

ARTICLE REVIEW

GUI Design Based on Cognitive Psychology: Theoretical, Empirical and Practical Approaches

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1 Short Summary

This paper deals with applying cognitive psychology to design GUI. A GUI is considered effective if the user does not spend too much time in learning and understanding its functions. Four main principle are usually proposed for an effective GUI as below:

- Focus on users and their tasks instead of technologies.
- Consider functions first, presentation later
- Simplicity of GUI
- Promote learning and delivering information

Also, there are few cognitive psychology theories considered while designing GUI:

- **Schema Theory:** knowledge is organised into basic building blocks of knowledge, called units
- **Cognitive Load Theory:** instructional design theory defining information processing involving long term, short term or working memory
- **Retention Theory:** refers to amount of information a user can retain in a given amount of time.
- **Gestalt Law:** is one of the foundations of instructional screen design usually explained with 11 specific laws

To have the attention of the user would be an important point to focus on while designing an GUI, like placement of texts and images, it is also important to consider the limitations of human motor system. To explain in simple terms the limitation is referred to scenarios where background music is heard when important message or information is being shared visually, this would increase the cognitive load. Lastly, colours play an important part of GUI design. Most users reported that soft colours can get their attention to important information, but some reported that bright colours got their attention. In conclusion this paper proved that if cognitive psychology is not considered when designing GUI, users will face difficulties. And most users also tend to go for simplicity when they are using GUI every day. Familiar icons make user spend less time trying to understand them and their functions.