

Section D
Literature, Projects and Products
with Relevance to TASC

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Introduction

The following conferences (1992 and forward) have been used as main sources in the search for literature and projects with relevance to TASC:

RESNA (The Rehabilitation Engineering and Assistive Technology Society of North America)

ECART (European Conference on the Advancement of Rehabilitation technology).

In 1997 ECART changes name to **AAATE** (Association for the Advancement of Assistive Technology in Europe)

TIDE (Telematics for the Integration of Disabled and Elderly People)

ICCHP (International Conference on Computers Helping People with Special Needs)

IASSID (International Association for the Scientific Study of Intellectual Disabilities)

AAMR (American Association on Mental Retardation)

Closing the Gap

CSUN (Center of Disabilities, California State University, Northridge), annual conference on Technology and Persons with Disabilities

In total, approximately 5800 pages of proceedings/programs/abstracts have been read, of which about 200 pages have relevance to TASC. That means that about 3% of the written material presented at the most important conferences in Europe and USA deals with subjects concerning assistive technology for people with cognitive disabilities. TIDE and ECART are the conferences that have most material in this field, almost 10% at their last sessions. IASSID and AAMR are conferences specially dedicated to cognitive disabilities but less than 1% of their proceedings discuss assistive technology related items. From the two American conferences, Closing the gap and CSUN, no proceedings have been available.

For each listing a short abstract of the text or a description of the project is given, and with the products and projects an attempt has been made to give classification by means of the core problem activities identified in WP3 (see Section A, Fig. 4) and also to state the product type if possible.

Products and projects relevant for TASC.

The Adjusted Mobile Telephone

Contact persons: Kerstin Gatu, Lasse Hallvars, Hasse Hammarlund (The Swedish Handicap Institute), Benefon-Ragnar Orgna

Abstract: The adjusted mobile telephone has just two buttons that can be programmed to whatever telephone number you like.

Problem Area:

Not able to use common technological devices

Product Type:

Mobile telephones

Ager, Alastair

A Pilot Investigation Of The Use Of The Psion Organiser As An Intellectual Prosthesis For Individuals With Learning Difficulties

Project Report 1989

Abstract: The organiser was used as an aid to assist individuals in the reliable performance of skills at the boundaries of their present competence. Four dedicated "framework" programs were developed for the device (CHOOSE, REMIND; PROMPT and READ)

Problem Area:

Problems in remembering the sequence of activities in a task

Access to information in understandable form

Not able to remember (recurring) simple activities

Not able to remember planned activities

Product Type:

Personal organisers

Berglund, Lars-Åke & Anders Bond

The Quarter Hour Watch, A Time Visualisation Aid For Persons With Developmental Disabilities RESNA 95, pp 623-625

Abstract: The Quarter Hour Watch is an aid giving persons who cannot manage to use ordinary watches the opportunity to orient themselves in the dimension of time.

Problem Area:

Access to information in understandable form

Not able to use common technological devices

Not understanding the concept of time

Product Type:

Time measuring devices

Brodin, Jane

Telecommunity

Telecommunication For Persons With Mental Retardation - A Swedish Perspective

ICCHP 4th , pp 562-568

Abstract: The study shows that the effects of the impairments can be diminished, that communication and independence increase and the quality of life may increase by using a videotelephone which is based on both visual and auditory impressions.

Problem Area:

Access to information in understandable form

Problems with expressing one self

Product Type:

Picture/videophones

Cavalier, Al R. & Ralph P. Ferretti

The Use Of An Intelligent Cognitive Aid To Facilitate The Self-Management Of Vocational Skills By High School Students With Severe Learning Disabilities

RESNA 93, pp 216-218

Abstract: This study investigated the utility of an portable remind-and-guide device. The device comprised of a belt-worn microprocessor unit (including miniature radio transmitter, ultrasonic sensors, and speech output capability) and a variable number of miniature transponders that can be attached to significant components of the vocational task or items in the student's environment.

Problem Area:

Problems in remembering the sequence of activities in a task

Product Type:

Remind, guide and prompt devices

CHEF

A kitchen management system for people with mental handicap

(TIDE project 161)

Abstract: Chef seeks to utilise "leading edge" technology in the fields of behavioural psychology, telematics, sensors and control to contribute to the full integration into society of people with mental handicap. In particular it addresses the fundamental need of such people to be able to cook for themselves in order to sustain an independent lifestyle.

