Founder Chairman : Bharatratna Dr. B. R. Ambedkar
People's Education Society (Mumbai)

NCETIT'08

NCETIT'08

Souvenir

Emerging Trends in Information Technology

National Level Conference
28th and 29th January, 2008

Organized By

Department of Information Technology

Estd. - 1945

P. E. S. College of Engineering

Nagsenvana, Near Panchakki,
Aurangabad, 431 002, Maharashtra.

channels per radio frequency channel. There are eight radio timeslots (giving eight burst periods) grouped into what is called a TDMA frame. Half rate channels use alternate frames in the same timeslot. The channel data rate is 270.833 kbit/s, and the frame duration is 4.615 ms. The transmission power in the handset is limited to a maximum of 2 watts in GSM850/900 and 1 watt in GSM1800/1900.

GSM has used a variety of voice codecs to squeeze 3.1 kHz audio into between 5.6 and 13 kbit/s. Originally, two codecs, named after the types of data channel they were allocated, were used, called Half Rate (5.6 kbit/s) and Full Rate (13 kbit/s). These used a system based upon linear predictive coding (LPC). In addition to being efficient with bitrates, these codecs also made it easier to identify more important parts of the audio, allowing the air interface layer to prioritize and better protect these parts of the signal.

GSM was further enhanced in 1997[10] with the Enhanced Full Rate (EFR) codec, a 12.2 kbit/s codec that uses a full rate channel. Finally, with the development of UMTS, EFR was refactored into a variable-rate codec called AMR-Narrowband, which is high quality and robust against interference when used on full rate channels, and less robust but still relatively high quality when used in good radio conditions on half-rate channels.

There are four different cell sizes in a GSM network—macro, micro, pico and umbrella cells. The coverage area of each cell varies according to the implementation environment. Macro cells can be regarded as cells where the base station antenna is installed on a mast or a building above average roof top level. Micro cells are cells whose antenna height is under average roof top level; they are typically used in urban areas. Picocells are small cells whose coverage diameter is a few dozen meters; they are mainly used indoors. Umbrella cells are used to cover shadowed regions of smaller cells and fill in gaps in coverage between those cells.

Role of IT in Development of Rural Area

S K Roy[1], S Bhattacharyya[2]
Dept. of ECE and Applied Electronics & Instrumentation Engineering[1],
Dept. of CSE And IT, Asansol Engineering College[2], Kanyapur Asansol, Burdwan, WB
samirkumarroy1946@gmail.com[1], swapanbhattacharyya@hotmail.com[2]

Abstract
The villages epitomize the soul of India. More than 75% people living in rural areas with Indian Culture and Tradition Development of the country can be successful if it focuses on rural areas and rural people. Information technology has emerged as an effective facilitator in the development of any society and is a primary driving force in the growth of economics of the country. This paper presents development of rural area by virtue of the different e- activities of IT through satellite[2] and internet world. Rural development is a vast area and total development is a long term project which includes eradication of poverty and illiteracy upto the grass root level by the blessings of IT. Key Words: IT, Internet and Satellite.

A Novel Source-Filter for Bandwdidth Extension Algorithm Based Psychoacoustic Model

H. B. Bhadka[1], A. C. Suthar[2], A. N. Navle[3]
Research Scholar, Saurashtra University, Rajkot. Gujarat[1]
Asst. Prof.; Department of EC, C. U. Shah College of Engg. & Tech., Wadhwan. Gujarat[2].
Lecturer, Department of EEE, C. U. Shah College of Engg. & Tech., Wadhwan. Gujarat[3].
harshad.bhadka@yahoo.com[1], acsuthar@yahoo.com[2], (India) anil_navle@yahoo.com[3]

Abstract
Most speech coders operate on a limited bandwidth. This tends to decrease the naturalness of the synthesized audio and often also affects the intelligibility of certain sounds. While a few wideband speech coders have been standardized, implementing them in existing systems would require signi?cant changes to the infrastructure. One solution is to use bandwidth extension techniques that predict the high-frequency band based on low-band features. Problems arise however when the correlation between the low and the high band is insuf?cient for an adequate representation of the wideband signal. In this paper, we suggest a novel source-?lter bandwidth extension algorithm that makes use of