

GRADING MECHANISM TO MEASURE USABILITY OF USER INTERFACES

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Many technological innovations rely upon User Interface Design to elevate their technical complexity to a usable product. Technology alone may not win user acceptance and subsequent marketability. The User Experience, or how the user experiences the end product, is the key to acceptance. Usability testing is a dynamic process that can be used throughout the process of developing interactive software. The purpose of usability testing is to find problems and make recommendations to improve the utility of a product during its design and development. There are different methods to address different purposes and they involve a combination of user and usability testing.

Traditional usability metrics are difficult to use. Current methods of analyzing and reporting the most common metrics do not effectively communicate a comprehensive assessment of usability. The metrics that usability analysts commonly collect to measure usability across its multiple aspects of effectiveness, efficiency and satisfaction are generally measured on different scales. Analysts often rely on their experience or resort to look at the various metrics to arrive at an intuited assessment of task or product usability. Conversely, stakeholders often aren't able to find meaning across disparate metrics and will gravitate towards one, typically the task completion rate, and use that as the single dependent variable for "Product Usability" in tandem with other business metrics. In either approach, what results is a decidedly non-robust analysis of overall task or product usability. Usability analysts need a method to effectively compare and derive meaning from traditional usability metrics and a way to communicate better with stakeholders.

This dissertation discusses how to measure the usability of a set of user interfaces and generates a grading mechanism to grade a set of screens according to their usability by a process that supports more effective analysis of usability data by standardizing traditional usability metrics on a uniform scale.