

Measuring the Minds and Brains of Designers When Using Different Design Methods

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Abstract

This talk briefly introduces protocol analysis as a method to measure the cognitive behavior of designers while designing and then presents results of measuring the minds of designers designing while using brainstorming, morphological analysis and TRIZ concept generation techniques. It then briefly introduces functional near infra-red spectroscopy (fNIRS) a method to measure brain behavior of designers while designing and then presents results of measuring the brains of designers designing while using the same three concept generation techniques of brainstorming, morphological analysis and TRIZ. This opens up objective measurement of designing.

Bio

John S Gero is Research Professor at UNCC and at the Krasnow Institute for Advanced Study. He has edited/authored over 50 books and published over 700 research papers. He has been a professor of computer science, cognitive science, architecture, civil engineering, and mechanical engineering at MIT, UC-Berkeley, UCLA, Columbia and CMU in the USA, at Strathclyde and Loughborough in the UK, at INSA-Lyon and Provence in France and at EPFL in Switzerland. His recent research has been funded by NSF, NASA and DARPA.

