SIAA modification

Janovec & Tauchman

We changed this
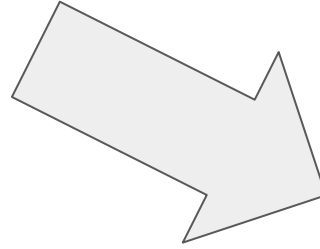
$$w_{u_i,j} = (1 - b) * (1 - satO(u_i, \mathcal{GR}_{j-1})) + b * userDis(u_i, G, Gr_{j-1}, j-$$

Rankings

USER N	A	B	C	D
1	0,8	0,1	0,4	0,9
2	0,3	0,9	0,1	0,1
3	0,8	0,4	0,4	0,1
4	0,3	0,5	1	0,1

Selected movies by the AVERAGE aggregation method: **A,B**

Disagreements (penalties)

USER N	A	B
1	0	2
2	0	0
3	0	0
4	1	0

Total disagreements = 3

$$userDis(u_i, G, Gr_j, j) = max_{\forall_{u_l \in G}} sat(u_l, Gr_j, j) - sat(u_i, Gr_j, j).$$
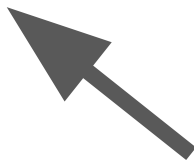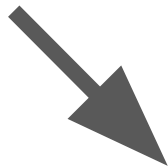
$$D(u) = \sum_{d \in GR} \Delta(u, d)$$

Where

$$\Delta(u, d) = \max\big(0,\ r_u(d) - K\big)$$

b parameter experiment

$$w_{u_i,j} = (1 - b) * (1 - satO(u_i, \mathcal{GR}_{j-1})) + b * userDis(u_i, G, Gr_{j-1}, j -$$

When b is low and disagreement is HIGH, system reacts slowly to make unsatisfied user satisfied
When b is high and disagreement is LOW, system is unstable

IDEA: Make b dynamic based on the whole group disagreement

```
class dynamicSIAA(Sequence):
    def __init__(
        self,
        preferences: pd.DataFrame,
        b_low: float = 0.3,
        b_high: float = 0.6,
        disagreement_threshold: float = 0.10,
        k: int = 5,
```

New parameters

Results

- (good) equivalent overall satisfactions for users in group
- (bad?) higher user disagreement, if we measure our results by the other disagreement method
- we had trouble finding good parameters for our b parameter