This presentation is part of the COGAIN Deliverable D3.4

Eye Control Hints and Tips

by

the Network of Excellence on

Communication by Gaze Interaction

www.cogain.org

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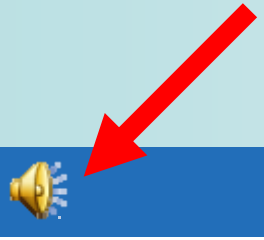


COGAIN
Communication by Gaze Interaction

Planning and carrying out an eye-control assessment

DART, Sweden 2007

The content of this presentation is partly translated from, or inspired by the book *"Be active using a computer – possibilities for people with physical disabilities"* (Lidström and Zachrisson 2005)

Introduction

When carrying out an eye-control assessment it's important to analyse the characteristics of the eye gaze system that you are using, and to find out what the user wants to use the technology for.

DART, Sweden 2007

Health

Health is influenced by the experience of being active, being able to participate and to have a sense of connection

Appropriate technical aids can contribute to improved health

Teamwork

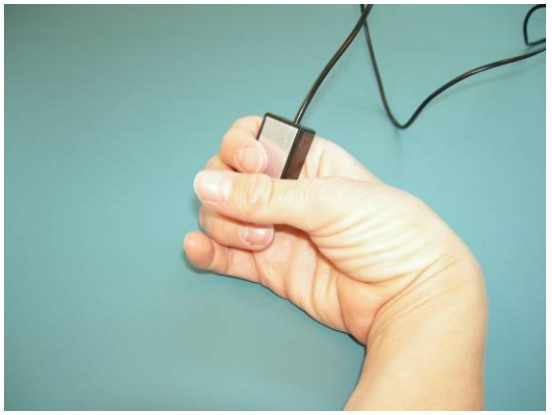
- Good teamwork is important in assessments and other areas of assistive technology.
- Every member of a team contributes with his or her knowledge.
- The aim must be to establish a good collaborative relationship between the user and the team members and work towards a common goal.

Motor assessment

A good assessment for access to technology should result in a list of useful motor functions and should include the users' opinion about this.

Good questions to be asked are:

- Is there a motor function that would be useful for a mouse click?
- What is the users' level of strength and coordination?
- What is the best working position?



Other questions one should ask:

- Does the user have any visual problems?
- How is the control of eye movements?
- Are there other things that might affect use of eye gaze - like problems opening the eyes, squinting, nystagmus etc?
- Along with the motor assessment it is important to gather information on other aspects like hearing, cognition, literacy skills, etc.
- Which of the strengths can we use to overcome the difficulties?

Goal setting

A goal is something that:

- will make measures and action plans clearer
- should be realised through meaningful activities
- should be possible to reach
- should be possible to evaluate

An action plan includes:

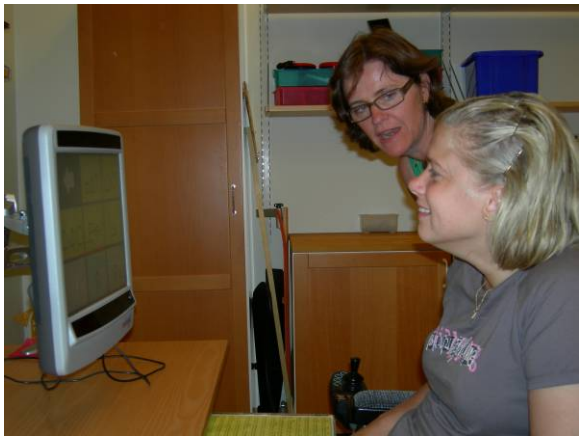
- Who is responsible?
- When?
- How?
- Where?

To carry out the action plan: Planning

- Before the assessment, it is a good idea to analyse the activities involved.
- What are the chances of the user being able to obtain an eye gaze system? What alternative, economic solutions are there?
- In which environment is the system intended to be used?
- What level of support can the user expect from people within the local environment?
- How will the user and facilitators be trained in the use of the system?

To carry out the action plan: Implementation

- Be well prepared!
- Do as much as you can before the user enters the room.
- It's often important that those people who support the user locally are involved in the assessment. However, it's not helpful to have a crowd in the assessment room.



Calibration

- Before the start of a calibration it's important that the user has seen it demonstrated and knows what's expected of him/her
- In some systems it's possible to make an individualised calibration
- Sometimes it's necessary to work with the calibration process over several short sessions

Introduction

- When a person tries an eye gaze system for the first time it's advisable to start with very easy tasks, e.g. exploration tasks.
- The choice of activities and software should meet the users' interest and abilities.
- Success is important! Choose a straightforward activity to start with to be on the safe side.
- Gradually change to more complex activities.

