

Title of Proposal: Understanding and Mitigating the Social Contagion of Unethical Behavior in User-Generated Content systems

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Problem Statement (please limit to no more than 1-2 sentences):

This research plans to evaluate how online unethical behavior spreads and what are the mechanisms that can limit the contagion. Our tentative system for quantitative experimentation is Yahoo! Answers, but other datasets will be investigated, too.

Background and description of the technical problem area (please limit to no more than 3-4 paragraphs):

This project proposes empirical investigations into the conditions under which ethical behavior in online communities is sustainable despite individuals' temptations to behave unethically. Individuals' unethical decisions can cumulate into significant costs at the community level, with direct penalties on user engagement and company expenses. For example, cheating in online games leads to significant expenditures from the gaming industry and significant research effort to detect and limit cheating. Abusing the online communication tools for personal marketing or political activism borders on spamming. Mislabeling or misrepresenting information in user-contributed content systems (such as Connotea, Wikipedia, or Yahoo!Answers) can render such tools useless, ruining the image of the service and wasting the quality contributions of cybercitizens.

Theoretical and empirical results from diverse fields, such as sociology, psychology and moral philosophy suggest that our (un)ethical behavior is influenced by our social contacts. Our own empirical study of cheating behavior in online multiplayer games identified a social contagion phenomenon: specifically, the more friends who are cheaters a player has, the more likely is that that player will be found cheating in the near future. Our intuition, supported by related literature, is that a social contagion phenomenon is present at various intensities in most communities, online and in real life.

In this research we plan to answer empirically, on Yahoo!-specific datasets and others, the following questions:

- 1) What is the position of unethical players in the community? We hope to rely on user-tagged inappropriate content (such as via the Abuse feature in Yahoo!Answers) for identifying the unethical players/actions;
- 2) What underlying social interaction layer is most susceptible to contagion? We plan to investigate three such social layers in the Yahoo!Answers context: the declared social network; the asker-answerers network; the writer (answerer/asker) – reader network;
- 3) What mechanisms are most effective in limiting contagion? Specific ideas to investigate are timely intervention in removing/labeling inappropriate content; quarantining suspicious users; and preferentially monitoring at-risk users.

Outcomes:

The outcomes of this project will be a quantitative understanding of the contagion of unethical behavior and will result into a) joint publications in top venues; b) algorithms for shielding user experience from contagious unethical behavior; c) empirical support for prioritizing company's efforts for increasing content quality.