DICHOCOA COMMUNICATOR – SUBSYSTEM FOR BIOMEDICAL HOME SYSTEM

Rudolf Volner, Ph.D.
Department of Air Transport, Faculty of Transportation Sciences
Czech Technical University in Prague,

MUDr. Lubomír Poušek
Institute for BioMedical Engineering
Czech Technical University in Prague,

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Abstract: The article describes information network and CATV applications, backbone network structure. Cable is a natural network for carrying high-capacity, bandwidth - intense information. In the age of analogue program signals, cable's capacity was a natural transmission media for broadcast colour TV and high-fidelity stereo sound programs. In the new digital program signal age, cable's high capacity is a natural network for carrying interactive computer-based, data - intensive multimedia programs. This paper explains the concept, main functions, services and other aspects of the DICHOCOA Communicator, which is a new communication system based on text communication and making the user aware of the existence and activities of others connected to the network.

1 INTRODUCTION

Current lifestyle has led mankind to a crossroad. Quo vadis?. We talk more and more about so-called quality of life and about conditions necessary to its realization. We have to be aware of two different levels. A philosophical-ethical level and technical level. We will deal with a technical level and suggest possible directions of progress in this field. We will also point out a satisfaction of needs and especially technique necessary for realization of such solution. What conditions does a man actually need for a worthy life and self-fulfillment? Basic conditions could be divided into (Figure 1):

- Self-fulfillment: communication possibility, information acquisition, and access to education…
- Living conditions provision: telemetry, health protection, and control of life functions, alarm creation, safety services…
- Transmission system:
  - Internal biosystem with transmission provision
  - External transmission system which enables connection of internal biosystem to a higher level of the transmission system.

The figure 3 shows a possible version, which we try to describe on a case of a client (patient) suffering from diabetes mellitus (abnormal insulin secretion).

Our DICHOCOA (Chat Oriented COmmunication Augment for disable people) communicator is an awareness-based communication system that applies the special features of the new and growing trend known as "text communication". By providing awareness information via continuous packet communication connections, DICHOCOA communicator enables us

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to confirm the status of the person we are calling in advance.

2 DESIGN HOME BIOMEDICAL CATV NETWORK

Interactive network consists of network nodes and terminal devices, which are connected hierarchically among them. Control nodes are connected to incomplete lattice network and so the primary network is created. Every control node serves set of distribution nodes, which are connected to star and they create secondary network. For each distribution node, several terminal devices are connected to it, and they create tercial network. The whole network could form an access network to some larger network and transmissions will be possible to other networks and standards – Figure 1, Figure 2.

3 PRACTICAL APPLICATIONS FOR DICHOCOA COMMUNICATOR

Figure 4 shows the system configuration.

The system is not limited to the in-business applications originally imagined by the developers. Applications:

- Intranet/extranets – makes inter-office communications smoother by printing awareness information in the form of a destination bulletin board,
- Chat services for consumer,
- On-line customer support/education,
- Links with broadcast services,
- Mobile awareness services – Figure 5.

4 CONCLUSION

This paper explained the concept of the DICHOCOA communicator, which is a new communication medium and explained the main features, specifications and others aspects of the system. We discussed how the system has the potential to fundamentally change the existing etiquette surrounding we contact people on the telephone by applying the principle of “awareness”. We also presented some examples in which efficient communications have been achieved through the application of this system.

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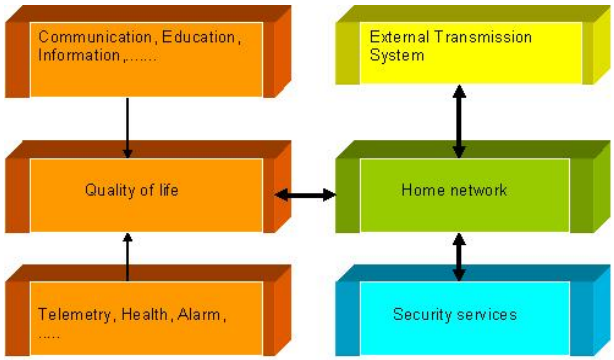