- Don’t be afraid to try something that you are not sure that the user will succeed in. You might be surprised!
- Have fun!
- Don’t work in too long sessions. Take breaks!

Comparison of access methods

- To make a comparison between different computer access methods or settings, the user could complete the same task using the alternative methods or settings, while a score is kept on time and errors.
- Sometimes the best solution may be to use different access methods for each different activity.

Independence

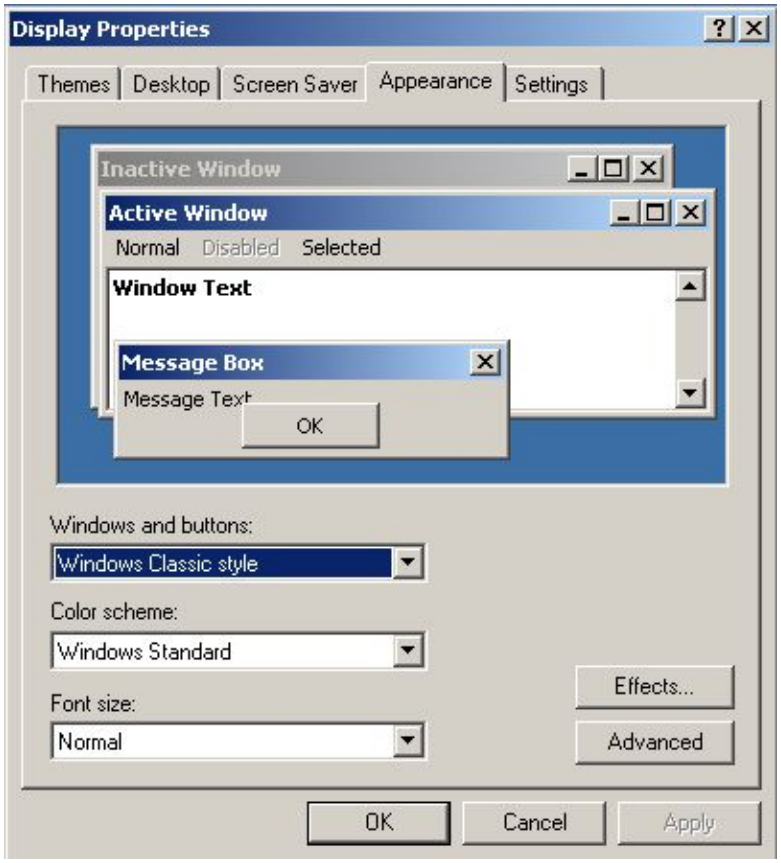
Most users want to be as independent as possible.

- Can the user move to the system independently?
- Can the user start up and handle the system?

Settings and lay-out

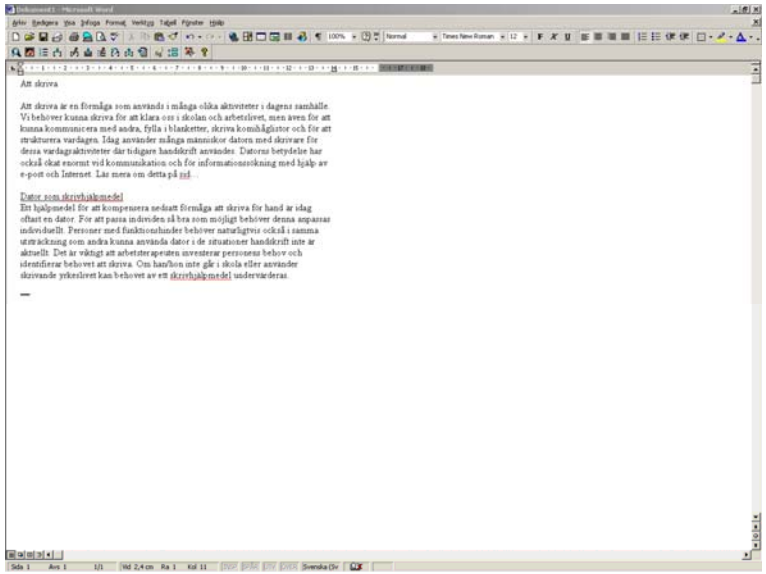
In the computer system's Control Panel settings it's possible to choose between several options for screen properties, such as:

