Special games for handicap children to get control on the mouse

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Abstract

Special software products will be exposed, for a step-by-step learning how the children with special needs to operate with a mouse. The software products are created in the Comenius Logo environment. Any of the software products are made as games and have possibilities of individual corrections, which make an easy adaptation to the needs of any of the children.

Keywords: handicap children, special games, software, Comenius Logo

In about 90% of the common schools the way of teaching computer science does not match to children with special needs. These children need special software, developed to answer the character of their diseases and their individual needs (1). Here we present some software solutions for the children with special needs and especially those with cerebral palsy to learn step-by-step how to use the mouse.

In the process of learning we separated three common movements: free movements of the mouse on the desk, respectively on the screen; one click of the left button; dragging an object, while pressing the left button

Each of the software programs we present is designed like a game. Each possesses options to be changed, so it could answer the individual need of the children. Four games are developed – **Silhouettes**, **Shadows**, **Sounds**, and **Words**.

SILHOUETTES

The game is designed in three levels. It is created to make the way of learning free movements with the mouse on the desk easier. It is very essential the child to realize that moving the mouse on the pad produce the movement of the mouse courser on the screen. The complexity level of the game is not quite high, because it requires moving the mouse to constant objects on the screen.

First level
On the gray-background screen appears a yellow silhouette. The mouse courser goes in the screen center accepting the form of the silhouette but white-colored.

Second level
At three random places on the screen appear three yellow silhouettes. The mouse courser is taking the form of one of the silhouettes, but white colored.

Third level
Now the mouse courser takes its normal form with a changeable size. It could be changed with the arrow keys from the keyboard.

The player must move the mouse courser to the silhouette and cover it. As it happens the silhouette becomes a colored picture, there's also a sound and the screen clears. The game situation is repeated with new silhouette.
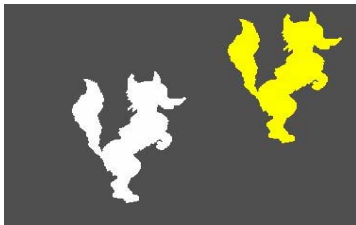
The player must move the mouse to the right silhouette, which is constant, and cover it. When a wrong silhouette is chosen, happens nothing. After right solution on the screen automatically appears a new combination.
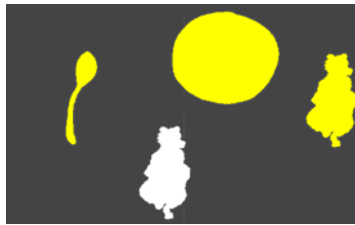
At a random place on the screen appears an animated picture. The player should move the mouse courser to the picture. As it happens the animation starts.
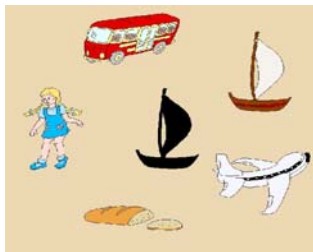
SHADOWS

This game consists of three levels. In every one of them the right matching among pictures and shadows should be found. The aim is moving the mouse courser to a select object on the screen and one click on it; dragging an object, while pressing the left button.

First level

Five pictures and one shadow, matching one of them appear on the screen. The pictures are placed in a circle and the shadow is in its center. The player must point the right picture matching the shadow.
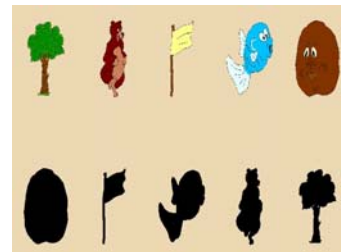
Second level

A picture and five shadows around it appear on the screen. One of the shadows matches the picture and the player should find it.

Third level

In the upper side of the screen appear five pictures and below them - five shadows that match them. The player must connect the couples of the right matching - a picture and a shadow.

If the choice is correct the picture places over the shadow and a sound is heard. The other colorful pictures become shadows. After that a new combination appears. If the choice is wrong the picture becomes a shadow (in order to differ) and another sound is heard. Then the player could proceed looking for the correct picture.

The last two games – **Sounds** and **Words** - should train the same mouse movements but they contain other educational problems, such as matching the words with its pictures, and matching the sounds with its pictures.

Each game can be designed for individual needs of the user. We developed an addition for changing number of pictures in each game. Thus we help the teacher to differentiate training of handicapped children.