

Analysis of mobile communication communications essay



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Wireless communication has become a ubiquitous part of modern life, from global cellular telephone systems to local and even personal-area networks. This book provides a tutorial introduction to digital mobile wireless networks, illustrating theoretical underpinnings with a wide range of real-world examples. The book begins with a review of propagation phenomena, and goes on to examine channel allocation, modulation techniques, multiple access schemes, and coding techniques. GSM and IS-95 systems are reviewed and 2. 5G and 3G packet-switched systems are discussed in detail. Performance analysis and accessing and scheduling techniques are covered, and the book closes with a chapter on wireless LANs and personal-area networks. Many worked examples and homework exercises are provided and a solutions manual is available for instructors. The book is an ideal text for electrical engineering and computer science students taking courses in wireless communications. It will also be an invaluable reference for practicing engineers.

Wireless communication technology is diffusing around the planet faster than any other communication technology to date. Because communication is at the heart of human activity in all domains, the advent of this technology, allowing multimodal communication from anywhere to anywhere where there is the appropriate infrastructure, is supposed to have profound social effects. Yet, which kind of effects, under which conditions, for whom and for what is an open question. Indeed, we know from the history of technology, including the history of the Internet, that people and organizations end up using the technology for purposes very different of those initially sought or conceived by the designers of the technology.

Furthermore, the more a technology is interactive, and the more it is likely that the users become the producers of the technology in its actual practice. Therefore, rather than projecting dreams and fears on the kind of society that will result in the future from the widespread use of wireless communication, we must root ourselves in the observation of the present using the traditional, standard tools of scholarly research. People, institutions, and business have suffered enough from the unwarranted prophecies of futurologists and visionaries that project and promise whatever comes to their minds on the basis of anecdotal observation and ill understood developments. Thus, our aim in this report is to ground an informed discussion of the social uses and social effects of wireless communication technology on what we know currently (2004) in different areas of the world. We would have like to consider exclusively information and analyses produced within the rigorous standards of academic research. This constitutes a good proportion of the material examined here.

The rise of mobile communication

Mobile communication has diffused into society at a rate that is unprecedented. On a world basis, the number of mobile phones rose 24% between 2000 and 2005. According to the International Telecommunications Union (ITU), there was about one telephone subscription for every third person in the world (2005).² At the same time there were about half as many who had access to the internet (ITU 2005). The highest adoption rates are found in Europe where there are

approximately 82 subscriptions per 100 persons. In Oceania (Australia, New Zealand, etc.) there are 69, and in the Americas there are 52 subscriptions per 100 persons. Following this Asia had 22 subscriptions per 100 and Africa had 11. While the adoption rate in Europe has levelled off, there is an almost Klondike like atmosphere in many other countries. The growth rates in India and China are far above 50% per year. In addition, growth in sub-Saharan Africa often tops 100% and sometimes even 200% per year. 3 Thus, in the last decade; we have seen the widespread adoption of a new form of communication.

One of the unique aspects of mobile communication is that it changes the locus of interaction. When

thinking of landline telephony, we call to specific locations. The metaphor is that we call to a person's

home, their work or to some other physical location in the hopes that the individual is someplace near

by.

Mobile communication and mediated ritual

This new channel of interaction allows more nuanced forms of micro-coordination (Ling and Yttri

2002). It provides us with various forms of safety and security (Ling 2004;

Baron and Ling forthcoming) as well a different types of phatic interaction

(Ling 2005b). In short, the mobile telephone allows us to elaborate and

develop cohesion that is often generated in copresent situations. This is not

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to say that relationships can be founded and developed in the absence of copresent interaction. While there are examples of friendships and “communities” that have been fostered and developed exclusively via mediated interaction dating all the way back to telegraphy (Standage 1998), for all practical purposes social interaction needs copresent interaction in order to coalesce into a cohesive form, this process can be aided through the use of mediated interaction. Thinking, for example of romantic relationships, the meeting of individuals, their wooing and the development

of a common sense of involvement is largely a copresent activity. Following the discussion above, it is also a heavily ritualized interaction. There is the need to come into contact and there is the need to engender a mutually recognized sense of the relationship. The couple goes through a series of stages as they enter into a more intense and intimate sense of their coupled status (Ling 2000). Much

of the process has to do with the mapping of common interests and the development of a mutual sense

of trust. The assembly of the group, the use of “tie signs” (Goffman 1971) the establishment of a mutual focus of attention, the development of a common argot or set of symbols and the building of a

barrier to outsiders are all parts of founding an intimate relationship (Collins 2004, 193; Berger and

Kellner 1964). Mediated interaction, and in particular interaction via the mobile telephone is an obvious channel of communication that can be drawn

into this work. In survey material from Norway, for example we see that in an interestingly asymmetric finding that 50% of teen girls and 32% of teen boys reported that they had flirted on a weekly basis via the mobile telephone. 5 This finding underscores the role of the mobile phone in this process. Indeed the mobile telephone is well designed for the purpose. It is a technology of the individual. It allows for the communication of both synchronous and asynchronous messages directly between the concerned individuals and these messages need not be observed by others. 6 During the establishment of the relationship the mobile telephone provides a channel through which the interests of the individuals can be mapped and the intensity of the nascent relationship can be explored. This might include simple information regarding which type of music they like or the timing of their next assignation. It might also include risqué “pick up” lines and perhaps the exchange of pro-vocative or quasi-provocative photos. This contact, along with copresent interaction play into each other as the couple moves toward the establishment of a coupled identity.