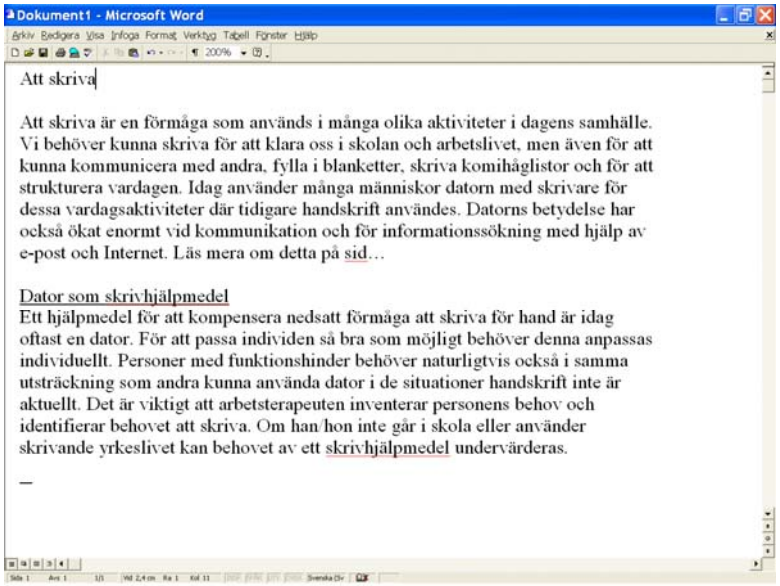
- Size and shape of mouse pointer
- Sizes of objects and fonts, and colour settings of the screen



Inside applications you may also be able to change:

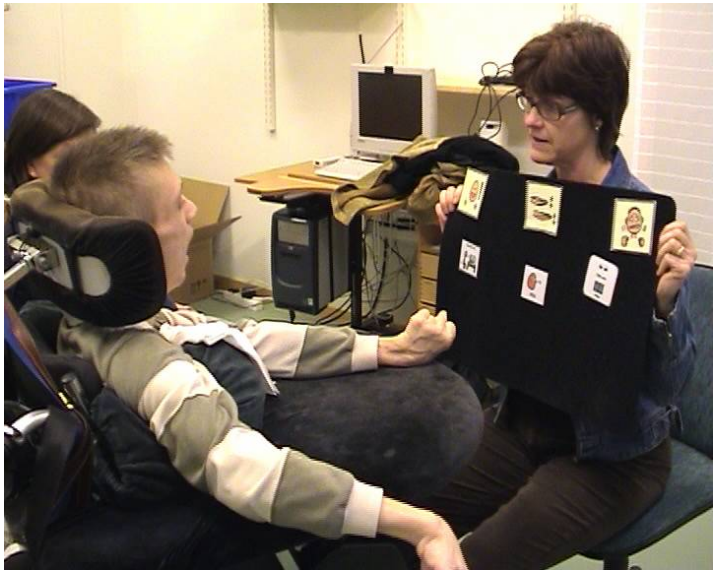
- Size of icons, drop down menus and other different targets
- Size of text in documents, web pages and dialog boxes





Evaluation

It’s essential to make a thorough evaluation together with the user to find out if the goals are reached, or if there is a need of further assessment.



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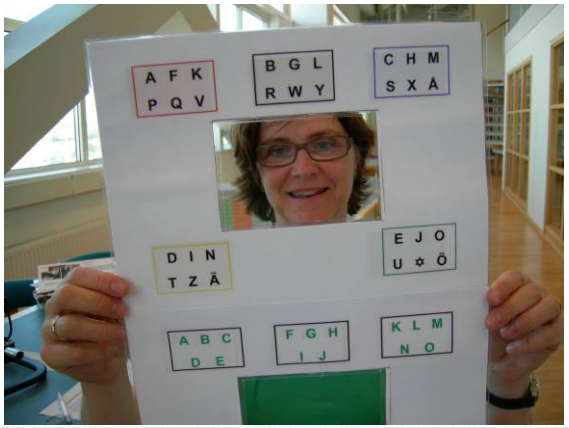
Don’t get lost among all the possible technical solutions! The most important thing for the user is that the system works, is reliable and demands a minimum of maintenance.



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- Lidström, H. and G. Zachrisson, Eds. (2005). Aktiv med dator - möjligheter för personer med rörelsehinder. Stockholm, Hjälpmedelsintitutet.
- Murphy, J. and L. Cameron (2006). Talking Mats. A Resource To Enhance Communication. Stirling, Scotland, University of Stirling.

For more information…

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For more information about eye control, see www.cogain.org