Operationally Relevant Metrics for Analyst Test Beds:

Evaluating How Analysts Make Use of their Tools to Inform Tool Development, Integration, and Adaptation

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Monolithic Software Suites

Monolithic suites require training and embedded support to align capability with current needs.

Palantir

Analyst Notebook (i2)
Application suites are more agile to emergent needs, but applications are agnostic to one another; not clear how to vertically integrate them for users.
Canon is to collect interpretable data at a cost to ecological validity.
Software is the new ecology; we can collect data from it.

Time-stamped, labeled activity logs give sequential user & system activity.
Making Software a Sensor

Software Instrumentation is a process for logging user- and software-initiated functions (activities), and labeling them.
Instrumentation Made Easy

http://draperlaboratory.github.io/user-ale/
Ensemble modeling demonstrates how users integrate activities across a tool.

Integration Across a Tool...

...Predicts...

Tool-Related Task Difficulty.

Usage in Analytic Software

Ensemble modeling demonstrates how users integrate activities across a tool.
Coherence in HCI

Software logs adds context for understanding user engagement and experience.

% Variation in Post-Task Engagement Accounted For

- Intake
- Arousal
- Arousal x Events
- Coherence
- Intake + Arousal
- Intake + Arousal X Events
- Intake + Coherence
- Arousal X Coherence
- (Arousal X Events) + Coherence

Independent Variables and Additive Step-Wise Regression Coefficients
Acknowledgements

DARPA Open Catalog:

Draper Open Source Products:
http://draperlaboratory.github.io/

Participate in the DARPA XDATA Online Experiment!

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