TYPES OF SYSTEM

In a mobile communication system at least one of the transceivers is mobile. It may be on board a vehicle that can move at high speeds, or it may be a handheld unit used by a pedestrian. Basic types of systems include base/mobile, peer-to-peer, repeater, and mobile satellite systems. In a base/mobile system, a base station connected to a public network communicates with a mobile unit. This gives the mobile unit access to the public network. More than one mobile at a time can be supported if a different channel (such as a narrow band of spectrum) is assigned to each

user. In most systems, channels are assigned to users as needed rather than giving each user a dedicated channel that is reserved for that user at all times. This is called trunking and allows large numbers of users to be supported with a limited number of available channels, with a small probability that any given call will be blocked because all channels are busy. Cellular telephony uses the base/mobile configuration to give mobile users access to the public switched telephone network. In peer-to-peer systems, mobile units communicate directly with each other. Mobile units sharing a frequency channel can communicate with one another, and independent conversations can take place on different channels. Many amateur, and most CB radio contacts fit into this peer-to-peer model. In peer-to-peer systems, a mobile can sometimes hear only one of two other mobiles that are using a channel, when a total of three users are active. In this system, all users transmit on one channel and listen on a second channel. The repeater, a transceiver that is located at a high point, retransmits the signals with greater power on the second channel. In this system, all users can communicate with each other using one pair of frequencies. A repeater system allows communication over a much greater range than in a direct peer-to-peer

system. Repeaters are used for public services and some amateur radio operations at VHF and UHF frequencies. A variation is a trunked radio system that uses several frequency pairs and assigns a frequency pair for each conversation between mobiles. A trunked system can support many more users than the number of frequencies available because all users typically do not operate at once. In a mobile satellite system, one or more satellites

relays signals between a mobile user and an earth-based base station or “gateway” that connects to the public switched network. The large distances and high speeds of the satellites introduce some difficulties, but a system of this type can provide worldwide coverage.

Characteristics of wireless LANs

Advantages

- very flexible within the reception area
- Ad-hoc networks without previous planning possible
- (almost) no wiring difficulties (e. g. historic buildings, firewalls)
- More robust against disasters like, e. g., earthquakes, fire – or users pulling a plug...

Disadvantages

- typically very low bandwidth compared to wired networks
(1-10 Mbit/s) {10⁻⁴ compared to 10⁻¹⁰ in fiber optics}
- many proprietary solutions, especially for higher bit-rates, standards take their time (e. g. IEEE 802. 11)
- products have to follow many national restrictions if working wireless, it takes a vary long time to establish global solutions like, e. g., IMT-2000
- Interfenece

Conclusions

Wireless and mobile communication is currently a hot topic and it is thus important to include it in the education of computer and telecommunication

engineers. The benefit of teaching wireless mobile communication in a virtual course is that students from polytechnics all over the country, and also from foreign polytechnics, can share and participate in the same course without being physically present. Since students from several different polytechnics participate, feedback and development suggestions are retrieved in a much larger perspective, compared to in an internal course, which results in a higher quality of the course material. The production of a virtual course is, however, a much more demanding task than the production of a traditional internal course. Experts, like graphical designers, have to be included in the production team. The graphical layout of the learning environment is important in order to make the learning and browsing of the course material interesting and easy as well as to lead the students' attention to the essential parts. Before the course is in its final form many prototypes have to be tested and feedback from the students is needed. A proper choice of computer software and IT technology is necessary. A sufficient and realistic budget is also essential. Teaching and learning in a virtual course is also more demanding than in an ordinary course. Students cannot directly interact with the course teacher in the same way as during lectures and teacher assisted exercise sessions. Email and newsgroups is not enough for assisting students since they don't provide direct communication. It is thus important to provide the students the possibility to use real-time E-communication channels such as text, voice, and video chat.

REFERENCE

<http://partners.nytimes.com/library/tech/00/07/biztech/articles/05talk.html>

<http://www.ntia.doc.gov/ntiahome/threeg/ceareportoct2000.pdf>

<https://assignbuster.com/analysis-of-mobile-communication-communications-essay/>

<http://www.business2.com/b2/web/articles/0,17863,513551,00.html>

<http://weatherhead.cwru.edu/pervasive/Paper/UBE%202003%20-%20Yoo.pdf>

<http://jite.org/documents/Vol3/v3p189-217-038.pdf>

<http://informing-science.org/proceedings/InSITE2006/IIISITBerg205.pdf>

<http://lib.tkk.fi/Diss/2005/isbn9512279819/isbn9512279819.pdf>

<http://www.aber.ac.uk/media/Documents/S4B/sem02.html>

<http://www.gsmworld.com/services/messaging.shtml>

<http://www.itu.int/ITU-D/ict/statistics/>

http://journal.fibre-culture.org/issue6/issue6_proitz.html

<http://www.160characters.org/documents/SocialEffectsOfTextMessaging.pdf>