Data Mining Personal Values to Improve Online Deliberation

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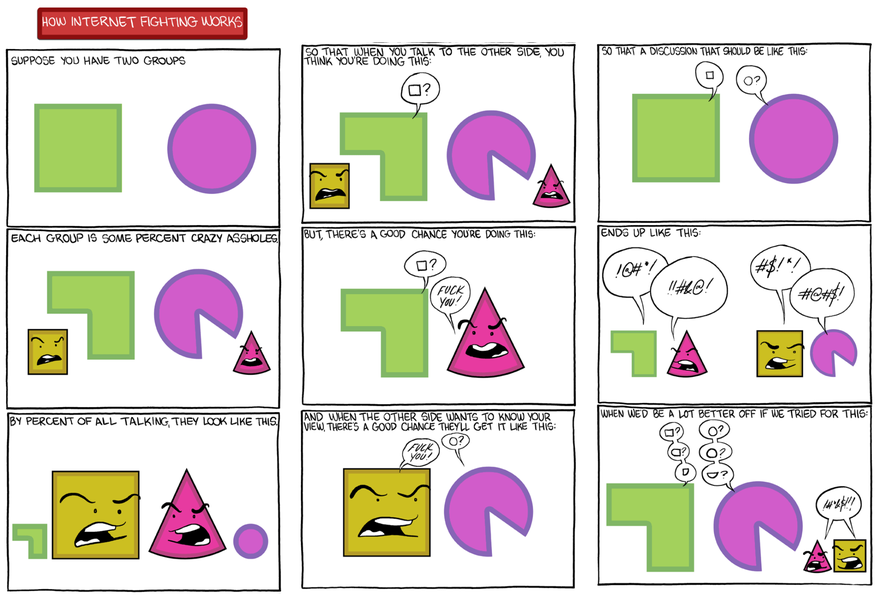
Motivation

As drawn by Zach Weiner (SMBC)



Research Questions

Disagreement can be mediated by extracting motivations and context, in the form of personal values, in conversation.

1. By mining text in online conversations, can we build a model of values and explore the relationship between values in conversation?
2. Knowing values presented by different parties, can we foster more constructive conversation by highlighting differences and similarities and guiding users to find common ground?

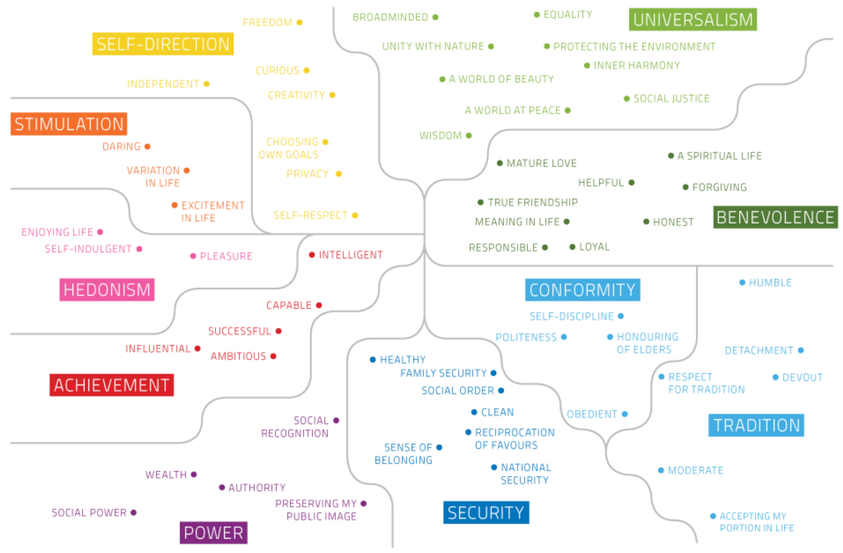
Personal Values Model

Classify n-grams to values

- Early work by [Chen 2014]
- Gather data from online deliberation, right now: LVG
- Get ground-truth using crowdsourcing
- Assign probabilities to labels

Example Labels:

