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Creating of Intelligent E-Health Care Environment for Socially Isolated and Aging People

A. A. Bielskis, V. Denisovas, O. Ramašauskas
Department of Informatics, University of Klaipėda,
Manto str. 84, LT-92294 Klaipėda, Lithuania, phone: +370 46 398820; e-mail: {bielskis, vitalij, olegas}@ik.ku.lt

Introduction

This paper proposes an approach of creating of intelligent e-health care environment by describing project of development of Virtual Intelligent House (hereinafter VIH) for Socially Isolated and Aging People (hereinafter SIAP) in abridged form – VIHforSIAP. The VIHforSIAP project seeks to provide support actions for assessment of selected elements that would be the most appropriate to creating a Virtual Intelligent House (VIH) for Socially Isolated and Aging People (SIAP). The intelligent house will provide full support for its residents in a way of health checks, first aid in emergencies as well as social comfort. The virtual intelligent house will be a „thinking" system run by it.

The possibilities of application of system for human physiological parameter monitoring are constantly growing. Physiological parameter monitoring systems could be designed as mobile systems and better comfort characteristics of the human physiological parameter monitoring system could be reached. It gives possibility to integrate the system into the clothes as well [1]. Ability to have a concise description of the blood vessel network can be very useful for automated clinical diagnostics [2].

This project will not be rooted only in the local social issues, i.e. social exclusion in Lithuania, but will be applicable to the wider international scene. As such it will be possible to utilize VIH anywhere in Europe or the rest of the world. The VIHforSIAP will integrate people at risk of exclusion and empower individuals fully to participate in the knowledge based society. It will also offer important means to address the challenges associated with the ageing population such as the rise in number of people with high disability rates, fewer family carers, and a smaller productive workforce. For the growing part of the population over 60, implementation of the VIHforSIAP will break a major barrier for elderly to access and use ICT. This should ensure a better adoption and acceptance of ICT and may have a large spill-over effect to the wider society. In addition, new opportunities offered by ICTs will be exploited to tackle the impact of the ageing population, significantly prolonging independent living and increasing active participation in economy and society [3, 4, 5]. Project will contribute towards the following expected impacts listed in the work of Seventh Framework Programme of European Union in the period from 2007 to 2013 in relation to the topics in question - Challenge 3.7: ICT for independent living and inclusion, Objectives: ICT-2007.7.2 Accessible and inclusive ICT, Funding scheme used: SA for CSA: Impact 1, Strategy of integrating people at risk of exclusion into knowledge society; Impact 2, Strategy of addressing ICT for independent living and inclusion to the ageing population and people with high disability rates; Impact 3, Strategy of breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion; Impact 4, Strategy of using ICTs by the ageing population to significantly prolonging independent living and increasing active participation in the economy and in society.

Impact 1

Development of Strategy of integrating people at risk of exclusion into knowledge society brings about the Impact 1 of the project. The work packages WP1.1, WP1.2, WP2.1, and WP2.2.3 are devoted to bring about the Impact 1 (see Fig. 1). They describe ways of organizing of assessment activities in selecting of elements of VIHforSIAP to developing of strategy of integrating people at risk of exclusion into knowledge society by Assessment activities using conferences and seminars of interdisciplinary expert groups and social science expert groups for selection and assessment of elements of VIHforSIAP by providing steps:

1) For the stage of development of Detailed project plan for assessment of selected elements of VIHforSIAP;

2) For the stage of development of Primary intellectual product of assessment of selected elements of VIHforSIAP;

3) For the stage of development of detailed project plan for assessment of selected elements of VIHforSIAP;

4) For selection and assessment of prototypes of e-assistants to providing E-Help for SIAP Involving to Active Participation in Knowledge Society Creation.

1. Bringing about step 1 of the impact 1, for the stage of development of detailed project plan, elements of the VIHforSIAP have to be selected. Assessment of parameters should be performed of the following selectable elements of the VIHforSIAP: Architecture of Distributed E-Assistants, Ways of giving personal E-Advices for SIAP, Ways of using E-Assistants for E-Health Carae of SIAP, Scenarios of E-Assistants to Servicing SIAP, Scenarios of E-Assistants to Creating E-Learning for SIAP, Scenarios of E-Assistants to Creating E-Business for SIAP, Scenarios of E-Assistants to Creating E-Life Prolonging.