Problem Area:

Problems in remembering the sequence of activities in a task

Product Type:

Remind, guide and prompt devices

Cole, Elliot & Parto Dehdashti

Prosthetic Software For Individuals With Mild Traumatic Brain Injury: A Case Study Of Client And Therapist

RESNA International 92, pp 170-172

Abstract: The results of this study show that properly designed computer software can help restore function in brain injury survivors with mild deficits. Two applications were introduced, a basic text editor and a weekly calendar/appointment reminder

Problem Area:

Not able to remember planned activities.

Product Type:

Personal organisers

Davies, Daniel K., Randy W. Dipner & Robert H. Gattis, Jr.

CHECK-RITE: A portable checkbook management device for individuals with mental retardation

RESNA International 92, pp 173-175

Abstract: Check-Rite is a portable computerised device that will enhance the ability of individuals with mental retardation to master effective management of personal checking accounts.

Problem Area:

Not understanding the value and concept of money

Product Type:

Personal organisers

DEME

Research On Security Alarm System For Demented Persons

Contact: Jaana Leikas, VTT Information Technology

Abstract: A 3-year research project that aimed to evaluate technical feasibility of the security alarm system for demented persons. The central unit of the system is a safety telephone. Each apartment was equipped with different detectors adapted individually according to each person's needs.

Problem Area:

Not able to take action when things go wrong

Product Type:

Smart houses

Flachberger, Christian, Paul Panek & Wolfgang L. Zagler

AUTONOMY: A flexible and easy-to-use assistive system to support the independence of handicapped and elderly persons

ICCHP 4th, 1995, pp 64-75

Abstract: To meet the requirements of very different possible users, high flexibility in supported functions and configuration of the user interface is essential for the concept. Three basic functions of AUTONOMY is. Communication, Environmental Control (Remote Control) and Safety Functions.

Problem Area:

Product Type:

Communication devices

Friedman, Mark B.

A Wearable Computer That Gives Context-Sensitive Verbal Guidance To People With Memory Or Attention Impairments

RESNA 93, pp 199-201

Abstract: Using radio and ultrasonic communication with small transponders placed on significant objects and at key locations in a building, the computer can automatically provide verbal prompts at appropriate places and times.

Problem Area:

Problems in remembering the sequence of activities in a task

Product Type:

Remind, guide and prompt devices

Friedman, Mark, John Kostraba, Kimberly Henry & John Coltellaro

Hardware Description Of A Portable Electronic Device

RESNA 91, pp 333-334

Abstract: The paper outlines the motivation for developing a portable, interactive electronic memory aid as well as the hardware design.

Problem Area:

Product Type:

Remind, guide and prompt devices

Jaffe, David L., Eric E. Sabelman & Gayle E. Curtis

Responsive Environment Project-Transparent Navigation Assistant.

RESNA International 92, pp 176-178

Abstract: The system will enhance the mobility and orientation of visually impaired, blind and cognitively disabled individuals with a series of audible prompts(sounds, tones, or digitized voice), tactile maps or large print displays.

Problem Area:

Access to information in understandable form

Problems with orientation in space

Product Type:

Navigation systems

Jönsson, Bodil & Arne Svensk**ISAAC - A Personal Digital Assistant For The Differently Abled**

TIDE 2, 1995, pp 356-361

Abstract: ISAAC combines in one unit a pen-based computer, a digital camera, a GPS satellite navigation receiver, and cellular phone channels for both voice and data. After three years of testing two of ISAAC's functions has emerged as the most important to the users: 1) The digital pictures and the new developments, the Pictorium (a picture library) and the Picturegraph (a simple way to handle digital pictures). 2) Isaac as a time indicator (a further development is called Clock o' Clock)

Problem Area:

Not able to plan independently
 Access to information in understandable form
 Not able to use common technological devices
 Not understanding the concept of time
 Not able to take action when things go wrong
 Not able to remember planned activities
 Problems with orientation in space
 Problems with expressing one self
 Problems in finding particular items (in shop)

Product Type:

Time measuring devices
 Bar code scanners/technology adaptation
 Overall Integration

Krogstad, J.M, Dihle A.K, Kristiansen G., Pfaff K., Saether K. & Finset A
Memory Diary And Datamaster.A Compensatory Aid For Impaired Memory, Initiative, Structure And Orientation (MISO) - "Huskedagbok"

Scandinavian Journal of Rehabilitatin Medicine, suppl 26:86, 1992

Abstract: The aid that may be used at home and work after discharge from hospitals consists of a pocket size diary of a loose-leafs type and a miniature electronic databank.

