

1 billion

GSM customers can't be wrong

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GSM TeleDocs

General Practitioners are using GSM-based General Packet Radio Services to deliver healthcare and medical services to rural India

VILLAGERS in India lack access to affordable healthcare. Clinics and doctors are located in towns and cities. Travel, lost wages and other needs of children and families add to the costs that villagers must pay for treatment. As a result, life expectancy in villages is eight years less than for city

In TeleDoc, village-based healthcare workers record and transmit diagnostic data to an IT-enabled central clinic, using mobile phones that connect over the widely available GSM's GPRS network. Custom database applications written in Java 2.0 Micro-edition (J2ME) synchronise with record-man-

encouraging discussion on women's health issues
 ■ Field representatives supply and encourage the use of hygiene products.
 ■ Educate villagers about HIV/AIDS, sanitation, etc.
 Worldwide, mobile telephony is among the fastest-spreading infrastructure in history. The TeleDoc MIS



TeleDoc
 dwellers, while mortality is higher and diseases of poverty such as malaria and tuberculosis often go untreated.
 Jiva Institute, a leading NGO based on the outskirts of New Delhi, has been working closely with community heads of villages to identify healthcare priorities and test appropriate solutions. The result is TeleDoc, a program of low-cost, effective healthcare bringing high-quality medical attention directly to villages. The TeleDoc program of Jiva is also the winner of the ITU World Summit Award in 2003 for the Best in e-Content and Creativity.

agement systems at the clinic. Jiva's expert Ayurvedic doctors analyse the data, and then prescribe medication and treatment. Medicines are compounded at a regional office, picked up by field workers, and delivered to patients in their homes - all for 70 rupees.
TeleDoc offers the following benefits to villagers:
 ■ Access to affordable medicines and treatment
 ■ Increased savings and reduced stress with less travel
 ■ Field representatives speak local dialect, know village life
 ■ Creation of jobs and income opportunities
 ■ Women treated by women,

demonstrates the power of this low-cost, widely available communications infrastructure to combine voice and information management in the service of rural healthcare and economic development.
 TeleDoc demonstrates the effectiveness of a village-based field service network in the delivery of low-cost, effective telemedicine to the rural poor. TeleDoc uses ICTs to greatly multiply the number of patients and geographic range that can be served by a single physician, lowering the cost of treatment and supporting a franchise-based business model that is sustainable and scalable.

WHAT is the rate for chemmeen (prawns)?" asks Basheer. He listens to the reply and says, "Not acceptable" and hangs up. He dials another number on his GSM mobile and asks the same question. "Okay. I've got over 200 kilos."

This is no businessman striking a deal. Basheer is an ordinary fisherman a couple of kilometres off the coast of Kerala trying to get the best price for his catch and he has his GSM phone to thank for making it possible. Basheer is one of the over 100,000 fishermen who have subscribed to GSM phones in Kerala.

"Mobile phones help us to strike deals once the daily catch is in the boat and much before we reach the shore," says Basheer. And that's not all. "We now feel more safe in the sea," says Abdul, another fisherman, "as we can communicate immediately for assistance if required."

With over 2.5 lakh fishermen in Kerala earning a living from the sea, the GSM phone has proved to be a



KERALA FISHERMEN Call in Their Catch

great tool for maximising their earning potential. GSM coverage extends up to 25 kilometres into the sea and fishermen call buyers at various landing points to get the best deal for their catch.
 The mobile phone has transformed the lives of the fisher folk in India's south-

ernmost state of Kerala. Fishermen pass valuable information on their mobile phones as to where large shoals are available and for calling for assistance when calamity strikes.
 During the peak season their mobile bills run into several thousand rupees,

which they pay without hesitation but during the lean season they stop using it altogether.
 Mobile telephony has made a dramatic change in the lives of ordinary people and the fishermen of Kerala have been one of the beneficiaries.

Mandi Prices on the Move



PUNJAB, the granary of the country is essentially an agrarian economy with farming being the key occupation of the majority of the population. Punjab also has the

distinction of being one of the most prosperous states in the country.
 The Punjabi farmer is not only prosperous but also progressive in the way he approaches his occupa-

tion and conducts his business. Today the Punjabi farmer has embraced technology and the way he conducts his business is changing by the day.
 The Agritrack service from one of the GSM operators in Punjab is one such example of how technology has touched the lives of thousands of farmers across the state. The Agritrack service has a simple objective - to help the Punjab farmers get the best price for their produce.
 Farmers typically sell their crops in the wholesale markets (mandis), for which they need to track the daily prices of various crops to time their entry for selling and take advantage of the daily fluctuations in the mandi rates.
 With Agritrack, there is no more browsing through newspapers or visiting the

mandis to track rates. These rates are updated every day and real-time rate updating happens thrice a day - morning, afternoon and evenings.
 With this unique service the farmers today does not have to depend on any middlemen or brokers to follow rate trends.
 Agritrack also helps the farmers to better time their entry into the since they are connected with the mandis even while on the move. Therefore, the farmers can sell their crops at the best available price.
 Agritrack can be accessed by simply dialling a three-digit number. Easy voice prompts in Hindi will guide the caller through all the commodity rates across all mandis in the state and also give a range of price bands within which the rates are moving.

