

A comparison of DSM and node-link diagram in the context of understanding a system and engineering change propagation

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Abstract

Change propagation management, which is concerned with predicting the propagation of engineering change within a product, is one of the popular areas in engineering. Understanding change is becoming increasingly critical in the prognosis of improvement of system or product. Recently, several approaches for describing changes have been proposed. We focus on the comparison of visualization techniques, Design Structure Matrix (DSM) and node-link diagram in the context of understanding a system and engineering change propagation. In this paper, personal factors such as user's theoretical knowledge and practical experience are considered. This paper will examine which method is more effective for users who should handle change regarding task performance. This work extends the comparison scope of readability to understandability. To test understandability, pens and irons are used as simple examples of systems.

Keywords: Design Structure Matrix (DSM), Node-link diagram, Understandability