CS280r Project Proposal
Group Mediation: something

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1. Introduction and Motivation

Given a group work setting, a moderator is interested in controlling the interaction of the group while not necessarily participating in the execution of the task at hand (Short and Matarić, 2015). We propose an on-line meeting environment where an artificial agent is able to control the meeting to optimize for the flow and productivity of the meeting whilst still engaging the various group members. The purpose of this project is to implement a 'Slack bot' to test the effect that an influencing agent may have in a human group-meeting environment.

Matsuyama et al. (2015) highlight the difficulty of maintaining the quality of interaction between a robot agent and a group, due to the difficulties presented in speech analysis of the individuals in the group. Constraining an experiment to an online environment helps to attach identity numbers to individuals but for the purposes of scope, we will further constrain this to a written, online communication forum. Thus to implement a feasible test, we constrain an implementation of the system to slack where easier text analysis can be conducted to facilitate a written group work meeting. The choice of slack is further due to the popularity of the tool in group code and business environments (JEFFREY, 2016)(Lebeuf et al., 2017).

2. Questions of Interest

The successful completion of this project will tackle the following questions:

- Given a groupwork environment, can an assistant agent help to facilitate the meeting to increase the interaction of the participants and to optimize for the productivity of the meeting?
- Are people amenable to having a meeting managed by an external facilitator?
- What are the key considerations when introducing an agent into a human group work planning environment?

3. Relation to CS280r Coursework

Grosz and Hunsberger (2006) present the formalism of shared plans but do not elaborate on how humans and/or agents collectively agree upon these plans. Hutchins (1995) presents a case study on the formalized communication among the participants about a sailing ship. He clearly shows how the correct communication protocols allowed the team to function efficiently and adapt to a changing environment. Friedkin et al. (2016) introduces the concept of group consensus and how the dependence on logical constraints affect the group decision. This project would rather tackle the problem of neutralizing overly influential (load and outspoken) members of the group and encouraging participation by the quieter/less-spoken group members. The project may further extend the work done by Kamar et al. (2009) who design ways for an agent to decide when it is useful to help other members of the group with assigned tasks. In this case, the agent would have a very incomplete picture of what is being done (as the agent is not expected to comprehend the purposes of the meeting), but it should be in a position to infer enough information to assist in allowing the group to reach a consensus.

4. Division of Work

There is no explicit division of work as we will both tackle the relevant parts of the project as we progress through the project time-line. *Rather put a project time line here?*

5. Requested Feedback

6. References

Need some more useful references here

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