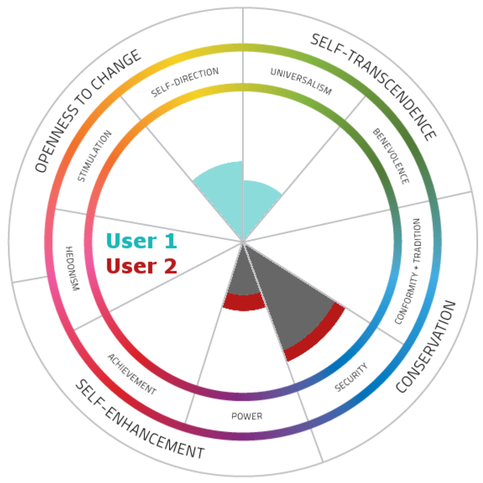
POWER	SECURITY	SELF-DIRECTION
Gun	At Stake	Rights
Guns	Kills	
Ban	Die	
	Deaths	



Schwartz's Value Theory

illustration from http://valuesandframes.org/

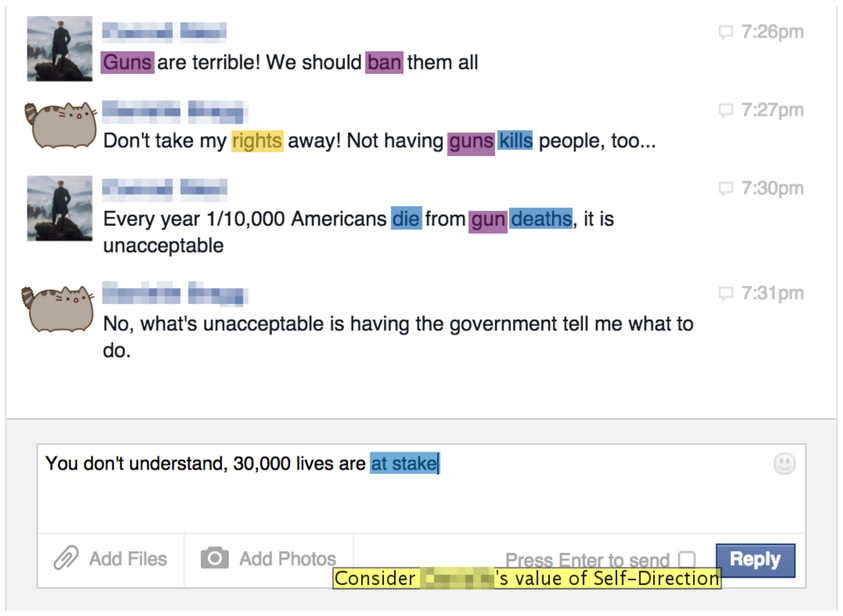
- Model values presented by each user
- Find overlap & gap
- Investigate additional features with values
  - Sentiment, agreement…



Example Value Overlap

background from http://valuesandframes.org/

Subtle Interventions



- Visualize value usage
- Prompt users to address value gap

Sketch of Proposed Interface

Background

- Online deliberation -> more knowledgable and politically engaged users [Price 2006]
- Online chat -> minority / disagreeing opinions squashed by network effects [Grevet 2014]
- Framing debate by values -> more focused / coherent but limited debate [Brewer 2005]
- Forcing diverse opinions -> more constructive debate [Citation Needed]

Applications

Talking with the Living Voters Guide right now

Potential Applications: DISQUS, Facebook, talk, Reddit

Citations

[1] **Brewer**, P., Gross, K. (**2005**). Values, Framing, and Citizen's thoughts about Policy Issues: Effects on Content and Quantity. *Political Psychology*, Vol 26, No 6, pp 929-948 Dec 2005.
[2] **Chen**, J., Hsieh G., Mahmud, J., Nichols, J. (**2014**) Understanding Individuals' Personal Values from Social Media Word Use. *17th ACM Conference on Computer-Supported Cooperative Work and Social Computing*.
[3] **Grevet**, C., Terveen, L., Gilbert, E (**2014**). Managing Political Differences in Social Media. *17th ACM Conference on Computer-Supported Cooperative Work and Social Computing*.
[4] **Price**, V. (**2006**). Citizens Deliberating Online: Theory and Some Evidence. Book: *Online Deliberation: Design, Research, and Practice*.
[5] **Schwartz**, S. H. (**2012**). An Overview of the Schwartz Theory of Basic Values. *Online Readings in Psychology and Culture*, 2(1).
[6] **Schwartz**, S. H. (**1992**). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1-65). New York: Academic Press.