Problem Area:

Not able to plan independently
 Not able to remember (recurring) simple activities
 Not able to remember planned activities

Product Type:

Remind, guide and prompt devices
 Personal organisers

Lundman, Margita, Hans Hammarlund & Mats Granlund**MENTEK. New Technology For Persons With Mental Handicap**

ECART 3, 1995, pp 201-203

Abstract: The aim of this three year project has been to develop and use modern technology to support disabled users cognitive abilities. One emphasis has been on the help a computer can give in the home. At a day centre the focus has been on the need for computerised support at work.

Problem Area:

Not able to plan independently
 Access to information in understandable form

Product Type:

Intra-net-Groupware

Martins Ferreira, J.M., José L. Ramalho, Martyn Cooper & David A. Keating**Smart Homes And The HS-ADEPT Project: Applications And User Interfaces**

ECART 3, 1995, pp 341-343

Abstract: The HS-ADEPT is a TIDE bridge phase project where integrated home systems are being developed to meet the requirements of people with special needs. The project is led by the users requirements and the applications should lead to products addressing the general home systems market.

Problem Area:**Product Type:**

Smart houses

Napper, Stan A. & Shrivatsa Narayan

Cognitive Orthotic Shell

RESNA 94, pp 423-425

Abstract: COS is a computerised cognitive orthotic shell that assists therapists and other caregivers in creating customised task guidance systems for guiding cognitively impaired clients through activities of work or daily living. In this study COS is used to help a man with brain injury to perform a shaving task.

Problem Area:

Problems in remembering the sequence of activities in a task

Product Type:

Remind, guide and prompt devices

Newberry-Tarrier, Sue

Touch Sensitive Cupboards

- Computerised Decision Support For People With Learning Difficulties

Computers in adult education and training, 2(2), 91-96.

Abstract: The paper describes the development of a computerised decision support system for grocery shopping. The aid has been used successfully by residents of a Group Home. The system relies on a specifically designed iconic interface, and produces a pictorial shopping list for the residents who have limited literacy and numeracy skills

Problem Area:

Problems in remembering the sequence of activities in a task.

Access to information in understandable form

Problems in finding particular items (in shop)

Product Type:

Remind, guide and prompt devices

Nicolle, Colette & Simon J Richardson

Defining User Requirements For People With Dementia Who Wander

ECART 3, 1995, pp 204-206

Abstract: The project has had two main activities, a review of the state of the art and fieldwork studies. The User Requirements Specification has resulted in costs/benefits, their design implications, targets for usability and usage scenarios, to be used in the evaluation process.

Nilsson, Sven-Håkan

Videotelephony For Elderly And People With Disabilities-Various Technologies And Quality Aspects

ECART 2, 1993, 21.1

Abstract: Existing and emerging video communication technologies are presented, with strong emphasis on user interface as well as sound and picture quality aspects in relation to user requirements.

Problem Area:

Problems with expressing one self.

Product Type:

Picture/videophones

Petrie, Helen & Valerie Johnson

MoBIC: An aid to increase the mobility of blind and elderly travellers

ECART 3, 1995, pp 247-249

Abstract: This aid builds on the technologies of Geographical Information Systems (GIS) and the Global Positioning System (GPS). The MoBIC system will help the user in planning a journey and helps him to execute these plans by providing users with orientation and navigation assistance during journeys.

Problem Area:

Access to information in understandable form

Product Type:

Navigation systems

PUST: My Plan

Abstract: The product is a picture-based calendar for a week, running in a Windows environment. In order to assist developmentally disabled users, My Plan can provide decision support if the user is uncertain about some aspects of an activity.

Problem Area:**Product Type:**

Not able to plan independently
Access to information in understandable form
Not able to remember planned activities

Personal organisers

Q-me

<http://WWW.imsgrp.com/imm/qme.htm>

Abstract: Q-me uses sound and pictures to guide a person with specific learning disability through some chosen activity in a sequence of simple steps. At the centre of Q-me is a personal computer that provides cues to the learner whilst monitoring their activity using sensor technology.

Problem Area:

Problems in remembering the sequence of activities in a task

Product Type:

Remind, guide and prompt devices

Schmeler, Mark R. & Myron J Deputat

The Intelligent Microwave Oven

RESNA International 92, pp 649-651

Abstract: This device makes use of a bar code and optical scanner to identify and cook specified foods in a microwave oven for given times and heat levels.

