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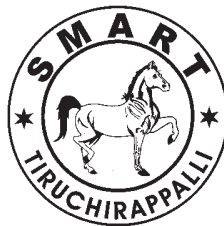
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VERSATILITY OF MOBILE PHONE AND ITS MENACE

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Abstract

Technology improves the existing pattern of communication. Recently popularised cellphone throws out the existing transmission devices. Mobile phones are now a tool for entertainment as well as connectivity in terms of voice and data. Many features are being added to the instruments. The cellphone makers invariably add plenty of extras to attract the customers and partly to take advantage of new high-speed networks. Though users have availed a host of new features, they perceive a menace from cellphone. Previous studies observed that mobile phone radiation caused some hazards to the human body. An intensive study is required to resolve the question of health hazards caused by using cellphone. This paper intends to bring out the latest technologies adopted in cellphones and also points out the problems for the users of cellphones. It also offers precautions and suggestions for the users in order to meet those problems.

It is an era of information technology. With the advent of cellphone, communication has become speedy. There is a strong relation between communication and how well a human being is integrated with the society. In general, communication enhances the quality of life with exponentiation of opportunities to get jobs and become self-employed. Above all, the availability of communications is the driver of economic development.

There are many devices used for communication purposes but cellphone has emerged as a sophisticated device in the recent times. Mobile phones are now a tool for entertainment as well as connectivity in terms of voice and data. It is a radio transmitter and receiver. This is designed and manufactured not to exceed the limits for exposure to radio frequency recommended by international guidelines. These guidelines ensure a substantial safety to persons regardless of age and health. In fact, cellphones are high power microwave transmitter with self-regulated power output levels. Software programmes compute cell tower signal strength

to regulate power intensities to maintain the most efficient output power.

Facilities Offered

The second generation of cellphone is a digital PC but its first was analog. In the second stage the users have availed a plenty of options, namely, call register, security code, call divert and a lot more. Its other conspicuous uses are; setting alarm, keeping phone numbers, entertaining with games, program scheduling, sending picture message besides text, instant calculations etc.,

Advanced Technology

While the users are gradually tapping into the options already available, cellphone steps into its third stage popularly called 3G. This offers new features such as enhanced email, instant messaging, faster web browsing and so on. Besides the users are able to make purchase, manage financial information, do on-line banking and electronic fund transfers, view video clips and even play on-line games. Thus the new technology provides customers with

advanced wireless services, greater voice clarity and better service reliability. Again it is compatible with any of the languages or standards that support enhanced data speed. The 3G phones send information at about 40 times the speed of its second generation.

In the light of advancement in technology, the Nokia introduced a camera mobile phone with PC at the end of previous year. The device has a weight of 230 grams with 80MB capacity, which may go up to a gigabyte. It provides a music player, video player and digital voice recorder. Another special feature is the ability to send or receive messages as SMS or fax. Surprisingly, because of its high capacity it may replace a high potential laptop.

SUNADA, a multi facet mobile phone is launched by the US- based Texas Instruments recently. The name, SUNADA, refers to good sound. It can be used otherwise as PC, camera and navigator. The device which weighs less than 150gms can take still and video pictures, record sound, display video chips and play upto eight hours of songs recorded in the MP3 format. The sunada may be the first to throw it all together on single platform- windows. It has added two functions rarely encountered except in very high-end systems: voice recognition software allows the users to speak their instruction rather than dialing; speech synthesis enables sunada to readout incoming SMS text messages.

The handset gets too hot to handle when its intensive use exceeds an hour. This is one of the main problems before the users in addition to decrease in power. In order to overcome these problems, a Silicon Chip is designed. This technology reduces leakage and battery consumption about 40 percent on the one hand and cuts heat dissipation on the other.

Handset Marketers

There seems to be a mushroom growth of marketers of cellphone handsets. The major players are Nokia, Sony Ericsson, Samsung, Motorola, Reliance etc. In India, Nokia stands first in cellphone instruments. It has a market share of 60.30 percent followed by Samsung at the rate of 14.70 percent (Thina Thanthi 2/9/04). With increasing number of cellphone users, the entry of new and existing makers with advanced technology becomes indispensable. For instance, Bharti Televentures Ltd. (BTVL) launched 'instant e-mail mobile' by introducing Black Berry's handled devices that promise connectivity always besides working as a personal digital assistant. The South Korean Hyundai Corp. made a pact with State Trading Corp. to enter into Indian market (The Hindu 24.11.04). In an acute competition, pricing pressure puts squeeze on world's cellphone makers. However cellphone sales hit a record high in the previous year, surpassing even the most optimistic projections provided a few months ago.

