

CS 470 Ethics Lab

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For this lab, consider the design of a **distributed social media system** designed to evade all forms of moderation or censorship (public/governmental or private/corporate). The general goal of the system is to allow individuals to publish content in the form of textual or graphical posts, which are then distributed to other users on mobile devices either via geographical proximity or via the user's "friends" list. Incoming posts may be optionally filtered on individual devices using keywords or a machine-learning-based image labeler that runs locally on the device, but no participant in the system can prevent another participant from seeing content from a third party.

1. List at least two concrete benefits to society that are possible with such a system.

One benefit of this system is that it allows users to connect with their friends/family by sharing their thoughts or pictures with them. Another benefit of this system is the encouragement of freedom of speech due to the anti-censorship design of the system.

2. List at least two technologies (general concepts or specific hardware/software) that we've discussed this semester that could help implement such a system and briefly describe their contribution to the system.

Geocasting and multicasting could be used to distribute a user's post based on proximity first regardless of the user's friends, then distributed among the user's friends list second (user may have a friend that isn't geographically close to them).

The following are excerpts from the ACM Code of Ethics:

"A computing professional should avoid harm. In this document, 'harm' means negative consequences, especially when those consequences are significant and unjust. [...] Well-intended actions [...] may lead to harm. [...] A computing professional has an additional obligation to report any signs of system risks that might result in harm."

"A computing professional should respect privacy. [...] Computing professionals should only use personal data for legitimate ends and without violating the rights of individuals and groups. [...] Only the minimum amount of personal information necessary should be collected in a system."

3. Describe one way in which the described distributed social media system may cause harm.

A user/rogue group of people may spread misinformation or hate speech in order to push a certain narrative or bully people, which could definitely be harmful. Especially since the system is proximity based, if a user doesn't have any filters then they may see posts from people in their community sharing harmful/misleading information.

4. Describe one way in which the described distributed social media system may violate privacy.

Since there is no censorship/moderation, a user could post personal information/a picture of someone without their permission, therefore violating their privacy. In the case of this happening, there is nothing that the victim can do to take the post down, they can only filter it out of their feed.

5. Summarize in one sentence the tension between risk and benefit in the distributed social media system.

There is a tradeoff for a user's freedom of speech because on one hand it is good to express your true thoughts and ideas, but as freedom of speech increases misinformation/hate speech is more likely to be present.

6. List at least two concrete goals or properties that the system should have, informed by your discussion of the risks and benefits. These should be expressed in terms of what must or must not happen in the system.

There should be a small emphasis on moderation, even if it's not the main priority of the system in order for a central (hopefully mostly unbiased) entity to address and prevent privacy violations or issues with freedom of speech. There should also be the ability to block users in addition to adding friends so that the individual user can have more control over what they can and can't see.

7. Are the goals or properties identified in #6 feasible given the limitations of the technologies identified in #2? Why or why not?

The goals of the system are feasible to achieve with Geocasting and multicasting because by default it will share the post with people nearby (Geo) unless you block them or if you only want to share the post with friends (Multi). This could require a system that implements a hybrid form of casting. You can implement the system of moderation, but it would require an additional casting technology (broadcast).

8. Submit your answers as a PDF on Canvas. Make sure that all of the names of your group members are present at the top of the file.