Problem Area:

Not able to use common technological devices

Product Type:

Bar code scanners/technology adaptation

Tello, Steven F.

Technology Transfer: The Role Of Consumer Products For Individuals With Disabilities

Work/Fall 1993, pp 5-11

Abstract: The Res-Tech project has investigated the possibilities for increased personal control for disabled people using devices designed for non-disabled consumers.

Problem Area:

Not able to use common technological devices

Product Type:

Bar code scanners/technology adaptation

VICAID

Vocational integration through computer assistance for intellectually disabled persons.

TIDE project 1199

Abstract: VICAID will develop and evaluate a system, based on the use of palmtop microcomputers as prosthetic aids, to support people with severe intellectual disabilities to perform complex work routines in integrated work settings.

Problem Area:

Problems in remembering the sequence of activities in a task

Product Type:

Remind, guide and prompt devices

Walsh, B., P.Tippell, E. Mowse, D. Colven, J. Mortley & J. Brough

The Development Of A Portable Communication Device For People With Dysphasia

ECART 3, 1995, pp 152-154

Abstract: Touch Speak is based on the Apple Newton hand-held computer. The purpose of the work is to produce a device which is: cheap, reliable, simple, portable, easy to use, fully configurable and uses sampled speech.

Problem Area:

Problems with expressing one self

Product Type:

Communication devices

Theoretical papers

Assistive technology and cognitive impairment

Ager, Alastair K.S.

Applications Of Microcomputer Technology In The Field Of Mental Retardation

Transitions in mental retardation ,vol 4, pp 1-14

Applications and Implications of Technology

Edited by James A. Mulick

Ohio State University, 1989

ISBN: 0-89391-458-4

Ablex Publishing Corporation, Norwood, New Jersey 07648

Abstract: As a means of considering issues relevant to future developments in the application of microcomputer technology in the field of mental retardation, three areas of potential advance are identified. Possible applications in each of these areas-individualised teaching, curriculum management, and prosthetic cognition-are reviewed and are seen to demand distinct developments in both microcomputer technology and knowledge regarding the nature and consequences of mental retardation. Given the present rate of innovation in the field of computer research, achieving the necessary advances in our understanding of mental retardation would appear the major obstacle to realising these possibilities.

Ager, Alastair

Recent Developments In The Use Of Microcomputers In The Field Of Mental Handicap: Implications For Psychological Practice

Bulletin of the British Psychological Society (1985), 38, pp 142-145

Abstract: However if-as seems likely-the microcomputer becomes a dominant feature in many aspects of daily living over the next decade, such work will be necessary to ensure that the mentally handicapped gain to the full the benefits of the " new technology"

Andrews, T.K., F.D. Rose, A.G. Leadbetter, E.A. Attree & J. Painter

The Use Of Virtual Reality In The Assessment Of Cognitive Ability

TIDE 2, 1995, pp 276-279

Abstract: The effects on performance of different aspects of the virtual world presentation are investigated.

Baldrey, Sarah

Microcomputers And Clinical Psychology

Issues, Applications and future developments

John Wiley & Sons, 1991, pp 139-154

Abstract: The article seeks to outline some of the reasons for the development of computer-assisted learning (CAL) for people with learning difficulties, to offer some discussion of the theoretical background and to look at some of the empirical findings regarding CAL's efficacy

Berglund, Lars-Åke & Anders Bond

Compensatory Technical Aids For Persons With Developmental Disabilities

ECART 2, 1993, 31.1

Abstract: Aids compensating different aspects of a developmental disability help the user to be able to live a more independent life while simultaneously increasing general public awareness and understanding for the disability.

Cress, Cynthia J.

AAC Strategies For Progressive Aphasia Without Dementia: Case Study

RESNA 95, pp 115-117

Abstract: This paper describes multimodality AAC strategies developed for a 60-year-old man with progressive aphasia without dementia.

Cress, Cynthia J. & Greta J. French

Predictions Of Computer Interface Skills For Children With Mental Retardation

RESNA 93, pp 102-104

Abstract: Children with developmental disabilities completed a series tasks using five different computer interfaces, mouse, touchscreen, trackball, locking trackball and keyboard. A regression analysis examined the extent to which ten subject skill measurements could predict children's abilities to master the five devices. Of the measurements used in this study, tests of pattern analysis and gross motor skills were among the best predictive variables.

