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Quantitative Modeling of User Specifications and Properties of the Software Delivered Product

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Abstract
In this paper we propose a comprehensive methodology for relating hidden properties of the User Specification to that of the Software Delivered Product. Most of the User requirements, in an On Line Transaction oriented application, demanding high level of Human-Software interactions, are defined in the interfaces. Statistical models to investigate the association between the characteristics of the User Interfaces and that of the Software Delivered Product are derived. We describe the appropriate Statistical procedures that were applied, in the context of our study. The study was conducted on Relational Data model based Application systems, developed in CASE oriented Prototyping environment. Applying the methodology on a sample of Sixty nine cases, we describe the justification for its use in establishing Quantitative relationships between various Latent properties of different Software components.

Keywords: User specifications, User interface, Software Delivered Product, Prototyping, CASE, Canonical Correlation Analysis, Canonical Variates, Canonical Correlations, Chi Square distribution, Tests of Significance, Software, Development Life cycle, Quality attri

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