Aalto University

AIM: Aalto Interface Metrics

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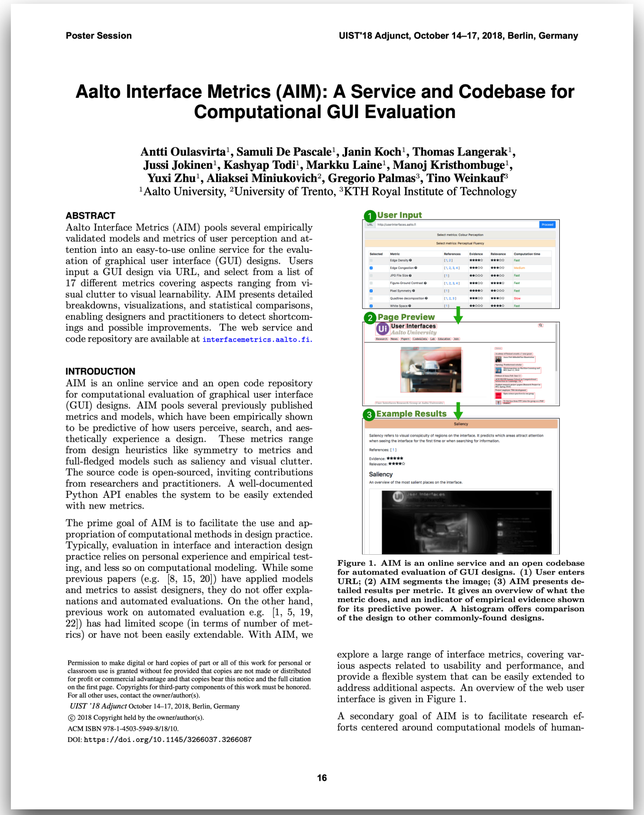
A Short History

https://interfacemetrics.aalto.fi



Poster Session UIST'18 Adjunct, October 14–17, 2018, Berlin, Germany

Aalto Interface Metrics (AIM): A Service and Codebase for Computational GUI Evaluation

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ABSTRACT
Aalto Interface Metrics (AIM) pools several empirically validated models and metrics of user perception and attention into an easy-to-use online service for the evaluation of graphical user interface (GUI) designs. Users input a GUI design via URL, and select from a list of 17 different metrics covering aspects ranging from visual clutter to visual learnability. AIM presents detailed breakdowns, visualizations, and statistical comparisons, enabling designers and practitioners to detect shortcomings and possible improvements. The web service and code repository are available at interfacemetrics.aalto.fi.

INTRODUCTION
AIM is an online service and an open code repository for computational evaluation of graphical user interface (GUI) designs. AIM pools several previously published metrics and models, which have been empirically shown to be predictive of how users perceive, search, and aesthetically experience a design. These metrics range from design heuristics like symmetry to metrics and full-fledged models such as saliency and visual clutter. The source code is open-sourced, inviting contributions from researchers and practitioners. A well-documented Python API enables the system to be easily extended with new metrics.

The prime goal of AIM is to facilitate the use and appropriation of computational methods in design practice. Typically, evaluation in interface and interaction design practice relies on personal experience and empirical testing, and less so on computational modeling. While some previous papers (e.g. [8, 15, 20]) have applied models and metrics to assist designers, they do not offer explanations and automated evaluations. On the other hand, previous work on automated evaluation e.g. [1, 5, 19, 22]) has had limited scope (in terms of number of metrics) or have not been easily extendable. With AIM, we explore a large range of interface metrics, covering various aspects related to usability and performance, and provide a flexible system that can be easily extended to address additional aspects. An overview of the web user interface is given in Figure 1.

A secondary goal of AIM is to facilitate research efforts centered around computational models of human-

Figure 1. AIM is an online service and an open codebase for automated evaluation of GUI designs. (1) User enters URL; (2) AIM segments the image; (3) AIM presents detailed results per metric. It gives an overview of what the metric does, and an indicator of empirical evidence shown for its predictive power. A histogram offers comparison of the design to other commonly-found designs.

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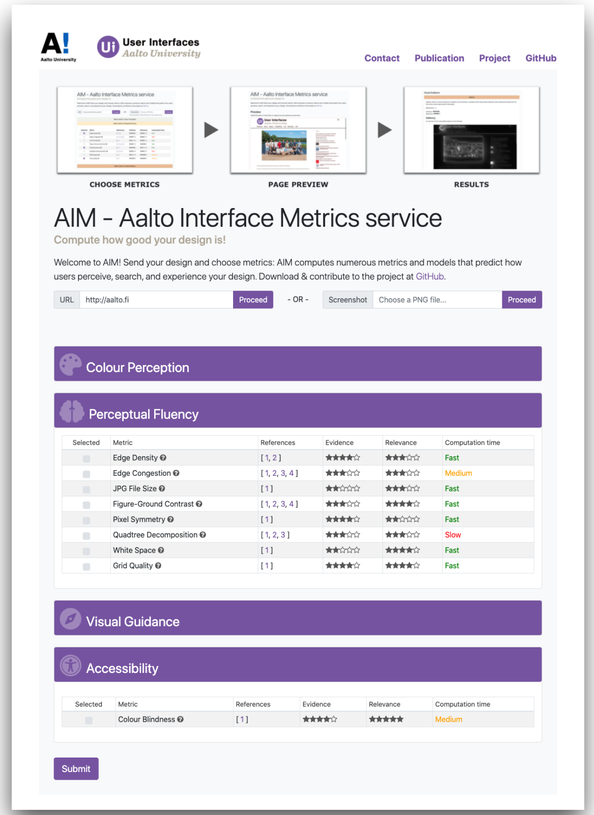
2018



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mplaine Added missing packages

aim2_metrics	Added missing packages	
aim_backend	Added GUI designs evaluation code	
aim_frontend	Fixed security vulnerabilities in fronte	
aim_metrics	Fixed a typo in the balance formula of	
aim_segmentation	Removed big bounding box from segn	
.gitignore	Added GUI designs evaluation code	13 days ago
CONTRIBUTING.md	Fixed table formatting	2 years ago
LICENSE.txt	Updated license related texts	6 months ago
README.md	Updated license related texts	6 months ago

Clone

HTTPS SSH GitHub CLI

https://github.com/aalto-ui/aim.git

Use Git or checkout with SVN using the web URL.

Open with GitHub Desktop

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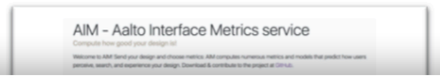
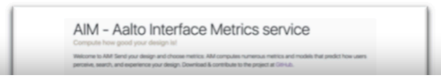
README.md





About

Aalto Interface Metrics (AIM): A Service and Codebase for Computational GUI Evaluation.

interfacemetrics.aalto.fi/

Readme

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Releases 1

v1.0 Latest
on 14 Oct 2018

Packages

No packages published
Publish your first package

Contributors 2

Code repository: https://github.com/aalto-ui/aim > aim2_metrics

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Questions?

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