

A seminar report

Business



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Last but not the least I thank all others and especially my classmates and my family members who in one way or another helped us in the successful completion of this work. Division Of Computer Engineering , SOE Page 1
ABSTRACT 56 technologies will change the way most high-bandwidth users access their phones. With 56 pushed over a VoIP-enabled device, people will experience a level of call volume and data transmission never experienced before.

G technology is offering the services in Product Engineering, Documentation, supporting electronic transactions (e-Payments, e-transactions) etc. As the customer becomes more and more aware of the mobile phone technology, he or she will look for a decent package all together, including all the advanced features a cellular phone can have. Hence the search for new technology is always the main motive of the leading cell phone giants to out innovate their competitors.

Recently Apple has produced shivers all around the electronic world by launching its new handset, the I-phone.

Features that are getting The 5g design is based on user-centric mobile environment with many wireless and mobile technologies on the ground. In heterogeneous wireless environment changes in all, either new or older wireless technologies, is not possible, so each solution towards the next generation mobile and wireless networks should be implemented in the service stratum, while the radio access technologies belong to the transport stratum regarding the Next Generation Networks approach.

In the proposed design the user terminal has possibility to change the Radio Access Technology – RAT based on certain criteria. For the purpose of transparent change of the RATS by the mobile terminal, we introduce so-called Policy-Router as node in the core network, which establishes IP tunnels to the mobile terminal via different available RATS to the terminal.

The selection of the RAT is performed by the mobile terminal by using the proposed user agent for multi-criteria decision making based on the experience from the performance measurements performed by the mobile terminal.

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page -24 CHAPTER 1 Page 4 INTRODUCTION The present cell phones have it
all.

Today phones have everything ranging from the smallest size, largest phone
memory, speed dialing, video player, audio player, and camera and so on.
Recently with the development of Pico nets and Blue tooth technology data
sharing has become a child's play. Earlier with the infrared feature you can
share data within a line of sight that means the two devices has to be

aligned properly to transfer data, but in case of blue tooth you can transfer data even when you have the cell phone in your pocket up to a range of 50 meters.

The creation and entry of 5G technology into the mobile marketplace will launch a new revolution in the way international cellular plans are offered. The global mobile phone is upon the cell phone market.

Just around the corner, the newest 5G technologies will hit the mobile market with phones used in China being able to access and call locally phones in Germany. Truly innovative technology changing the way mobile phones will be used. With the emergence of cell phones, which are similar to a PDA, you can now have your whole office within the phone. Cell phones will give tough competitions to laptop manufacturers and normal computer designers.

Even today there are phones with gigabytes of memory storage and the latest operating systems . Thus one can say that with the current trends, the industry has a real bright future if it can handle the best technologies and can produce affordable handsets for its customers.

Thus you will get all your desires unleashed in the near future when these smart phones take over the market. 5G Network's router and switch technology delivers Last Yard Connectivity between the Internet access provider and building occupants. 5G's technology intelligently distributes Internet access to individual nodes within the building.

Page 5 EVOLUTION FROM 4G-5G NETWORKS Cell phones are used millions and billions of users worldwide. How many of us know the technology behind

cell phones that is used for our communication? I have also intrigued about the type of technology used in my phone. What are 0G, 1G, 2G, 3G and 4G technologies? 0G, 1G, 2G, 3G & 4G (“G” stands for “Generation”) are the generations of wireless telecom connectivity.

In 1945, the zero generation (0G) of mobile telephones was phones, since they did not support the automatic change of channel frequency during calls. 0G (Time Division Multiple Access and Frequency Division Multiple Access) was the initial wireless telecom network system. It's out-dated now. The analog “brick phones” and “bag phones” are under 1G technology. Cell phones era began with 1G. The next era, 2G has taken its place of 1G.

Cell phones received their first major upgrade when they went from 1G to 2G. This leap effectively took cell phones from analog to digital. 2G and 2.5G were versions of the GSM and CDMA connections. And GSM is still the most popular technology, but with no internet.

Fortunately, GPRS, an additional service, is provided over GSM for the purpose of internet access. GPRS has been developed and thus, EDGE was created. It's more secure and faster than GPRS. Then 3G came, the new Wireless CDMA technology. It is the first wireless telecom technology that provides broadband-speed internet connection on mobile phones.

It has been specially made for the demand of internet on smart phones. Further development led to the creation of 3.5G, which provides blazing fast Division Of Computer Engineering, SOE, CUSAT Page 6 internet connection on phones, up to the speed of 7.68 MBPS. A smart phone can be connected to a PC to share its internet connection and 3G and 3.5G are ideal for this.

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But, as this WCDMA technology is not available in all regions, its not as popular as GSM yet. Before making the major leap from 2G to 3G wireless networks, the lesser-known 2.5G was an interim standard that bridged the gap. Following 2.5G, 3G ushered in faster data-transmission speeds so you could use your cell phone in more data-demanding ways. This has meant streaming video (i.

e. movie trailers and television), audio and much more.

Cell phone companies today are spending a lot of money to brand to you the importance of their 3G network. The above systems and radio interfaces are based on kindred spread spectrum radio transmission technology. While the GSM EDGE standard IMT-2000 requirements and are approved as 3G standards by 'ITU, these are typically not branded 3G, and are based on completely different technologies.