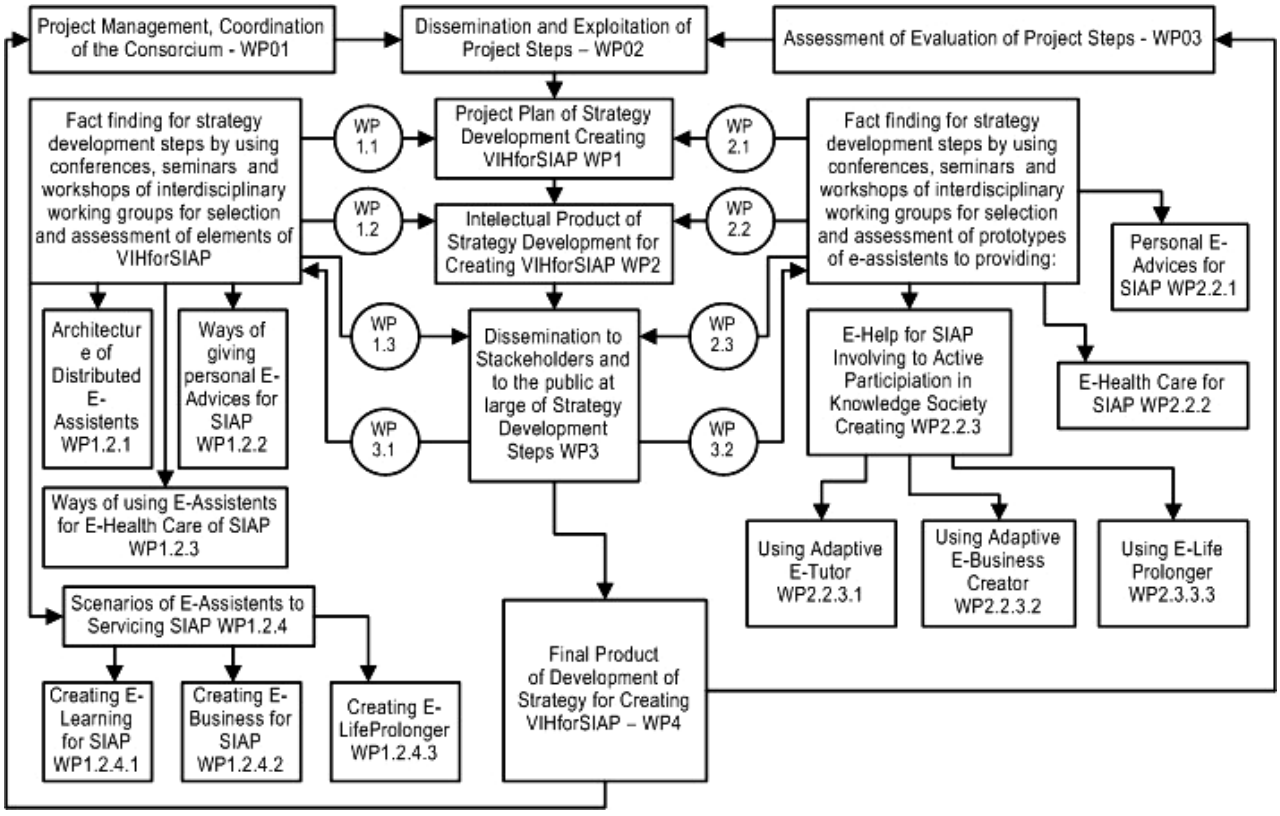

Fig. 1. Structure diagram of the project VIHforSIAP realization

2**.** Bringing about step 2 of the Impact 1, Assessment activities for the stage of development of Primary intellectual product for assessment of selected elements of VIHforSIAP have to be performed and elements of VIHforSIAP for the stage of development of primary intellectual product have to be selected. Selected elements should provide adaptive e-advices for inhabitants of the VIHforSIAP in the process of integrating them into knowledge society. Selected elements should also use Distributed E-Assistants that are agent-based remotely controllable adaptive tools for communication with each other and with the ageing population and people with high disability rates within the distributed internal network of the VIHforSIAP. Distributed e-assistants have to be also selected within the life time of the stage of development of Project primary intellectual product.