Cullen, Kelvin, Lutz Kubitschke, Helene Ollivier, Ciaran Dolphin, Nadia Clarkin & Anne Darnige, Simon Robinson

Meeting Demand For Telecommunicationsbased Applications Of Assistive Technology

TIDE 2, 1995, pp 163-166

Abstract: This paper presents some interim results from the MART study, which is analysing the emerging telecommunications situation in Europe and examining how well it is likely to meet demand amongst elderly and disabled persons.

Enders, Alexandra

Personal Assistance Services And Assistive Technology: Allies Or Adversaries

RESNA 95, pp 584-586

Abstract: Personal assistance services (PAS) and assistive technology (AT) are integral parts of any effective support system. Before we debate how many resources should be allocated to each category, more discussion is needed on how the two (PAS & AT) can and should work together.

Finset, A. & S. Andresen

The Process Diary Concept: An Approach In Training Orientation; Memory And Behaviour Control

Cognitive Rehabilitation in Perspective (no number and year) pp 99-116

Abstract: The process-diary concept is an attempt to apply, in a systematic way, a very common tool in cognitive rehabilitation; the diary or notebook. The specific merit of our approach may be the attempt to systematise some of these general principles to make them available to the rehabilitation team. The basic principle of the strategy is to use and build upon the intact abilities of the patients.

Granlund, Mats, Anders Bond, Elisabeth Lindström & Birgitta Wennberg

Assistive Technology For Cognitive Disability
Technology and Disability, 4(1995), pp 205-214

Abstract: Unlike observable disabilities, the need for assistive technology is not self-evident in persons with cognitive disabilities. This paper describes a model for developing assistive technology for cognitive disability, illustrated by a case study. The model was developed in the MENTEK project.

Graverholt, Niels & Hannibal Knudsen

The Computer: A Way Back To Society For Persons With Learning Difficulties ?
ECART 3, 1995, pp 195-196

Abstract: Employees in about 1000 institutions etc. for persons with learning difficulties were included in an inquiry of the use -and the attitude towards the use- of computer technology among persons with learning difficulties.

Hine, N.A., D. Wilkinson, I.A.S. Gordon & J.L. Arnott

Picture Annotation As A Communication Method For Non-Speaking People
ECART 3, 1995, pp 146-149

Abstract: This project investigates the possibility to use picture display and annotation functionality as an alternative communication medium for non-speaking people.

Johnson, Patricia, Nancy Thomas-Stonell & Petty Young

Evaluation And Remediation Of Cognitive-Communication Skills In Young People With Head Injuries
RESNA 92, pp 386-387

Abstract: Cognitive-communication deficits are a major barrier to the successful reintegration of young people with head injuries. This paper describes an ongoing research study which is currently evaluating a newly developed computer-based cognitive-communication skills retraining program. The program concentrates on five domains: attention; memory/word retrieval; organisation, language comprehension and reasoning/problem solving.

Leikas, Jaana

Aspects On Demented Persons Living At Home
TASC, WP 3, 970217

Abstract: The important questions for future research and development work is: can technical aids be used to: 1) support demented persons living at home, 2) increase the feeling of and actual safety, and 3) ease the work of those looking after demented persons at home ? There are also ethical and attitudinal reasons for not using the appliances. Technical aids are easily considered as cold substitutes for human contacts. This may even be true if the reason for bringing them into use is to substitute them for human care. This should not, however, be the case.

Lindström, Jan-Ingvar

Telematics-A Tool For The Integration Of People With Disabilities Into Society
ECART 3, 1995, pp 307-308

Abstract: In the paper there are examples on existing service provision and on-going advanced communication experiments.

Mann, William C.

Assistive Technology And Falls In The Elderly

ECART 3, 1995, pp 381-382

Abstract: Falls in the elderly often have serious consequences. This paper reviews the literature on falls and the elderly, and presents the results of a multivariate investigation of risk factors, including assistive devices.

Mineo, Beth, Denise Peischl, Patrick Demasco, John Gray & Rachel Bender

Assessing Picture-Related Skills Using Lascaux

RESNA 95, pp 142-144

Abstract: This paper provides evaluative data from the implementation of an assessment application developed with Lescaux that targets picture-matching skills. The data suggests that picture-related performance is influenced by certain physical characteristics of the pictures as well as their arrangement.

