On the Accessibility of a PoN-Enabled Use Case Notation

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Abstract

The Physics of Notations (PoN) is a framework to design cognitively effective notations. The term cognitive effectiveness here refers to the ease (speed and accuracy) by which model readers read the models. In 2019 a PoN-Enabled notation for use case diagrams was proposed. It has been empirically proven that the cognitive effectiveness of this new notation is superior to the original use case notation. The new notation however relies in part on the use of color. The accessibility of this new design however has not been validated for use by the color-blind community, or any users who need to use a greyscale version of the models created. The PoN framework was not designed to explicitly account for the color-blind community or users who can only access greyscale versions of the models. Inclusivity should not be an afterthought in software engineering practice or research. To this end, this paper presents an empirical evaluation of the cognitive effectiveness of the PoN-enabled use case notation in the situation it was viewed in greyscale.

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`Use Case Notation Test For Color-Blindness.docx` available at https://authorea.com/users/520551/articles/593835-on-the-accessibility-of-a-pon-enabled-use-case-notation