Milestone 5
15-400, Spring 2018

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Major Changes

No major changes.

What You Have Accomplished So Far

- Have an algorithm that requires only one disruption per step for EF1 item assignment with $n = 2$. There's a trivial lower bound that shows this algorithm is optimal.

Meeting Your Milestone

I haven't had any formal milestones lately but I think I'm on track for the semester given that I've resolved the interesting questions to ask for the $n = 2$ case.

Surprises

None.

Looking Ahead

I have some ideas for the $n > 2$ case but nothing too promising right now. It doesn't seem likely that adapting any existing offline EF1 allocation algorithms will work out, since we've tried most of the adaptable ones (envy cycle elimination, round robin, maximum nash welfare) and none of them seems too promising. It might be worth looking into a new approach to offline EF1 allocation that is hopefully more easily adaptable to the online setting.

Milestone Revisions

Since I've been writing up my results as I go, I think some of the later milestones mentioning writing up results can be pushed back.

Resources Needed

No resources needed.