

Poster K-9
Human Computer Interface
Analysis of Tier1/2/3 Bioinformatics
Tools



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Short Abstract: Rapid development cycles impact the human computer interfaces designed for bioinformatics data analysis and visualization tools. The paper evaluates data density, usability, intuitiveness and information absorption factors for various tools and presents a simple method for improving bioinformatics tool usability.

Long Abstract:

As the onslaught of biological data continues, bioinformaticists must react rapidly and develop tools to analyze, correlate and display this data for system biologists. Three tiers of tools are commonly developed. Tier one interfaces have limited data density and display data in simple graphical or linear fashion. Tier two interfaces allow users to gather data from different tools and may try to integrate and organize it. Tier three interfaces anticipate the various tools a system biologist may use for data analysis and presents an API or tool by which users can pipeline the data they receive from different sites.

In this paper we look at how the rapid development cycle is impacting the human computer interfaces that are being designed for these three tiers. Data density, usability, intuitiveness and information absorption factors for various tools are analyzed. The paper evaluates how closely current paradigms match the experience systems biologists would like to have when using tier one/two/three interfaces. We propose a simple method that bioinformaticists can use for polling users and testing interfaces to increase usability.