Olschner, Siegfried, Andreas Gourmelon & Helmut v. Benda

Evaluating Software: Demands On Human Memory Concerning The Age Group 50 Years And Older

TIDE 2, 1995, pp 106-109

Abstract: Demands on human memory can cause a decrease in motivation and acceptance to use software. Specially elderly persons or handicapped individuals need programs with a low memory load. With the help of 36 guiding principles, programmers can create software with low strain of memory. With ADMU (questionnaire to Analyse the Demands on Memory caused by User-interface) the strain on memory which occurs if a program is used, can be measured.

Richardson, Simon J. & David F. Poulson

Usability In The Design Of Rehabilitation, Enabling And Assistive Technology Products And Services

TIDE 2, 1995, pp 110-113

Abstract: The paper reports the results of survey activities carried out with TIDE projects and developers as part of the TIDE USER (Usability Requirements Elaboration for rehabilitation technology) Horizontal Action. USER studies indicate a real need for help to ensure an effective match between user requirements and the technology or service being developed.

Rowley, Blair A., Nong Ye, David L. Van Winkle & Janet Irwin

Noun Cuing For Broca's Aphasics

RESNA 95, pp 626-628

Abstract: The results of this study indicate that text is a better cue than pictures when individuals with Broca's aphasia attempt to produce nouns.

Simon-Harry, Sylvie

New Media And Rehabilitation Technology

TIDE 2, 1995, pp 171-174

Abstract: This paper presents the results of a study on new media (state of the art) and its influence on disabled and elderly people, and recommendations to improve the links between the IT&T industry and the rehabilitation technology.

Thurfjell, Fredrik

Assessing The Functional Communicative Skills Of Persons With Mental Retardation Prior To Videotelephony Use

ECART 3, 1995, pp 302-303

Abstract: This paper discusses a model for assessment of the communicative ability in persons with moderate mental retardation using videotelephones. The results showed that the communicative ability increased over time when videotelephony were used.

Vanderheiden, Gregg C. & Cynthia J. Cress

Applications Of Artificial Intelligence To The Needs Of Persons With Cognitive Impairments: The Companion Aid

RESNA 92, pp 388-390

Abstract: A hypothetical device called a " Companion" is proposed as a way of applying advancing technologies to the needs of individuals with cognitive impairments. The device would use technologies most of which exist today, and would provide individuals with cognitive impairments with greater freedom and ability to live and move about independently. Communication, location, and computer technologies can be combined to provide assistance and safety without dominance over the user. The purpose of this paper is to stimulate thought and discussion about the appropriate use of technology to enhance the abilities of individuals with cognitive impairments, including the ethical issues in the use of artificial intelligence to assist individuals with cognitive impairments.

Accessibility/usability and Human Machine Interaction

ACCESS

TIDE Project 1001

Abstract: This project aims to develop innovative approaches to the construction of communication aids for speech-motor and language-cognitive-impaired people and a hypermedia application for blind people, in the framework of a unified user interface development platform.

Akoumianakis, D. & C. Stephanidis

Interface Design For Disabled Users: Eliciting User-Centered Constraints

RESNA 95, pp 431-433

Abstract: This paper describes the development and application of a technique for eliciting user interface design constraints related to the characteristics and abilities of disabled computer users. The technique constitutes a representation language, for describing human communicative resources and automatically determining syntactic and lexical issues pertaining to the design of the user interface of an interactive application.

Barthel, Frederick S.

Study Of Accessible Microwave Oven Design

RESNA 94, pp 214-216

Abstract: This paper explores accessibility of microwave ovens to people with disabilities. Redesign options to improve accessibility are presented.

Bougie, Theo H.M

The Logical Chain Of Technology And Accessibility For People With Disabilities

ECART 3, 1995, pp 334-335

Abstract: The paper defines different technologies used by people with disabilities. It concerns standard technology, special technology and infrastructures. The technologies mentioned will be linked like a chain, expressing the connection of the elements for the individual user. The chain stimulates coherence when creating new technologies. It is also a challenge to increase the return on investment by paying attention to a better total system in the form of a chain.

Cole, Elliot, Parto Dehdashti, Linda Petti & Marlene Angert

Design Parameters And Outcomes For Cognitive Prosthetic Software With Brain Injury Patients

RESNA 93, pp 426-428

Abstract: Three traumatic brain injury patients achieved a significant increase in level of function in a relatively short period of time using highly customised computer-based cognitive prosthetic software.

