

H-05

### A Study of Integrated Design for Personal Multi-medium Computer Desk from the Using Situation Standpoint

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#### Abstract

The prevalence of computer brings the information age and causes the relationship between human being and computer to be closer. When people pay more attention on computer itself, however, the improvement of computer desk is often ignored. Therefore, the main purpose of this study is to understand a user's actual problems and real needs for the personal multi-medium computer desk from the information culture and using situation standpoint. In the study, a survey with questionnaire is adopted with concrete observation and expert interview in order to collect data. Those people who receive survey are the undergraduate and graduate students. With data analysis, the study tries to understand the user's different characteristics and using attitudes according to personal background factors. In the meantime, the study tries to find out the affected factors of using situation for computer desk. Finally, the different using problems and needs due to the different factors of using situation are understood after analyzing the user's characteristics.

The result of research shows that there are positive relationship between the using of the computer desk and those factors such as computer ownership, computer objective, operative frequency and space layout of all computer equipment. The design of computer desk not only need to consider the space allocation for the main machine and the other equipment, but also need to pay attention on the computer equipment's characteristics such as the expansion, operation, using purpose, using perception and so on. When improving the using situation of the computer desk, we considered the main equipment including printer, scanner, set of speaker and modem. As a result of study, a function of flexible change on space is needed to be able to match the different setup and usage for all equipment. In the conclusion, the result of study is transferred into design factors for integrated design of multi-medium computer desk.

Eventually, the result proves the worthiness of this study and establishes a more suitable and humanized operative environment on the using situation of computer products.

#### Keywords

Integrated design, Multi-media computer desk, Information culture, Using situation

A-06

### Systematic Innovation Methods For Architects

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#### Abstract

The paper describes a novel systematic innovation method based on the Russian-initiated Theory of Inventive Problem Solving, TRIZ, exploring a possible new application of the method to the complex design task of designing buildings which combines both technical and aesthetic considerations. The paper explores how TRIZ offers methods for defining and specifying problems in a manner that gives fundamentally more robust solutions. The paper examines the main underlying principles of the method and some of its problem solving tools - the 40 currently known strategies for overcoming design contradictions, the 'ideal final result tool, and the 8 trends of technological evolution - in the context of their potential role in architecture. The approach is illustrated by means of examples, including the derivation of novel concepts for flexible housing, novel facade treatments and novel transparency design concepts.

#### Keywords

TRIZ, design, knowledge, function