CS280r Project Update
Group Meeting Facilitation: Implementation of an Artificial Mediator

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1. Update

We have decided to focus on the agenda setting goal from the project proposal. As the scope of this task is still fairly broad, after speaking to Barbara, we have decided to study a content generation platform that could in theory be applied to the meeting agenda setting. The power of crowd-sourcing is such that we are aiming to source opinions from the entire team due to the importance of including items in the agenda that reflect the needs of the individuals in the team (Schwartz, 2015). We have seen that other content-generation systems, such as Wikipedia, often end up biased to the desires of a single coordinator, which we see as a parallel to a biased/suboptimal voting system in a domain without an absolute ground truth. With this in mind, we will consider the use of alternative voting-based methods for selecting maximally relevant topics within a time/space budget.

Specifically, we will be building on work from Hahn et al. (2016) and (Caragiannis et al., 2017) to select the maximally relevant subset to be studied further (or included in a meeting agenda) from a list of possible options. As the meeting setting is highly qualitative and requires too much context to run a successful experiment, we will experiment instead on generating the most relevant subset of points from a given opinion news article. Readers will be asked to either rank or identify in a binary manner those points which they think could build the most convincing argument. We will then use two different voting rules to aggregate the opinions of the subjects to create the optimal subsets. The one voting rule will be based on the work by Caragiannis et al. (2017) and one will be the naive approach of selecting whichever topics receive the highest number of votes in an approval voting setting (with ties broken at random). We can also compare this against a baseline of an individual creating a topic summary of the entire document. To test which output is of highest quality, we can ask a separate group which of the topic lists they would prefer to use to construct an argument (or perhaps alternatively we can reconstruct the opinion piece with only the relevant topics left in and ask a new set of people whether they find the argument convincing and report the percentage for each group).

R. Schwartz, How to Design an Agenda for an Effective Meeting, Harvard Business Review .

N. Hahn, J. Chang, J. E. Kim, A. Kittur, The Knowledge Accelerator: Big picture thinking in small pieces, in: Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, ACM, 2258–2270, 2016.

I. Caragiannis, S. Nath, A. D. Procaccia, N. Shah, Subset Selection Via Implicit Utilitarian Voting, Journal of Artificial Intelligence Research 58 (2017) 123–152.