3. Bringing about step 3 of the Impact 1, Assessment activities by using conferences and seminars of interdisciplinary expert groups and social science expert groups for selection and assessment of elements of VIHforSIAP have to be performed and Prototypes of e-assistants for the stage of development of detailed project plan for assessment of selected elements of VIHforSIAP have to be selected.

4. Bringing about step 4 of the Impact 1, Assessment activities by using conferences and seminars of interdisciplinary expert groups and social science expert groups for selection and assessment of elements of VIHforSIAP have to be performed and Prototypes of e-assistants to providing E-Help for SIAP by involving them to Active Participation in Knowledge Society Creating have to be selected. Selected Prototypes should provide adaptive e-advices for inhabitants of the VIHforSIAP by involving them in the process of knowledge society creating. Each inhabitant of the VIHforSIAP has to be able in selecting such e-help tool that both is the most appropriate for him/her at given situation and is the best suitable to his/her knowledge level. Architecture of Prototypes of tools to providing E-Help for SIAP by involving every individual to Active Participation in Knowledge Society by Using Adaptive E-Tutor is to be based on usage of Distributed E-Assistants. Selected such Prototype should be able in addressing of ICT for independent living and inclusion to the ageing population and people with high disability rates. Architecture of selected Prototypes should be based on using distributed e-assistant inside the VIHforSIAP. Distributed E-Assistants are to be agent-based remotely controllable adaptive tools that are able to communicate with each other and with the ageing population and people with high disability rates within the distributed internal network of the VIHforSIAP. Such distributed tools have to be capable to communicating with

other tools to providing different type of e-help in integrating people at risk of exclusion into knowledge society. There are the following prototypes of adaptive e-help for socially isolated and ageing people of the VIHforSIAP providing tools that have to be selected for the stage of development of Project primary intellectual product: Adaptive E-Tutor, Adaptive E-Business Creator, and Adaptive E-Life Prolonging.

Impact 2

Development of Strategy of addressing ICT for independent living and inclusion to the ageing population and people with high disability rates brings about the Impact 2 of the project. The work packages WP1.2.1, WP1.2.3, WP1.2.4.2, WP2.2.2, WP2.2.3, WP2.2.3.1, and WP2.2.3.2 are devoted to bring about the Impact 2. They describe ways of organizing of assessment activities in selecting of elements of VIHfor SAP to developing of Strategy of addressing ICT for independent living and inclusion to the ageing population and people with high disability rates The steps that will be needed to bring about the Impact 2, the strategy of addressing ICT for independent living and inclusion to the ageing population and people with high disability rates, are Assessment activities by using conferences and seminars of interdisciplinary expert groups and social science expert groups by providing steps:

1) For selecting Architecture of Distributed E-Assistants;

2) For selecting Ways of using E-Assistants for E-Health Care of SIAP;

3) For selection and assessment of Scenarios of E-Assistants to Servicing process of Creating E-Business for SIAP;

4) For selection and assessment of prototypes of e-assistants to providing E-Health Care for SIAP;

5) For selection and assessment of prototypes of e-assistants to providing E-Help for SIAP to involving them to Active Participation in Knowledge Society by Using Adaptive E-Tutor;

6) For selection and assessment of prototypes of e-assistants to providing E-Help for SIAP to involving them to Active Participation in Knowledge Society by Using Adaptive E-Business Creator;

1. Bringing about step 1 of the Impact 2, Architecture of Distributed E-Assistants is to be selected, and Distributed E-Assistants are to be embedded into the VIHforSIAP. Such distributed tools have to be capable to communicating with other tools to providing different type of e-help in addressing ICT for independent living and inclusion to the ageing population and people with high disability rates.

2. Bringing about step 2 of the Impact 2, Ways of using E-Assistants for E-Health Care of socially isolated and ageing people are to be selected by assessment of secure ways of non-invasive and ethically correct monitoring of personal health status of inhabitants of the VIHforSIAP. Each inhabitant of the VIHforSIAP has to be able in selecting e-health care tool that is the most appropriate for him/her at given situation. The selected e-heath care tool both has to be compatible with architecture of embedded e-assistances of VIHforSIAP and to be able to providing non-invasive and ethically correct monitoring of personal health status of inhabitants of the VIHforSIAP.