Figure 1: Biomedical home system - basic information structure

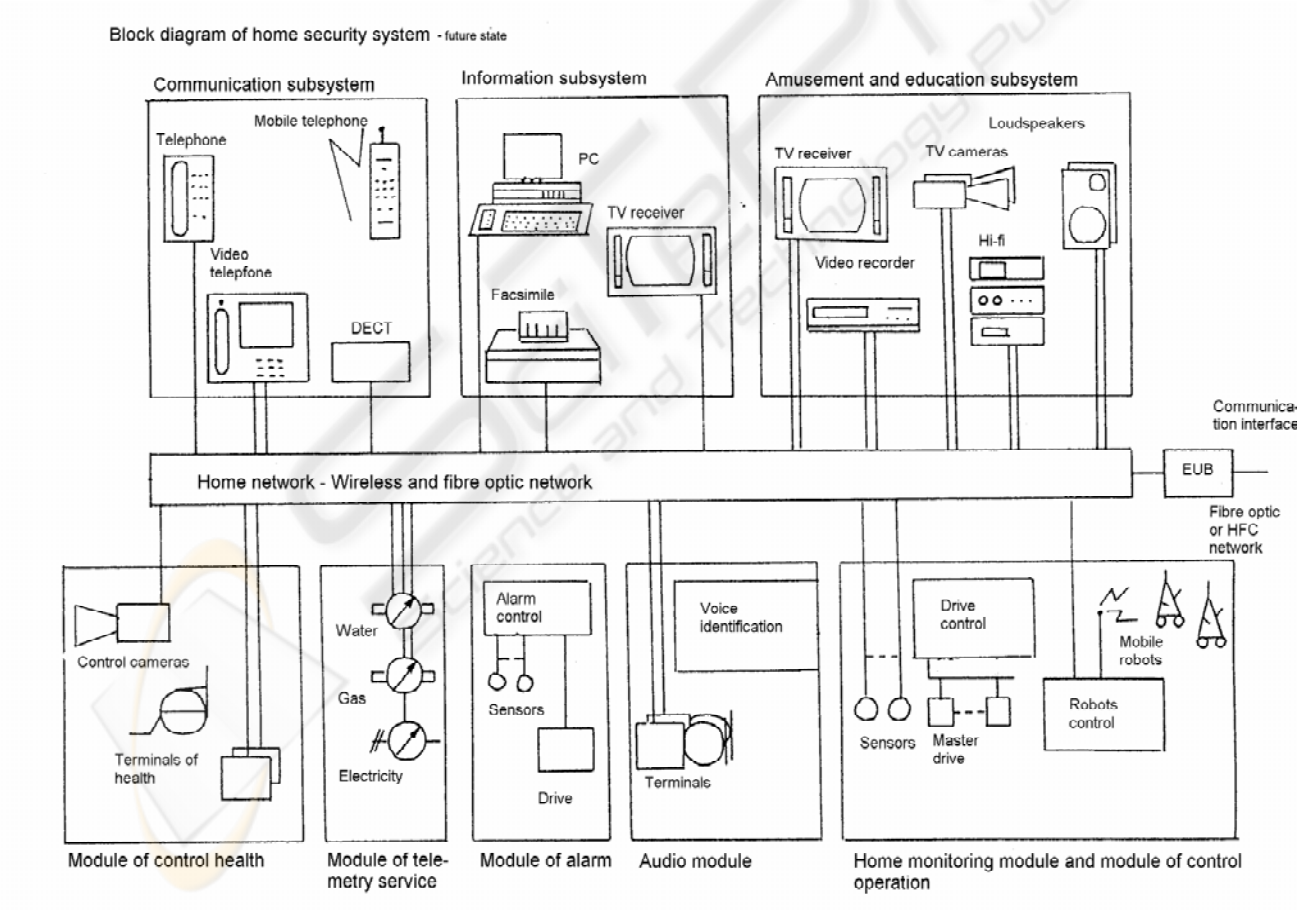

Figure 2: Home biomedical system

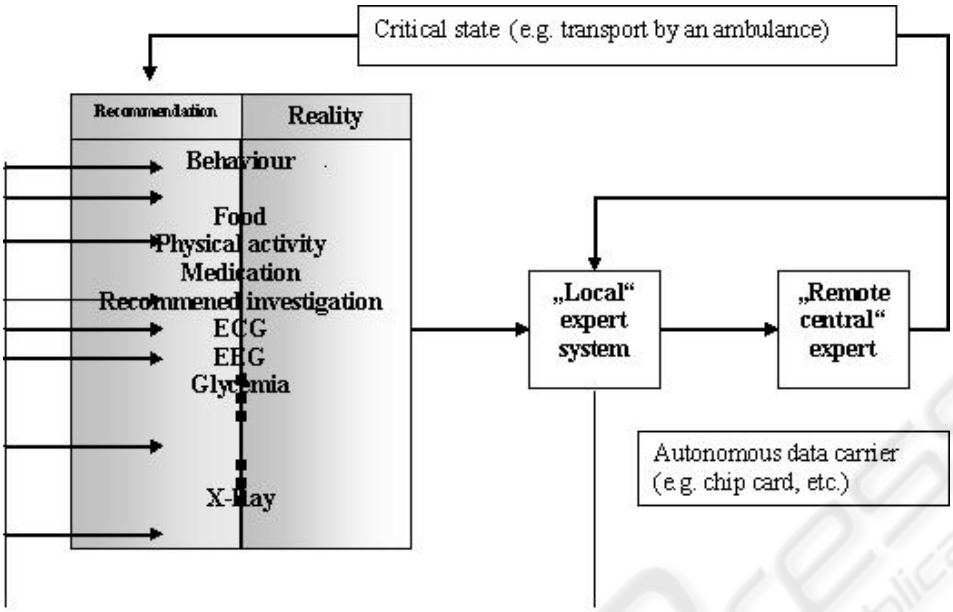

