

SUMMARY OF Ph.D. DISSERTATION

School Keio University	Student Identification Number	SURNAME, First name TAKEMOTO, Masanori
Title A Study on Expressing Information for Supporting Users' Situation Awareness		
Abstract <p>This study proposed a way of expressing information which enhanced users' situation awareness of the states of the system in monitoring work. In order to enhance users' situation awareness and reduce their cognitive load, the way of expressing information should attract users' attention to the trouble of the system, and express a detailed state of the system. The way of expressing information which this study proposed expresses information by changing background color in a monitoring screen (called 'Gradual Color Information'). This study examined its characteristics and its effects on monitoring works from the viewpoints of users' perception, thought, decision and emotion.</p> <p>At first, the characteristics of the Gradual Color Information were examined through an experimental monitoring work. As a result, the Gradual Color Information could express a sign of the trouble by sequential color gradation, and could attract the subjects' attention to the trouble sufficiently. And the relationships between the effects of the Gradual Color Information on the monitoring works and the specification of it were revealed.</p> <p>Next, in order to support users' thought and decision, variety of information, which the Gradual Color Information can express, was examined. As a result, the Gradual Color Information can express various kinds of information by adopting the strength of color-image to the degree of a state of the system. So, users can be aware of a state of the system with their peripheral vision, can have an advantage that they get feedback information of their operation.</p> <p>Through some kinds of experiments, this study showed that the Gradual Color Information can involve broad characteristics by changing its specification like the speed of changing colors. At last, according to SRK model which categorizes human behavior based on cognitive level, this study proposed a guideline for applying the Gradual Color Information to various kinds of the monitoring works, and examined possibility for applying it to the real monitoring works.</p>		