3. Bringing about step 3 of the Impact 2, Scenarios of E-Assistants to Servicing process of Creating E-Business for socially isolated and ageing people are to be selected by assessment of personal ways of learning process for an individual of the VIHforSIAP. Each inhabitant of the VIHforSIAP has to be able in selecting such ways of learning to creating e-business that both is the most appropriate for him/her at given situation and is the best suitable to his/her knowledge level. Selected scenarios to servicing process of Creating E-Business for socially isolated and ageing people both have to be compatible with architecture of embedded e-assistances of VIHforSIAP and be able to provide addressing of ICT for independent living and inclusion to the ageing population and people with high disability rates.

4. Bringing about step 4 of the Impact 2, Prototypes of e-assistants to providing E-Health Care for socially isolated and ageing people are to be selected by assessment of secure ways of non-invasive and ethically correct monitoring of personal health status of inhabitants of the VIHforSIAP. Architecture of Prototypes of e-health care tools for socially isolated and ageing people is to be based on usage of Distributed E- Assistants. Selected by individual, thel Prototype of e-assistant is to be capable in providing E-Health Care by performing non-invasive and ethically correct monitoring of personal health status of given inhabitant of the VIHforSIAP.

5. Bringing about step 5 of the Impact 2, Prototypes of e-assistants to providing E-Help for SIAP by involving him/her to Active Participation in Knowledge Society by Using Adaptive E-Tutor are to be selected by assessment of personal ways of learning process for an individual of the VIHforSIAP. Each inhabitant of the VIHforSIAP has to be able in selecting such e-Tutor that both is the most appropriate for him/her at given situation and is the best suitable to his/her knowledge level. Architecture of Prototypes of tools to providing E-Help for SIAP by involving every individual to Active Participation in Knowledge Society by Using Adaptive E-Tutor is to be based on usage of Distributed E- Assistants. Selected such Prototype should be able in addressing of ICT for independent living and inclusion to the ageing population and people with high disability rates.

6. Bringing about step 6 of the Impact 2, Prototypes of e-assistants to providing E-Help for SIAP by involving him/her to Active Participation in Knowledge Society by Using Adaptive E-Business Creator are to be selected by assessment of personal ways of learning process for an individual of the VIHforSIAP. Each inhabitant of the VIHforSIAP has to be able in selecting such an adaptive e-business creator that both is the most appropriate for him/her at given situation and is the best suitable to his/her knowledge level. Architecture of Prototypes of tools to providing E-Help for SIAP by involving every individual to Active Participation in Knowledge Society by Using Adaptive E-Business Creator is to be based on usage of Distributed E-Assistants. Selected such Prototype should be able in addressing of ICT for independent living and inclusion to the ageing population and people with high disability rates.

Impact 3

Development of Strategy of breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion brings about the Impact 3 of the project. The work packages WP1.2.4, WP1.2.4, WP1.2.4.1, and WP2.2.1 are devoted to bring about the Impact 3. They describe ways of organizing of assessment activities in selecting of elements of VIH for SIAP to developing of Strategy of breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion. The steps that will be needed to bring about the Impact 3, Strategy of breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion, are Assessment activities by using conferences and seminars of interdisciplinary expert groups and social science expert groups by providing steps:

1) For selecting Ways of giving personal E-Advices for SIAP;

2) For selection and assessment of Scenarios of E-Assistants to Servicing SIAP;

3) For selection and assessment of elements of VIHforSIAP creating Scenarios of E-Assistants to Servicing process of Creating E-Learning for SIAP;

4) For selection and assessment of prototypes of e-assistants to providing Personal E-Advices for SIAP.

1. Bringing about step 1 of the Impact 3, Ways of giving personal E-Advices for SIAP in breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion are to be selected. Personal e-advices are multi-agent based adaptive e-tools that are able both to communicating with each other and with inhabitants of the VIHforSIAP and to providing personal advices for each individual of the VIHforSIAP. Architecture of Personal e-advices has to be compatible with architecture of Distributed E-Assistants, the agent-based remotely controllable adaptive tools that constitute inside VIHforSIAP. These adaptive tools have to be prescribed to every individual of the VIHforSIAP who is seeking of breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for him/her. These tools should be having capability of assessment of changing level of knowledge of given person from groups at risk of exclusion in the process of breaking barrier of complexity, lack of utility, accessibility and usability of ICT for him/her.

