Signal Processing in Mobile Communication using DSP and Multi media Communication via GSM

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Abstract

This paper discuss about how data can be communicated between the mobile using digital signal processing and how literally it will detect the multi input and multi output control mechanism. And it will also speaks about the communication of multimedia system through the GSM systems. It will be communicated via many standards and the propagations is based on the various rules and regulations. The signal processing will challenges the intelligent video adaptation for the mobile devices. And the distributed coding for the mobile video applications and the signal processing for the video transmission over the multi input and multi output control. The Wireless infrastructure that supports the third generation computer for the mobile communications consist of many different standards. The energy constrained video encoding the Wireless commmunication.

Key Terms: *Mobile Digital Video, Digital Signal Processing, Multi Input and Multi Output*

I. INTRODUCTION

This paper explains the signal processing in mobile and multimedia communication by the medium of digital signal processing and GSM network. The user data rate and the capacity in the terms are calculated by the number of users presented in the cell and the bounded region. The growth of data rate is matched by the semi conductor structure. The processing algorithm and the data structure are needed to increase the performance of the data rate. In order to provide the reliable communication over the spectrum the digital signal processing technology will be implemented for efficient sourcing and channel modulation. The MIMO receivers will give the high performance. The multiuser performance and the multiuser detection will give the performance rate. In extend to that the network coding limits will helps to understand the fundamental limits.

II. EXISTING SYSTEM

In the existing system the communication of the mobile device is done only through the base stations. Using the base station network the communication takes place between the two systems and it will be act according to them. In the base station communication they use CDMA technique so it is tedious to call the hand off technique in cellular systems. Also the thermal noise will affect the uncorrelated signal. In this system the signal receives at the different base station will be modulated and demodulated and transmitted to the switch in the packet format. This will take the more time to transfer the signal form the one base station to the other base station.

III. PROPOSED METHODOLOGY

The proposed system uses digital signal processing for the mobile communication it will take the different links as the parameter among that links it will choose the best optimum link. In this system the modulation scheme is not the spread spectrum it will transmit the signal using different carrier frequency which will helps to find the best position in the network and it will process the transmission medium in the proposed network.

ADVANTAGE OF DSP IN MOBILE COMMUNICATION

The communication in the mobile network using the DSP is very dynamic and it has the higher growth rate. That will be detected using the performance measures. In this the new DSP architecture will achieve the advanced riding in the semi conductor technology. The DSP technology used in the mobile communication is mainly based on the Size and cost, Performance, Chip integration, Power.

CLASSIFICATION OF CLASS IN DSP

The DSP has been classified into three main categories

- Application specific.
- Domain specific.
- General specific.

In this application specific the signal processing will be the Application specific class will serves as a high end performance based upon the size and cost. The domain specific class will be targeted for the wider applications and it will be applicable to the variety of applications. The general specific class will be applicable for the hardware and the specific

components. This will be supportable for the convention of the digital processing signals.

Fig 1 Digital Signal Processing

Processing Algorithm In Dsp

In this signal processing in order to provide the array of antennas to perform the adaptive digital beam forming. In it will interpret the power control form both the base station and the mobile station. This process uses the correlation function to implement the received and transmitting signal. The algorithm will accumulate the many factors such as dynamic range, Floating point and some other operations to minimize the round off errors. The interference signal and the power control to process the signal and accumulate the time delay in the requirement. This mobile communication process used Bayesian statistical based signal processing. In this it will processed with the statistical probabilistic measures the deals with the random functions. The Bayesian interference provides the generalized frame work for the signal processing and the decision making problems. And it will also used for the pattern recognition and signal estimation problem. The Bayesian algorithm is used to identify the appropriate signal and it will eliminate the noisy signal.

Format of Digital Signal

The digital signals will be actually stored in the analog format. The bi polar transmitter will transfer the electric charges in the form of ±V (volt) that will convert them into the baseband signal of 0 and 1. This will give the digital radio frequency for binary bits to modulate the signal transmission over the air waves. Along with the Bayesian statistical model it will use the hidden markov model for the digital signal formatting. In this model it will have N states which will be used to have the train the each state to model a distinct state of signal processing. The appropriate signal will be identified based on the three measures posterior probability measure, prior probability measure and maximum likelihood.

OBJECTIVE MEASURES OF SIGNAL PROPOGATION

The objective measures of the signal quality will have the high quality in the multimedia signal propagation. In the multimedia application it uses broad band signals for the transmission of signals. The broadband integrated digital networks will have the digitization of video signaling. In the multimedia systems the information processing will be performed without any time constraints and it will process the quality of service to the network database. The key issue is to decide which data items must be presented at the user data item. The network receiver will show the large amount of information. The communication process was fully supported by the QOS measures which satisfied the corresponding condition categorical measures.

Fig 2: Signal Propogation

The GSM system was used in the mobile application for the mobile communication and it will be processed in the many advantageous technologies and the relevance of wireless communications has recently managed. It will provide the various reliability in the multimedia and the mobile communications.

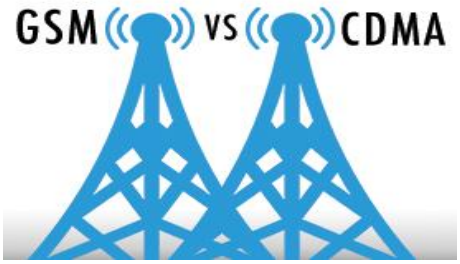

Fig 3: Gsm In Mobile Communication

IV. CONCLUSION

This paper provide a solution for the mobile communication establishes between the devices using the digital signal processing without the intervention of the base stations and it will implement this by using various algorithms. The rules of the signal

processing were followed it will provide the effective signal processing propagation between the mobile devices and it will also provide the effective architecture for the suitable processing signals and it will also says about the communication of multimedia system over the GSM network.

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