The ABC of GSM

GSM - Global System for Mobile communications: Originally an abbreviation for Groupe Speciale Mobile - the name of the committee which began the standardisation process in 1987 to develop a second generation digital (2G) mobile technology for Europe - GSM is now the de facto global standard for mobile telephony.

SIM - Subscriber Identity Module: This is a smart card containing the telephone number of the subscriber, the encoded network identification details, the PIN and other user data such as the phone book, etc. The SIM card is unique to GSM and this card can be moved from phone to phone as it contains all the key information required to activate the phone

PIN - Personal Identity Number: A number, usually four digits that must be keyed into a mobile phone to make it work. This is a built in security measure to prevent unauthorised usage of the handset. If the wrong PIN is fed in three times,

the mobile phone is automatically locked and the user will then have to get in touch with his service provider for a Pin Unlock Key. The SIM is sold with a standard PIN and the customer is advised to change the PIN immediately to his own personal code.

IMEI - International Mobile Equipment Identity: A 15-digit code given by the handset manufacturer, which is unique to each individual handset. By punching the keys *#06# on the GSM handset, the IMEI number will be displayed. Users are advised to remember this number if the handset is stolen or lost, the service provider can either trace the handset through this number or block the handset so that it is of no use to the person who has either found or stolen the mobile.

SMS - Short Message Service: The ability to send and receive text messages up to 160 characters in length to and from mobile telephones. The text can comprise of

words or numbers or an alphanumeric combination. SMS was created as part of the GSM Phase 1 standard. The first SMS is believed to have been sent in December 1992 from a PC to a mobile phone in UK.

MMS - Multimedia Messaging Service: An evolution of SMS that allows mobile subscribers to exchange multimedia messages - text, picture, audio, video or combinations of the above with other mobile subscribers. MMS allows the sending of multiple media in a single message and a single message to multiple recipients.

Dual Band Handsets: Mobile phones, which support transmission and reception of calls on the 900MHz and 1800MHz bands. GSM services in India were initially offered in the frequency band of 900 MHz, but now are also offered in the 1800MHz band (by the 4th GSM operator). A dual band handset will allow the customer to use the same handset irrespective

of his service provider. However, consumers with single-band handsets will have to buy a dual band handset if he wants to subscribe to the services of the fourth GSM operator.

Tri-Band handsets: Can be used in the 900, 1800 and 1900 MHz bands. The 1900 MHz is primarily used by the GSM operators in the United States. A person travelling often to the US would do well to invest in a tri-band handset.

WAP - Wireless Access Protocol: Allows mobile users to access the internet through their mobile phones. WAP essentially integrates telephony services with micro-browsing and enables the user to have easy to use interactive access to the Internet from his mobile handset.

GPRS - General Packet Radio Services: A non-voice, technology that allows the mobile network to send data in packets rather than as a continuous stream of data over a permanent connection. What this does is increase efficiency as the network or channel is used only when there is data actually re-

quired to be sent. GPRS enabled networks offer 'always-on', higher capacity, Internet-based content and packet-based data services. This enables services such as colour Internet browsing, e-mail on the move, powerful visual communications, multimedia messages and location-based services. GPRS is also referred to as 2.5G.

EDGE - Enhanced Data rates for GSM Evolution: EDGE improves the performance of all GPRS subscriber applications. It enables faster delivery of advanced mobile services such as the downloading of video and music clips, full multimedia messaging, high-speed colour Internet access and e-mail on the move. EDGE can handle three times more subscribers than GPRS, triple their data rate per subscriber, or maintain GPRS speeds while freeing up capacity for voice communications. EDGE is also referred to as 2.75G.

3G - Third Generation: Represents the third stage in the evolution of mobile communication which has recently been launched in some of the advanced countries of the world. 3G represents an en-

hancement of 2G and facilitates even higher speeds (up to 2 mbps in static conditions) of data transfer, multi-media, video-streaming, music downloads, tele-conferencing, video-conferencing etc.

Bluetooth: A good way to visualise the kind of functions Bluetooth can perform is to think of it as an 'invisible data cable'. Bluetooth can connect a wide range of personal, professional and domestic devices such as laptop computers and mobile phones 'wirelessly'. So if you want to send information from a mobile handset to a PDA, PC printer or LAN, to exchange image files between a handset and a computer, it can be done over Bluetooth. It is also possible to exchange diary dates, telephone numbers, ringtones or even games between two compatible Bluetooth handsets.

GPS - Global Positioning System: A location system based on a constellation of satellites. Depending on the number of satellites visible can provide accuracies down to tens of metres. GPS is now being incorporated as a key feature in an increasing number of handsets.

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Reaching people, changing lives