2. Bringing about step 2 of the Impact 3, Scenarios of E-Assistants to Servicing SIAP in breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion are to be selected. Selected scenarios have to be embedded into personal e-advice tools that behave as multi-agent based adaptive e-advisers of inhabitants of the VIHforSIAP and provide personal advices for each individual of the VIHforSIAP who is seeking to breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for him/her. Architecture of Personal e-advice's tools for servicing SIAP has to be compatible with architecture of Distributed E-Assistants. These selected scenarios should be able to enriching capabilities of adaptive e-advice tools in the process of assessment of changing level of knowledge of given person from given group at risk of exclusion to breaking barrier of complexity, lack of utility, accessibility and usability of ICT for him/her.

3. Bringing about step 3 of the Impact 3, Scenarios of E-Assistants to Servicing process of Creating E-Learning for SIAP in breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for groups at risk of exclusion are to be selected. Selected scenarios have to be embedded into personal e-advice tools of creating E-Learning for SIAP that behave as multi-agent based adaptive e-advisers of inhabitants of the VIHforSIAP and provide personal advices for each individual of the VIHforSIAP who is seeking of breaking the major barrier of complexity, lack of utility, accessibility and usability of ICT for him/her. Architecture of Personal e-advice's tools of creating e-learning capabilities for SIAP has to be compatible with architecture of Distributed E-Assistants. These selected scenarios should be able to enriching capabilities of adaptive e-advice tools in the process of assessment of changing level of knowledge of given person from given group at risk of exclusion to breaking barrier of complexity, lack of utility, accessibility and usability of ICT for him/her.

Impact 4

Development of Strategy of using ICTs by the ageing population to significantly prolonging independent living and increasing active participation in the economy and in society brings about the impact 4 of the project. The work packages WP1.2.4.3 and WP2.3.2.3 are devoted to bring about the Impact 4. They describe ways of organizing of assessment activities in selecting of elements of VIHfor SIAP to developing of Strategy of using ICTs by the ageing population to significantly prolonging independent living and increasing active participation in the economy and in society. The steps that will be needed to bring about the Impact 4**,** Strategy of using ICTs by the ageing population to significantly prolonging independent living and increasing active participation in the economy and in society, are Assessment activities by using conferences and seminars of interdisciplinary expert groups and social science expert groups by providing steps:

1) For selection and assessment of Scenarios of E-Assistants to Servicing process of creating E-Life Prolonging as an intelligent tool for ageing population to significantly prolonging independent living and increasing active participation in the economy and in society;

2) For selection and assessment of prototypes of e-assistants to providing E-Help for SIAP Involving to Active Participation in Knowledge Society by using E-Life Prolonging as an intelligent tool for ageing population to significantly prolonging independent living and increasing active participation in the economy and in society..

1. Bringing about step 1 of the Impact 4, Scenarios of E-Assistants to Servicing process of creating E-Life Prolonging as an intelligent tool for ageing population to significantly prolonging independent living and increasing active participation in the economy and in society are to be selected. Selected scenarios have to be embedded into personal E-Life Prolonging as an intelligent tool for ageing population to significantly prolonging independent living

and increasing active participation in the economy and in society. The e-life prolonging tools behave as multi-agent based adaptive e-advisers of inhabitants of the VIHforSIAP and provide personal advices for each ageing individual of the VIHforSIAP who is seeking of using ICTs for him/her to significantly prolonging personal independent living and increasing active participation in the economy and in society. Architecture of e-life prolonging tools has to be compatible with architecture of Distributed E-Assistants. These selected scenarios while embedded into e-life prolonging tools should be able to enriching capabilities of adaptive e-life prolonging tools in the process of assessment of changing style of living and behaving of given ageing person of the VIHforSIAP who is seeking to significantly prolonging of his/her independent living and increasing of his/her active participation in the economy and in society.

