

Reducing graphical user interfaces in DGS

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Graphical user interfaces (GUIs) of dynamic geometry software (DGS) allow users to interact with the DGS by using a computer mouse. Clicking on a GUI icon performs an action like choosing a construction tool or undoing the last action. For novices it can be difficult to recognize and recall the icons needed for a task. Learning mathematics and learning the use of a dynamic geometry system could lead to cognitive overload. Several dynamic geometry software systems try to solve this problem by offering different GUIs: Expert users can choose between a wide range of icons while for novice users only the most basic icons are presented.

In an experiment carried out with full and reduced interfaces of the dynamic geometry software Cinderella the eye movements of the users were recorded by using eye tracking. It has been measured how long users try to find given icons in different types of interfaces. The findings of this experiment are presented and ideas for further studies are discussed. An overview about different modes of adapting GUIs in dynamic geometry software and a classification of different reduction strategies will be presented, too.