Intro **Overview**

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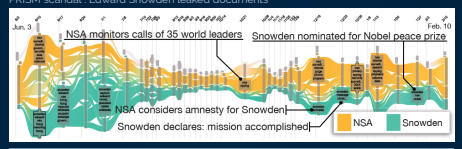
How Hierarchical Topics Evolve in Large Text Corpora

A visualization for how topics of texts change over time

Case study	Edward Snowden and the PRISM scandal
Idea	Make trees out of topics
Problem	Dense graphs are tough to read and navigate through
Solution	Facet, details on demand, and align
Criticism	

Intro **Case study**

PRISM scandal : Edward Snowden leaked documents

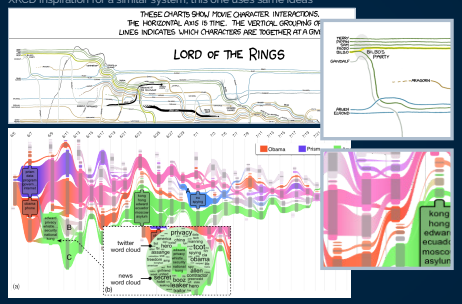


Example topics
- "Snowden" vs "NSA"
- "Traitor" vs "Hero"

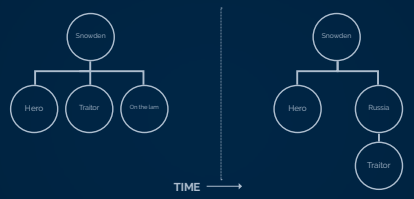
Too broad?

Intro **How to read**

XKCD Inspiration for a similar system, this one uses same ideas

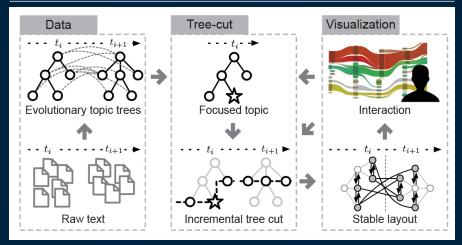


Idea **Topic trees as they evolve**



Problems
- Topics are not at same level
- Changes are tough to track
- Users get lost when drilling down

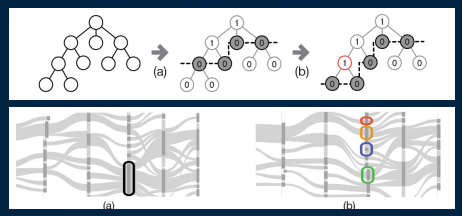
Solution **Overview**



Workflow	Using
Visualize	Algorithm
Analyze	Domain knowledge
Refine	Interaction

Iterative analysis

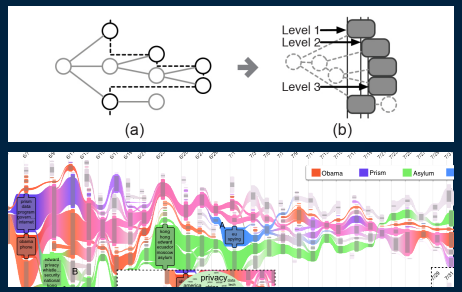
Solution **Tree cut**



Tree cut

Every path from the root of the tree to a leaf will contain exactly one node from the cut

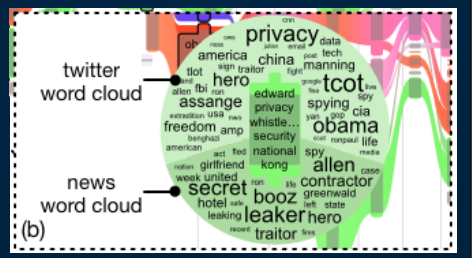
Solution **Align**



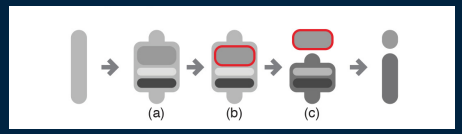
Align twice
- For a unit of time
- For a level of the tree

Solution **Details on demand**

Word cloud exposes structure of visualization



Solution **Cut and repeat**

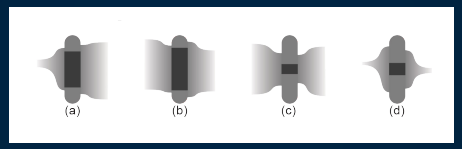


Break large topic into smaller topics
- Large abstract topics may not be meaningful
- Algorithm may not choose correctly

Iterate
- More in line with how people actually think

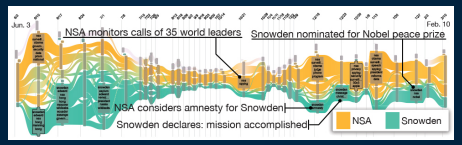
Solution **Analysis**

So, how do you glean meaning from this?



(a) a new topic is emerging
(b) a topic is still active but changes slowly
(c) a topic is active, but changes immensely
(d) a momentary topic emerges and disappears rapidly.

Solution **Analysis**



What does this tell us about the news cycle?

What part is most important?

Which story is most important?

What aren't we seeing?

Analysis **Criticism**

Good
- Lowers cognitive load
- Manual manipulation makes sense
- Supports natural exploration process

OK, maybe not a problem
- Not really an algorithmic solution
- Requires domain knowledge to use

Bad
- Screen real estate ≠ importance
- Absolute Y-Pos means nothing, but it looks like it should
- Crossing, do we have to accept bad semantics?