

CS 186 Final Project Proposal

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Harvard Course Matching

It seems that each year, more and more courses become application-based or lottery-based. Right now, a student applies to all of the courses that he or she wants to take, and he or she is matched to a course if the professor accepts the student. In this system, the professor's preferences for students are considered, but a student's preferences for courses is not, leading to a potentially inefficient matchings. For example, consider the case when student A is matched to class 1 and student B is matched to class 2, but actually student A prefers class 2 and student B prefers class 1. In situations like this, it might make sense to discount the professor's preferences, because the student's opportunity to learn a specific subject is more important than a professor's desire to teach a specific student. Therefore, student A should be matched to class 2 and student B to class 1. In the current system, however, this is not possible. Therefore, it would be interesting to explore possibilities for designing such mechanism to facilitate this matching, and if time allows, to actually create such a system.

Analysis of Reputation Incentives in an Anonymous System: The Upvote/Downvote

While online social networks are becoming increasingly attached to verified real-world identities as a way of deterring bad behavior, there are still many largely popular sites that are set up as anonymous systems. However, a major issue is racist/offensive/irrelevant content that gets posted with seemingly no serious repercussions because the bad user is able to hide behind the mask of anonymity. A common approach to promote good content and "bury" bad content in these situations is the upvote/downvote system, which is used on Reddit and Stackoverflow. The downsides of such a system are that they lead to homogeneity (partly psychological, because seeing what is upvoted will cause people to post similar types of content or vote similarly, i.e. the "Reddit hive mind"), and we are interested in examining if there are ways to alter the mechanism to help disseminate fresh content.