4G, which is also known as “ beyond 3G” or “ fourth-generation” cell phone technology, refers to the entirely new evolution. Developers are now going for 4G (OFDMA), which will provide internet up to the speed of 1 GBPS!

It is said to be able to overcome the problems of weak network strength and should provide a much wider network, making sure that the users get high-speed connectivity anytime anywhere. No doubt, 4G will open new doors of revolutionary internet technologies, but for now, 3G and 2.5G are the best. 4G will allow for speeds of up to 100Mbps. 4G promises voice, data and high-quality ultimedia in real-time form all the time and anywhere.

page 7 OG WIRELESS SYSTEM:- In 1945, the zero generation (0G) of mobile telephones was introduced.

0G mobile telephones, such as Mobile Telephone Service, were not officially categorized as mobile phones, since they did not support the automatic change of channel frequency during calls, which allows the user to move from one cell (the base station coverage area) to another cell, a feature called “ handover”. Technologies used in 0G systems included PTT (Push to Talk), MTS (Mobile Telephone System) , IMTS (Improved Mobile Telephone Service), AMTS (Advanced Mobile Telephone System), OLT (Norwegian for Offentlig Landmobil Telefoni , Public Land Mobile Telephony) and MTD (Swedish abbreviation for Mobile Telephony system D).

These mobile telephones were usually mounted in cars or trucks, though briefcase models were also made. Typically, the transceiver (transmitter receiver) was mounted in the vehicle trunk and attached to the “ head” (dial, display, and handset) mounted near the driver seat.

They were sold through WCCs (Wireline Common Carriers, AKA telephone companies), RCCs (Radio Common Carriers), and two-way radio dealers. The primary users were loggers, construction foremen, realtors, and celebrities.

They used them for basic voice communication. . 1G WIRELESS SYSTEM First Generation wireless technology is the original (An analog or analogue signal is any continuous signal for which the time varying feature (variable) of the signal is a representation of some other time varying quantity), voice-only cellular telephone standard, developed in the 1980s. The main difference

between two succeeding mobile telephone systems, 1G and 2G, is that the radio signals that 1G networks use are analog, while 2G networks are digital.

Although both systems use digital signalling to connect the radio towers (which listen to the handsets) to the rest of the telephone system, the voice itself during a call is encoded to digital signals in 2G whereas 1G is only modulated to higher frequency, typically 150 MHz and up. One such standard is NMT (Nordic Mobile Telephone), used in Nordic countries, Eastern Europe and Russia. Others include AMPS (Advanced Mobile Phone System) used in the United States, TACS (Total Access Communications System) in the United Kingdom, JTA6S in Japan, C-Netz in West Germany, Radiocom 2000 in France, and RTMI in Italy.

Analog cellular service is being phased out in most places worldwide. 1G technology replaced 0G technology, which featured mobile radio telephones and such technologies as Mobile Telephone System (MTS), Advanced Mobile Telephone System (AMTS), Improved Mobile Telephone Service (IMTS), and Push to Talk (PTT). Keys: 1.

Developed in 1980s and completed in early 1990's 2. 1G was old analog system and supported the 1st generation of analog cell phones speed up to 2. 4kbps 3. Advance mobile phone system (AMPS) was first launched by the US and is a 1G mobile system 4. Allows users to make voice calls in 1 country

1G Mobile Phone page 10 2G WIRELESS SYSTEM 2G (or 2G) is short for second-generation wireless telephone technology.

Second generation 2G cellular telecom networks were commercially launched the GSM standard in Finland by Radiolinja (now part of Elisa Oyj) in 1991. 2G network allows for much greater penetration intensity. 2G technologies enabled the various mobile phone networks to provide the services such as text messages, picture messages and MMS (multi media messages). 2G technology is more efficient. 2G technology holds sufficient security for both the sender and the receiver.

All text messages are digitally encrypted.

This digital encryption allows for the transfer of data in such a way that are either time division multiple access (TDMA) or code division multiple access (CDMA). TDMA allows for the division of signal into time slots. CDMA allocates each user a special code to communicate over a multiplex physical channel. Different TDMA technologies are GSM, PDC, DECT, IS-136. CDMA technology IS95.

GSM has its origin from the Group special Mobile, in Europe. GSM (Global system for mobile communication) is the most admired standard of all the mobile technologies.

Although this technology originates from the Europe, but now it is used in more than 212 countries in the world. GSM technology was the first one to help establish international roaming. This enabled the mobile subscribers to use their mobile phone connections in many different countries of the world's is based on digital signals , unlike 1G technologies which were used to transfer analogue signals. GSM has enabled the users to make use of the short message services (SMS) to any mobile network at any time.

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SMS is a cheap and easy way to send a message to anyone, rather than the voice call or conference.

This technology is beneficial to both the network operators and the ultimate users at the same time. In comparison to 1G's analog signals, 2G's digital signals are very reliant on location and proximity. If a 2G handset made a call far away from a cell tower, the digital signal may not be enough to reach it. While a call made from a 1G handset had generally poor quality than that of a 2G handset, it survived longer distances. This is due to the analog signal having a smooth curve compared to the digital signal, which had a jagged, angular curve.