Figure 3: Possible version

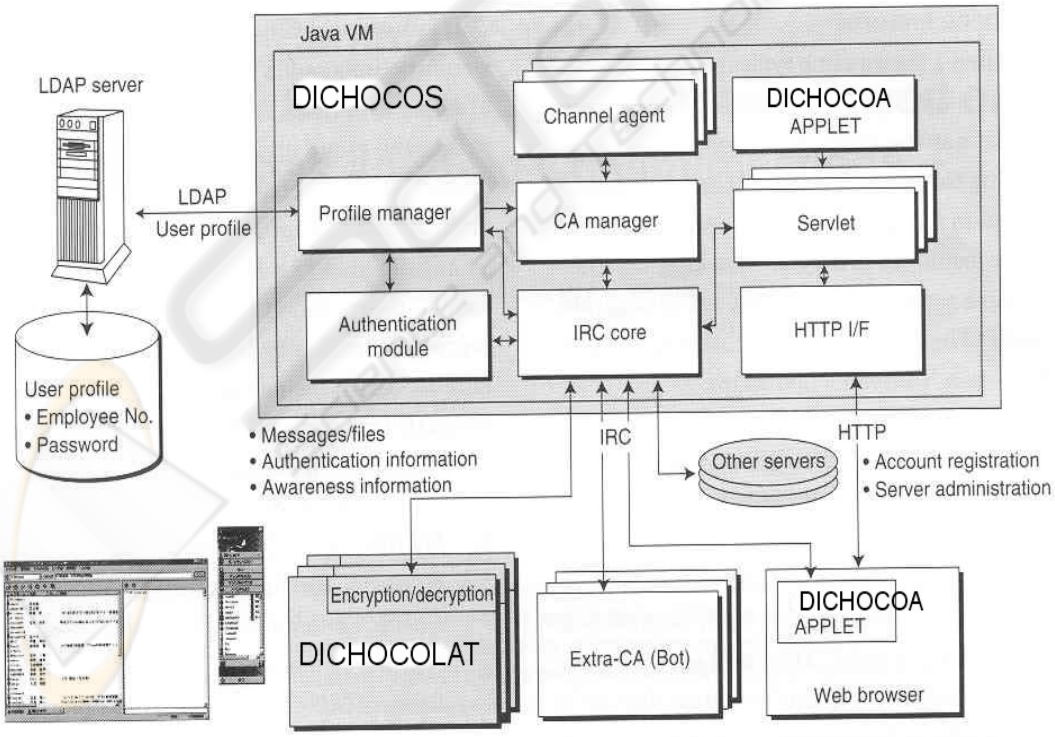

Figure 4: DICHOCOA – System configuration

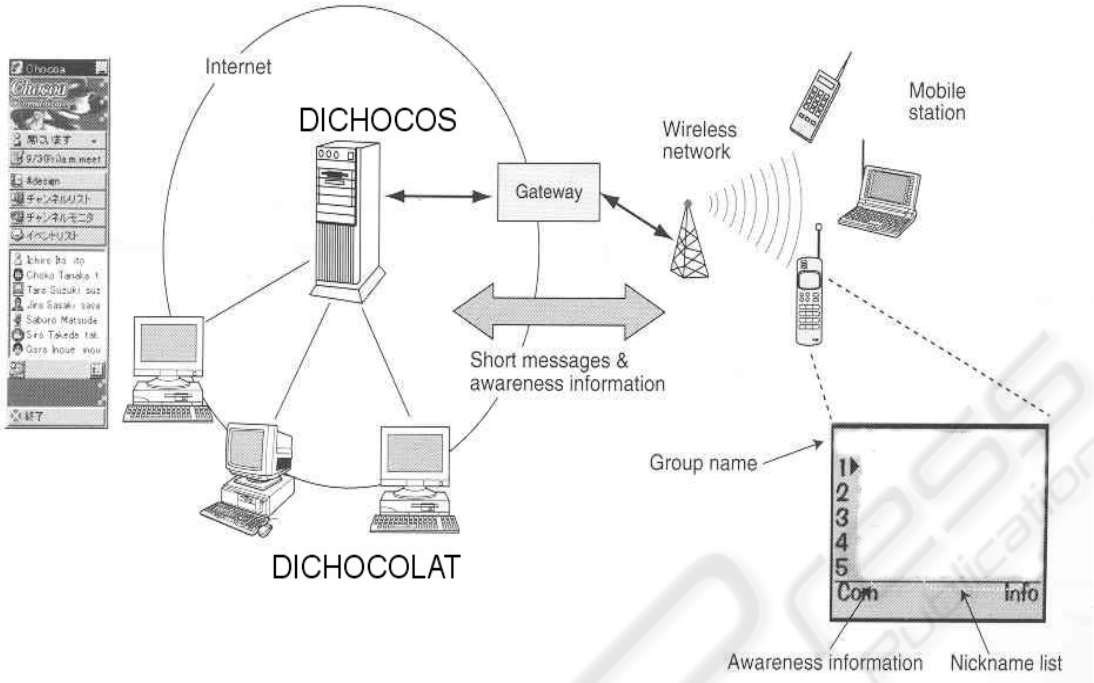

Figure 5: Mobile awareness service