2. Bringing about step 2 of the Impact 4, Prototypes of e-assistants to providing for SIAP such e-help tools that are capable of involving of ageing population to Active Participation in Knowledge Society by using E-Life Prolonging are to be selected. E-Life Prolonging should act as an intelligent tool for ageing person which helps to significantly prolonging his/her independent living and increasing his/her active participation in the economy and in society. Architecture of prototypes of E-Life Prolonging has to be compatible with architecture of Distributed E-Assistants, the agent-based remotely controllable adaptive tools that constitute inside VIHforSIAP. Prototypes of e-life prolonging tools behave as multi-agent based adaptive e-advisers for each ageing inhabitant of the VIHforSIAP, They also should provide personal advices for every ageing individual of the VIHforSIAP who is seeking to gaining process of significant prolonging his/her independent living and increasing of his/her active participation in the economy and in society.

Assumptions and external factors

Basic attempts that may determine whether the impacts will be achieved are made in the Computer Science and Computer Engineering profile departments of Klaipeda University (KU) and Western Lithuania Business College (WLBC) by involving IT curricula students in permanent design of embedded agents creating intelligent distributed e-laboratory. In the ICT expert group, the ITEx, of University of Klaipeda, research work runs developing ambient intelligence by creating: agent-based adaptive e-learning environment [4, 8], e-possibilities to gaining social activities of socially isolated and ageing people [5, 6], embedded agents and communications between embedded agents in a distributed e-laboratory [8], models of intelligent robots for e-health care support [3, 7]. Projects are being permanently developed during bachelor, master, and doctoral IT studies to practically developing embedded agents and realizing communications between embedded agents in a distributed e-laboratory, creating elements to constructing of adaptive e-learning, e-health support, and e-business tools. The ITEx expert group is being involved as IT part coordinator in the international EU funded Equal project for creating e-possibilities for socially isolated people to minimizing their social exclusion. There are the following ICT profile staff members who will be undertaking the work: 1 professor, 5 associate professors, 2 IT doctors, and 2 IT engineers. The social science specialist's expert group, the SoEx, is doing research work on philosophical and social aspects of socially isolated people to minimizing their social exclusion. The profile of the staff members of the SoEx expert group who will be undertaking the work: 1 professor – PhD in Philosophy awarded by the University of Warwick (UK) [9], and 2 doctors of economics. The design process lasts since 2002 involving IT students both of bachelor and master studies. Learning by doing approach is permanently being implemented by realizing projects of agent oriented remote robot control in a distributed environment of an e-laboratory of KU. Projects are divided into phases both of making individual contributions on topics of different subjects of IT curricula and creating semester and final projects of both bachelor and master studies of IT curricula. Both phases are connected with the following aspects: hardware and software design of embedded agents (EA); developing of algorithms and programs gaining intelligence of EA; implementing intelligent multi-agent based EA control; implementing remote communications in an intelligent e-laboratory; incorporating educational e-business aspects for EA. In those projects, the small electrically controllable car models are used as basic electromechanical equipments for a robot constructing. A few unicycle type robots also have been assembled and tested. Those robots might be as prototypes of robots for providing intelligent help for people with some movement disabilities. An intelligence of each robot enables ATmega8 or ATmega16 based embedded agent inserted in every robot. Each robot has: two drives controlled by L293D chip; a digital rotation measurement system of its wheels; detection capabilities of obstacles both multi-contact and remote infrared type in front of the robot. Controlling of the robot goes through RS232 serial port using HyperTerminal. Distance control and reprogramming of every robot are implemented via IRC and TCP/IP protocols. The system of communications of 6 remote objects was implemented and successfully demonstrated in an e-laboratory of KU in June 2006 and 2007. Original principles of Detection of Signal Data Alternations by Forward Chaining Expert System are also implemented in some of KU projects. By using Java type JACK programming environment, three of those projects at bachelor level are implemented creating multi-agent control of car type robots, and three projects at master level are made by realizing some adaptive e-learning principles based on application of Self-Organizing Maps (SOM) neural networks and Q-learning. Few KU projects are realized for constructing of Embedded Agents to collect ECG and EEG data for educational purposes within a distributed environment of an e-laboratory. They allow measuring and saving of ECG (Electrocardiogram) and EEG (Electroencephalogram) signals of learners by using embedded agents in an e-laboratory. The standardized EEG electrodes placement system called the 10-20 System is used for collecting EEG data. The 10-20 System is based on the relationship between the location of an electrode and the underlying area of cerebral cortex. Methods of application of SOM neural networks for recognizing the collected by 10-20 System EEG signals are proposed in those projects. An

original method of personal health status prediction is proposed more intelligent and realized in the Virtual Learning Environment (VLE) by using modified Q-learning approach.

