

Mining sentiments in Idea Management Systems as a tool for rating ideas

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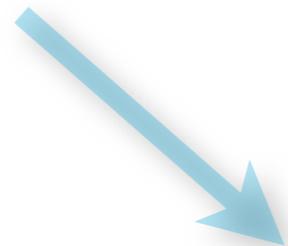
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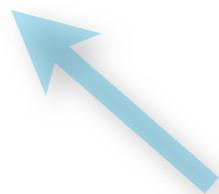
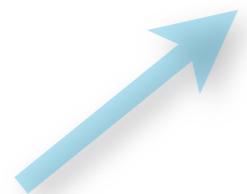
IMS Ontology
[web metadata model]



Idea characteristics
[taxonomy & metrics]



GIZMO
SEMANTICALLY EMPOWERED IDEA MANAGEMENT



Use Cases

Applications

Evaluations

What is Opinion Mining?

[introduction]

Comment:

I like this idea and I totally support it!

Polarity: **positive**

Polarity rating: **1.4**

Comment:

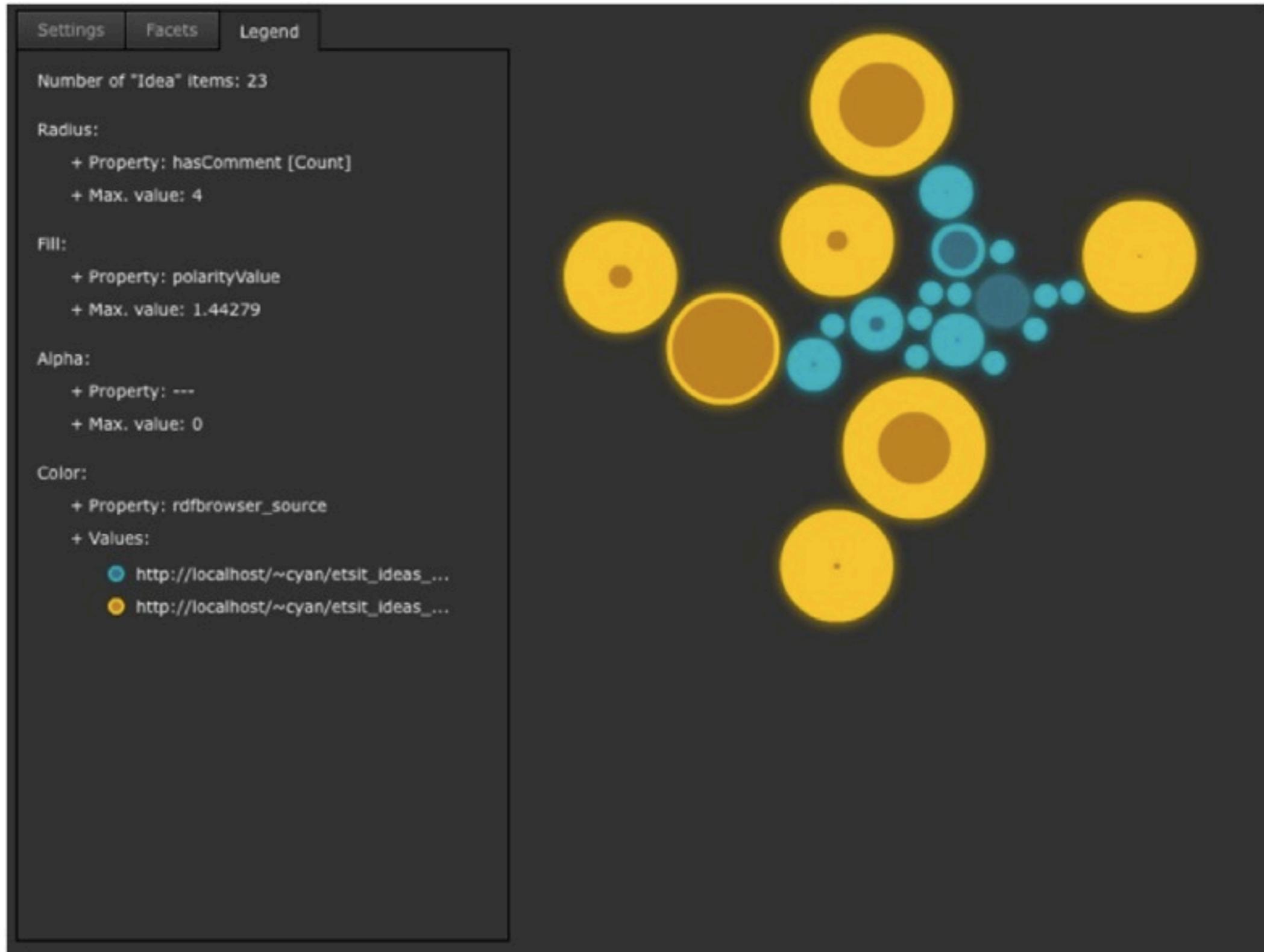
I think this idea is terrible and getting it implemented will make the product worse

Polarity: **negative**

Polarity rating: **-2.1**

Opinion mining in IMS

[use case example]



Opinion mining in IMS

[research questions]

Can OM be useful in the context of IMS ?

- are sentiments in idea comments an indicator if idea is accepted or not ? (by IMS managers)
- does analyzing comments with opinion mining deliver a new tool in comparison to current metrics ?

Opinion mining in IMS

[research setting - tools]

- data -> Ubuntu Brainstorm (21k ideas/ 133k comments/ 10k users)
- opinion mining algorithm -> based on SentiWordNet dictionary (67 % recall/ 66 % precision/ 67 % f-measure)

For the experiment: 50 ideas, ~2000 comments

Opinion mining in IMS

[idea opinion metric]

Non-shiny Laptop Displays

[View](#)

[Workflow](#)

Tue, 02/23/2010 - 00:00 — Anonymous

I wish there were Laptop Displays that do not become shiny sparkling mirrors when sun is around.

Opinion Analyzer:



75% Positive
(4 comments)

Result: 2.130

Positive: 3 (75.00%)

Neutral: 1 (25.00%)

Negative: 0 (0.00%)

[Add new comment](#)

[Laptops](#)

Comments

This idea needs support.

Sat, 02/19/2011 - 00:28 — admin

This idea needs support. Better screens for outside usage would be awesome.

Opinion Analyzer:

 **Positive**

Result: 0.950789

[reply](#)

Opinion mining in IMS

[evaluation]

Two experiments

- measure correlation between opinion rating and idea adoption (1 = implemented , 0 = not)
- measure correlation between opinion rating and IMS metrics: comment count, solution count, max. /min. / avg. solution rating, idea age

Opinion mining in IMS

[evaluation - results]

Metric	Correlation with idea adoption
Comment count	0.03
Solution count	0.04
Max. solution rating	0.3
Min. solution rating	0.24
Avg. solution rating	0.37
Idea age	0.12
Opinion rating	0.04

do decision makers take all community comments into account ?

Opinion mining in IMS

[evaluation - results]

Metric	Correlation with opinion rating
Comment count	0.28
Solution count	-0.08
Max. solution rating	0.25
Min. solution rating	0.38
Avg. solution rating	0.41
Idea age	0.19

does opinion rating duplicate other metrics ?

Thanks for attention!



Questions ?