

CS 765 - Home work 3

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0.1 Issues

0.1.1 News rating calculation

If there are N voters who voted for a news item, then the rating will be,

$$rating = \frac{\sum_{i=1}^N trustvalue_i * rating_i}{\sum_{i=1}^N trustvalue_i}$$

where $trustvalue_i$ is the trustvalue of the voter i .

$rating_i$ is the rating given by the voter i .

0.1.2 Sybil Attack

We avoided sybil attack by using deposits, voter should deposit some amount of money to vote. This deposit is used to penalize the voter if he votes for the wrong block. This deposit is returned to the voter if he votes for the correct block. This way we can avoid sybil attack.

0.1.3 Method to evaluate or re-evaluate the trustworthiness of voters

Each voter has a trustvalue initially set to 50, with a maximum of 100 and a minimum of 0. If a voter votes correctly for a news item his trust would be increased by $e^{-trustvalue/100}$ and if he votes incorrectly his trust would be decreased by $e^{-trustvalue/100}$. This way we can evaluate the trustworthiness of the voters.

0.1.4 Rational voters are to be incentivised

we will penalize the voter who vote incorrectly and reward the voter who vote correctly. By sharing the penalized amount among the voted who voted correctly equally we can incentivise the Rational voters.

As for the same type of news items like related to same subject(eg. politics), so the voters who voted correctly for previous politics news will have more trustvalue and their vote will be more valuable.

0.1.5 Uploading a news item

Each news will have an unique id so that voters can distinguish between them.

0.1.6 Bootstrapping

Initially every voter will have same trustvalue of 50. As the system progresses the trustvalue of the voters will be updated based on their voting history.