Conclusion

An approach of creating of intelligent e-health care environment proposed here by describing idea of development of virtual house (e-house) for aging and socially affected people. The project seeks of assessment of selected elements that would be the most appropriate to creating a proposed Virtual Intelligent House for Socially Isolated and Aging People (VIHforSIAP). It describes strategy of addressing ICT for independent living and inclusion to the ageing population and people with disability rates and using ICTs by the aging population to significantly prolonging independent living and increasing active participation in the economics and society.

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An approach of creating of intelligent e-health care environment by describing project of development of VIHforSIAP is proposed. The main project oriented for assessment of selected elements some of those should be the most appropriate to create a Virtual Intelligent House (VIH) for Socially Isolated and Aging People (SIAP). Project contributes towards impacts listed in the work of Seventh Framework Programme of European Union in relation to the topics of ICT for independent living and inclusion and Accessible and Inclusive ICT (Challenge 3.7, ICT-2007.7.2). This paper describes the strategy of ICT addressed for independent living and inclusion for the aged population and people with high rate of incapacity. Thus, proposed here ICTs application of the aged population probably increases her quality of life and significant prolongs intense independent life with participation in the economics and society. Ill.1, bibl. 9 (in English; summaries in English, Russian and Lithuanian).

А. А. Белскис, В. Денисовас, О. Рамашаускас. Создание интеллектуальной среды э-здоровья для обеспечения социально изолированных пожилых людей // Электроника и электротехника. – Каунас: Технология, 2008. – № 3(83). – С. 19–24.

Предложен подход для создания интеллектуальной среды обеспечения э-здоровья, который лег в основу предложенного авторами статьи проекта, сокр. VIHforSIAP. Главным образом проект ориентирован на оценку предварительно отобранных элементов среды, которые должны быть наиболее подходящими для создания виртуального интеллектуального дома для социально изолированных пожилых людей. Проект соответствует приоритетам, сформулированным в документах седьмой Структурной Программы Европейского Союза по отношению к таким тематическим направлениям как ИКТ для независимого проживания и доступные, всеобъемлещие ИКТ (Challenge 3.7, ICT-2007.7.2). Таким образом, предложенное здесь применение ИКТ для населения старшего возраста увеличивает качество жизни и вероятностно продлевает интенсивную независимую жизнь с активным участием в домашнем хозяйстве и общественной жизни. Ил. 1, библ. 9 (на английском языке; рефераты на английском, русском и литовском яз.).

A. A. Bielskis, V. Denisovas, O. Ramašauskas. Intelektualios e-sveikatos aplinkos sukūrimas socialiai atskirtiems pagyvenusiems žmonėms // Elektronika ir elektrotechnika. – Kaunas: Technologija, 2008. – Nr. 3(83). – P. 19–24.

Siūlomas būdas, kaip sukurti intelektualią e-sveikatos aplinką. Juo remiasi straipsnio autorių teikiamas projektas VIHforSIAP. Projektas daugiausia skirtas įvertinti iš anksto atrinktiems aplinkos elementams, geriausiai tinkantiems socialiai izoliuotiems pagyvenusiems žmonėms skirtam virtualiam intelektualiam namui sukurti. Projektas atitinka Europos Sąjungos septintosios struktūrinės programos prioritetus tokių teminių krypčių atžvilgiu, kaip nepriklausomą gyvenimą užtikrinančios IKT ir prieinamos, viską apimančios IKT (Challenge 3.7, ICT-2007.7.2). Taigi čia siūloma IKT tikimasi pagerinti pagyvenusių žmonių gyvenimo kokybę, kad jie galėtų aktyviai dalyvauti namų ūkyje ir visuomeniniame gyvenime. Il. 1, bibl. 9 (anglų kalba; santraukos anglų, rusų ir lietuvių k.).

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