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User-User Collaborative Filtering Quiz

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1. Which of the following is a problem with using Pearson correlation (as opposed to other similarity metrics) for computing user similarities in user-user collaborative filtering? **1 / 1 point**

✓ **Correct**

2. **1 / 1 point**

Either vector cosine or Pearson correlation are often used to compute a weight in user-user collaborative filtering. What are these metrics trying to measure?

✓ **Correct**

3. A basic user-user collaborative filtering algorithm uses the formula: **1 / 1 point**

$$P_{a,i} = \frac{\sum_{u=1}^{n} r_{u,i} \cdot w_{a,u}}{\sum_{u=1}^{n} w_{a,u}}$$

What is the purpose of the term wa,u in the numerator?

✓ **Correct**

4. Resnick discussed a sybil-based shilling attack against a recommender system. Which of these best describes such an attack? **1 / 1 point**

✓ **Correct**

5. **1 / 1 point**

Cosley experimented with giving people deliberately inaccurate predictions. He examined three possibilities:

I. People would notice that predictions were wrong

II. People would be biased by the wrong predictions and enter different ratings.

III. People would have lower satisfaction with the system after receiving bad predictions.

Which ones happened?

✓ **Correct**

6. **1 / 1 point**

Which of the following would most indicate a situation where user-user collaborative filtering would be strongly preferable to content-based filtering (i.e., filtering based on user preferences of keywords or attributes)?

✓ **Correct**

7. Resnick talked about resistance of collaborative filtering recommender systems to attacks from fake accounts (called sybils). Which of these statements about this problem is true **1 / 1 point**

Correct

8. User-user collaborative filtering depends on certain assumptions. Which of the following IS NOT a requirement for a successful user-user collaborative filtering system **1 / 1 point**

Correct

9. **1 / 1 point**

A more advanced user-user collaborative filtering formula is:

$$P_{a,i} = \bar{r}_a + \frac{\sum_{u=1}^{n} (r_{u,i} - \bar{r}_u) \times w_{a,u}}{\sum_{u=1}^{n} w_{a,u}}$$

What is the purpose of the $\bar{r}_a$ and $\bar{r}_u$ terms in this version of the formula?

Correct

10. Golbeck explained that trust-based recommenders differ from similarity-based collaborative filtering in all of the following ways EXCEPT which one? **1 / 1 point**

Correct