Usage of Mobile Phone

The cellphone manufacturers are invariably adding a plenty of extras – web browsers, built in cameras, multi-colour screens etc – to attract the customers and partly to take advantage of new high speed networks. In the light of advanced technology, more customers are upgrading their phones. A survey maintained that an estimated 54 percent of US cellphone users replaced their phones in 2003, up from 47 percent two years ago. But in the Indian scenario, market is in the emerging stage and the penetration rate is low. The mobile phone users in India are less than 20 percent the same as in China. This is due to economic backwardness of individuals and the higher price of instruments. Nokia finds one of the thrust areas

identified is rural. Cellphone users in villages are scanty. It is expected that if the attempt works out, there will be a conspicuous number of potential customers sign up in the list.

Though cellphone is more important for certain classes of people viz., businessmen, professionals etc., its usage as a buffer or instrument of simulation may also be growing. Some people use this to cope with social anxiety through phantom calls. They admit to programming their phones to call them at a certain time to show off their ring tones and some others wrap up make believe hollywood deals in front of people they want to impress.

In growing cellphone subterfuge, some stage (fake) calls to avoid contact with others. For instance, women converse with the air to avert unwanted approaches by men. In some other cases, with cellphones on them, they do not look lonely and also play games in it. Interestingly youngsters talk to their handsets while they are checking out women.

Cabir Virus

Virus mars the computers' operation and cellphone is not an exception. Philippines is the origin of a virus attack in cellphones. The world's first mobile phone virus cabir, has been confirmed in atleast twelve countries including its birthplace. It spreads mainly through wireless Internet connection and this virus has been found in about fifteen variations so far.

Mobile Phone Menace

Usually mobile phones emit radio signals at Specific Absorption Rate (SAR) between 0.5 and 1 w/kg. Of late, third generation phones emit higher rates of radiation because of their updations. Earlier reports show that mobile phone radiation caused some effects on the human body resulting in headaches, nausea, heart and kidney problems. However, a later study

found that they also affect the brain and could cause memory impairment also.

It is found that persons who used mobile phones for a longer period run the higher risk of brain tumours. The tumour arises in the nerve responsible for hearing in the brain and can lead to deafness if they use cellphone more than an hour a day. More specifically the tumour was on that side of the head to which the user held the phone. In order to know whether using mobile phones causes tumour, another study observed that the incidence had increased from one in every lakh persons in 1980 – before the advent of cellphones – to one in eighty thousand persons today. However the question of mobile phone causing a severe problem to human health remains unresolved. An intensive study is to be conducted in this regard.

Precautions and Suggestions

Cellphone takes a prominent place among the communication devices. Though it causes harm to users, they will not allow its withdrawal as a communication device because it has unique features and it is easy to handle. Hence the users may consider the following points to ensure safety and continue to use it as an effective transmitting vehicle.

- * It is better not to touch the antenna unnecessarily
- * For cellphones not using RF safe approved antennas, it is highly recommended that you use an RF3 Air-tube Head Set with a wireguard and pocket or belt clip shield
- * It is advisable to use mostly text messages for communication.
- * The users may administer Low Specific Absorption Rate in their phones so that the radiation emitted is low.

- * As far as possible, users do not prolong their conversation over a mobile phone.
- * Keep pace with new technology and replace obsolete ones considering the above points.
- * Do not keep the cellphone in hot or cold places since they will reduce the capacity and lifetime of the battery. Again cold moisture will corrode electronic circuits and hot climate will melt certain plastics.
- * Switch off your mobile phone when you are in a highly explosive atmosphere.
- * Do not let your kids use cellphones except in emergencies. They have much thinner skulls.
- * Duration of entertainment with cellphone should be reduced to lessen finger pain.
- * The users should follow the guidelines and instructions given by the authorities to ensure their safety. For instance, do not use cellphone while riding.
- * The users may prefer instruments with *Silicon Chip* that reduces battery leakage and cuts heat dissipation.

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