Cress, Cynthia J. & Jo Ann P. Tew

Cognitive Skills Associated With The Operation Of Various Computer Interfaces

RESNA 90, pp 251-252

Abstract: This paper provides an analysis of some of the cognitive skills involved in the use of six different interfaces. Identification of these skills is the first step toward measurement of the portion of cognitive load in computer use attributable to the interfaces.

Cudd, P.A., A.D. Cherry & M.S. Hawley

An Essential Factor In Standardisation Of User Interfaces For Rehabilitation

ECART 3, 1995, pp 257-259

Abstract: This paper describes an important task for designers of future rehabilitation-user-interfaces; namely, incorporation of consensual hidden usage in rehabilitation user-interfaces. The aim of the latter is to enable both future development of improved and provision of optimal user-machine interaction.

Demasco, Patrick, Beth Mineo, John Gray & Rachel Bender

The Design And Development Of A Computer-Based System For Assessing And Training Two-Dimensional Language Representation

RESNA 94, pp 95-97

Abstract: This paper describes a system that can be used in the design and delivery of picture-based instruction for AAC users with severe cognitive impairments. The system design, which is based on previous research in picture understanding, allows interventionists to create images that are abstracted along the dimensions of colour, size and detail. These images can be embedded in instructional protocols used for assessment and training.

Freeman, M., P.A. Cudd, B. Wu & M.S. Hawley

Mapping User Abilities And Disabilities In Relation To Safety Of Rehabilitation Integrated Systems

ECART 3, 1995, pp 207-209

Abstract: In the design process of Rehabilitation Integrated Systems (RIS), safety issues are of paramount importance. The relationship between the integrated system and users with severe disability raises issues of safety which are fundamental in terms of the design process. It is suggested here that an approach based on mapping the user's functional abilities and disabilities to different levels of task complexity and contexts provides an appropriate basis for safety requirements.

Frey, Brian T.

Accessibility Evaluation Of Current Television Design Trends

RESNA 94, pp 217-219

Abstract: This paper reviews the current accessibility of television sets. How well current television controls and displays address the requirements of people with disabilities. Possible redesigns are discussed.

Gill, John

Access Prohibited ? - Information for Designers of Public Access Terminals

Royal Institute for the Blind on behalf of INCLUDE, 1997

ISBN 1 86048 014 4

Abstract: To fully participate in society, individuals will need to be able to use self-service terminals. Increasingly, people will need to gain access and communicate via keyboards, screens, telephone handsets, smart cards etc. This publication explains the range of disabilities that make access difficult and provides information on how public access terminals can be designed to be as accessible as possible to all potential users. A table shows the general problems with a public access terminal for different groups of people with disabilities.

Guerette, Paula & Richard Nakai

Interfaces For "High-Tech" Medication Reminders: Some Guiding Principles

RESNA 93, pp 537-539

Abstract: This paper discusses potential modifications of key panel layout and software interface to make medication reminders easier to use for older adults. One conclusion was that if the programming method was similar to more common "programmable" products, such as a digital clock or microwave oven, participants seemed to have fewer difficulties during programming.

Karlsson, MariAnne

Elderly And New Technology - On The Introduction Of New Technology In Everyday Life

TIDE 2, 1995, pp 78-81

Abstract: Three studies of different system characteristics (system design, implementation and media design) of IT-mediated home shopping has been compared and analysed.

Lundälv, Mats

COMSPEC: A modular and open software platform for AAC aids on the drawing-board

(TIDE Project 1169)

TIDE 2, 1995, pp 41-44

Abstract: The aim of the project is to develop and evaluate a common modular software platform on industry standard hardware for the production of alternative communication and access aids for disabled people. Comspec will be layered so that different users will see different aspects of the system.

Moniz Pereira, Leonor & Maria de Fa'tima Vieira

Interaction Between Mentally Impaired Persons And Multimedia System

ECART 3, 1995, pp 289-290

Abstract: This project studies the accessibility for mentally or multi-impaired persons provided by the mouse in a multimedia environment. The evaluation highlights how the mouse can be a good interface for a multimedia system if the multi impaired person doesn't have major problems in upper limbs movements.

Norman, Donald A

The Psychology Of Everyday Things

Basic Books, 1988, ISBN 0-465-06709-3

Abstract: Norman gives examples of good usable design for everyday things but also for computers. The rules are simple : make things visible, exploit natural relationships that couple function and control, and make intelligent use of constraints. The goal is to guide the user effortlessly to the right action on the right control at the right time.

