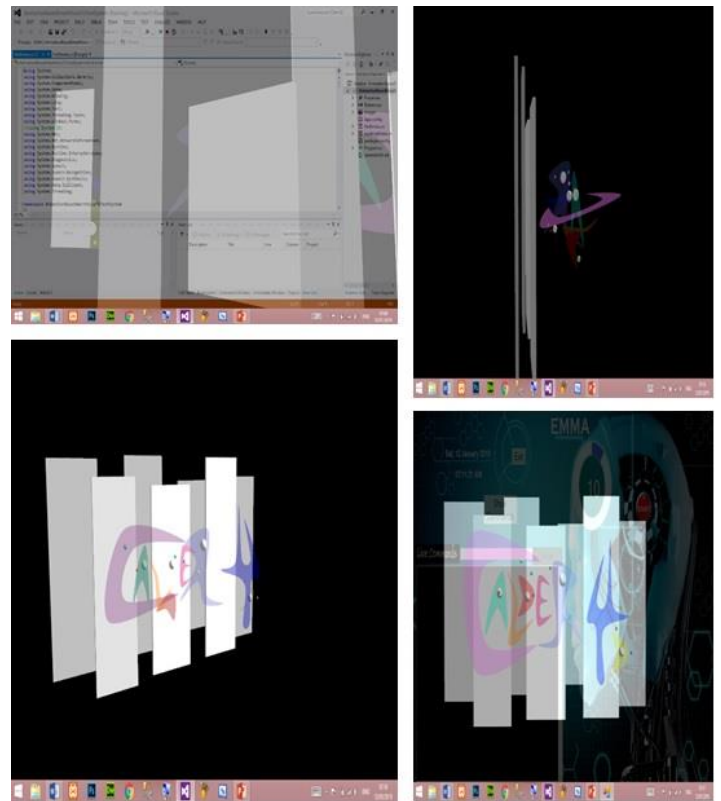


Figure 3: Proposed system EMMA welcome screen

When the proposed system EMMA finishes loading of files then the display design look likes as shown in figure 4 and in figure 5 the proposed system EMMA is executing the instruction given to it. Figure 6 shows the conversation between user and the proposed system EMMA. If the user needs to interact with the proposed system EMMA using text is shown in figure 7.

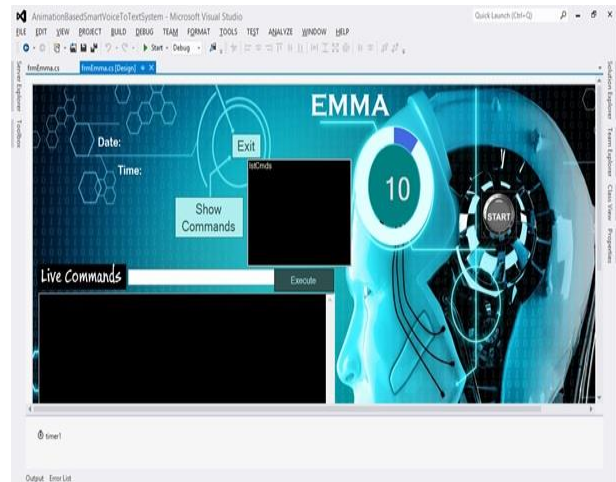


Figure 4: Proposed system EMMA display design



Figure 5: Proposed system EMMA in execution



Figure 6: Proposed system EMMA interacting with its user

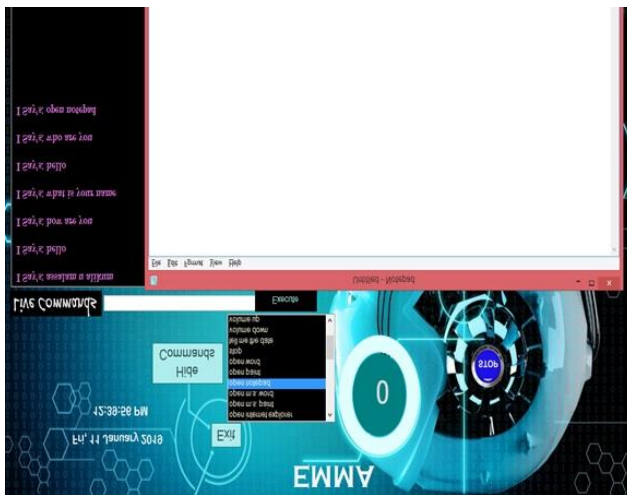


Figure 7: Proposed system EMMA text box

## 4. Conclusion

In this paper, we studied the problem of power allocation and price assignment in wireless systems under asymmetric knowledge of channel. To accomplish this goal, we propose our Flight Data Analyzer framework, which has 4 main objectives: (1) identify flight-related categories (or clusters) being tweeted/re-tweeted, (2) gather and assess partial and exact information, (3) ascertain possible correlation of Twitter data with weather condition information and (4) test the effectiveness of our framework in completing the flight-related data.

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## About Authors

**Rahat Ali Khan** is working as Assistant Professor in the department of Telecommunications at Institute of Information and Communication Technology University of Sindh.

**Muhammad Hussain** is working as Assistant Professor in the department of Information Technology at Institute of Information and Communication Technology University of Sindh.

**Tariq** is a student of Software Engineering at Institute of Information and Communication Technology University of Sindh.

**Rozina Khan** is with College of Management Sciences, Pakistan Air Force Karachi Institute of Economics and Technology.