Norman, Donald A

Things That Make Us Smart. Defending human attributes in the age of the machine

A William Patrick Book, Addison-Wesley Publishing Company, 1993

Abstract: Norman explores the complex interaction between human thought and the technology it creates. He argues for the development of machines that fit our minds, rather than minds that must conform to the machines. In exploring the complex relationship between humans and machines Norman advocates a person-centred redesign of the machines that surround our lives.

Perlman, Leonard G.

The Views Of Consumers With Learning Disabilities, Mental Retardation, And Their Caregivers
Consumer needs assessment project year five results of the final year of a five-year study
Electronic Industries Foundation, Report: Making Technology Usable-keeping the interface simple,
August 1993

Abstract: Eight focus groups comprising 60 adult individuals with mental retardation, their care-givers, and persons with learning disabilities were convened to discuss the impact of technology on their daily lives. The potential of technology as an enabler was a key issue of discussion. Unless product design incorporates technology in ways that make the product easier to use, many individuals with disabilities will remain dependant on others to help them participate in common activities of daily living. "Let's keep the complexity inside these products and make the operational features as simple and usable as possible for all. "

Petrie, Helen & Paul van Schalk

A Functional Classification Of Disabilities: Implications For The Design Of Accessible Technology
ECART 3, 1995, pp 250-253

Abstract: This paper presents an overview of a classification of the functional consequences for five areas of disabilities: visual, auditory, mobility, dexterity and cognitive disabilities. Examples will be given of how this classification can be of practical use to designers in assessing the implications of their products for disabled users.

Poulson, David, Martin Ashby & Simon Richardson, Editors. (HUSAT Research Institute, UK)

USERfit. A practical handbook on user-centred design for assistive Technology
TIDE 1062 USER project
ECSC-EC-EAEC, Brussels-Luxembourg, 1996

Abstract: The USERfit handbook is designed to provide detailed information and guidance on how to improve the design of assistive technology (AT) products. The emphasis of USERfit is on the design of products that use advanced technology in some form, and where users will be expected to interact with the product. USERfit provides a general approach which can be applied to a variety of different kinds of developments, ranging from the design of specialist products for one person through to the design of generic products to be used by whole populations of users.

RESPECT

Telematics Applications project TE 2010
Basic Characteristics of Users with special Needs and their
Telematics Requirements
Deliverable D6.1

Abstract: This document introduces the concept of Universal design. Universal Design for telecommunications and information systems means designing products which can be effectively and efficiently used by people with a wide range of abilities or in a wide range of situations. The definition focuses on the fact that people with for example a sensory handicap may have the same requirements to a product as other people working in a specific environment, or with a specific task. This document therefore focuses on the human characteristics, for example cognitive abilities and old age.

Salminen, Anna-Liisa, Eija Kaasinen & Hannus Sinikka

Evaluation Of Communication Device: An Aphasia Case Study

Second International Gerontechnology Conference 15-17/10 1996 Helsinki, Finland, 7 p

Abstract: The paper describes an evaluation of a communication device for speech impaired users in real life.

Svensk, Arne & Bodil Jönsson

Technology And Differently Abled People

CERTEC, LTH, 1995.

<http://www.certec.lth.se/doc/technologyand/>

Abstract: The book gives examples of technical applications for people with developmental disabilities and uses these examples to illustrate criteria for design and evaluation of assistive technology.

Tyvand, Steinar, Harald Stegavik & Erlend Stav

Developing COMSPEC In The World Of OPENDOC

ECART 3, 1995, pp 106-107

Abstract: The TIDE Comspec project is providing an open software architecture for AAC and alternative access systems. The architecture is based on Open Doc, an open, multi platform framework for component software. Mapping of the modular aspects of Comspec to the world of Open Doc is the main research question addressed in this paper.

USER: Usability requirements elaboration for rehabilitation technology
(TIDE project 1062)

Abstract: USER is a horizontal action designed to elicit, capture and integrate human factors information and encourage the application of usability principles within TIDE and within the RT7AT sector more generally.

TIDE projects with relevance to TASC

Project Acronym (Number)

ARIADNE (DE 3201)

ASHoRED (101)

CAPS (136/218)

CORE (?)

INCLUDE (SU 1109)

INUSE (IE 2016)

MoBIC (1148)

MORE (DE 3006)

OPEN (1182)

RESPECT (TE 2010)

SATURN (1040)

SCALP (1002)

VICAID (1199)