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Team 4 (TDD) Pitch - CSE 210 Fall23

Problem

As social media platforms like Twitter and Instagram have grown, they have become increasingly centralized and controlled by large tech companies. This centralized control allows these platforms to censor content, sell user data, and manipulate algorithms in non-transparent ways. However, decentralized social networks like Mastodon offer an alternative where servers are independently owned and moderated. This prevents centralized control over content and data.

Unfortunately, in the expanding universe of decentralized social platforms, users often find themselves constrained by the limited/immature native UI/UX designs, which can impede the discovery and exploration of diverse content. There is a need for a more intuitive and user-centric interface that abstracts away from these limitations, promoting a richer engagement with the content across the Fediverse. This interface should enable users to seamlessly navigate and connect with the vast array of topics, communities, and discussions beyond the superficial metrics of popularity, thereby enriching their social media experience and fostering a more holistic understanding of the network's social dynamics.

Appetite

Our scope is targeted yet robust: we aim to create a specialized analytical/visualization tool that serves everyday (or starting) Fediverse users. We don't want to make another general social media management suite that targets content creators/account admins and drives people towards metrics like growing number of followers. Our main goal is to provide a tool to increase accessibility of the Fediverse and encourage user exploration/engagement. For this project, with the given time limitation, we will focus on providing actionable insights on a specific platform (Mastodon) and keeping the tool lean, but at the

same time, extensible and capable of adapting to the unique decentralized nature of the Fediverse.

Solution

We propose building an open-source social media visualization tool which helps users explore the giant space of the Fediverse network, empowering them to intentionally expand and shape their own local network. For the scope of this project, it will specifically for Mastodon instances and users.

By leveraging Mastodon's open API, we can develop dashboards to recommend accounts to follow for the user:
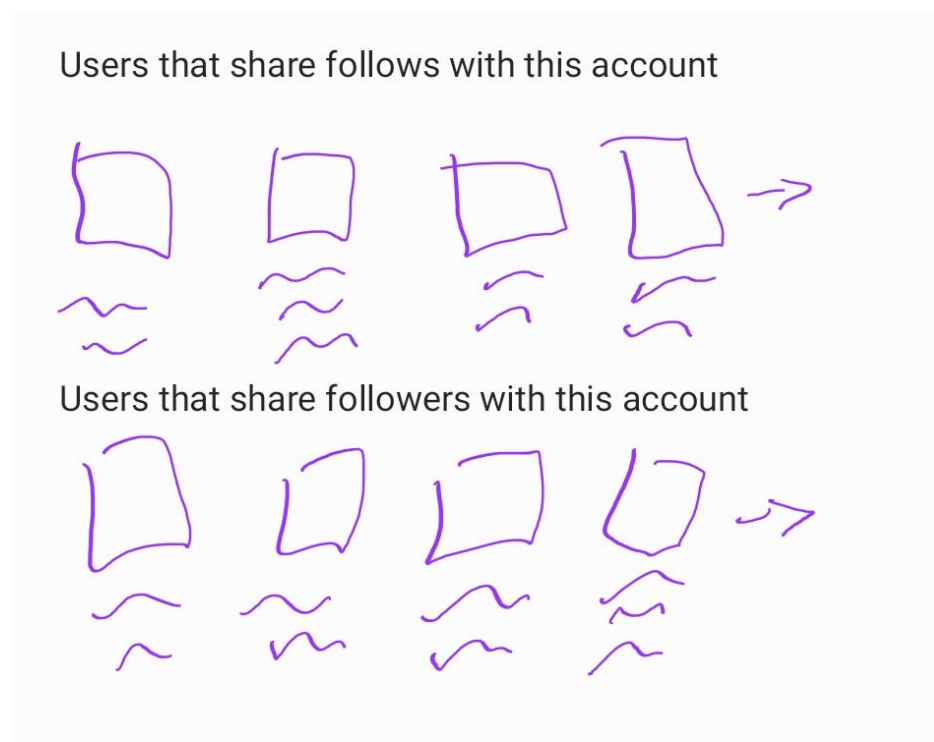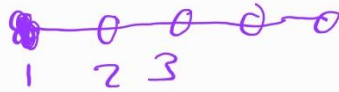

We can also visualize the local network of the given user:

Local map of this account's network (D3 framework viz)

D3
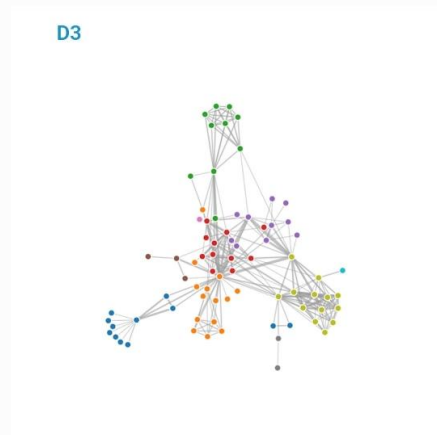
Depth, coloring, filtering

1 2 3

Label user cluster

Or show users the trending posts in their local network:

Trending posts in your local network

Historical most popular posts in your local network

We'll also do a more thorough review of existing social media visualization methods in the future.

Rabbit holes

1. Data privacy and ethics : Ethical aspects of collecting and storing user data, compliance with GDPR
2. Data scraping: We would have to scrape data from multiple Fediverse instances each with their own API and policies. Rate limits, data formats
3. NLP/ML : If there is any sentiment analysis or content categorization involved there can be some complex NLP logic involved or we can use some service that has these features
4. UI challenges: Building user friendly and accessible dashboards while conveying the data in a meaningful way
5. Content moderation: We should not amplify negative content like hate speech etc
6. Scaling and Performance

Nogos

1. No ML/AI: limit the scope of project and focus on transparency of the tool - give the control to users
2. No scaling/performance goals: we will not put the major effort in thinking about how to grow the user count of our product and how to handle scale
3. No involvement of other forms of social media (only Fediverse)
4. No over-commitment in supporting multiple platforms (focusing on Mastodon)

Brainstorming Phase (Mindmap)

Higher resolution board:

https://miro.com/app/board/uXjVNUZOaoY=/?share_link_id=990082350211
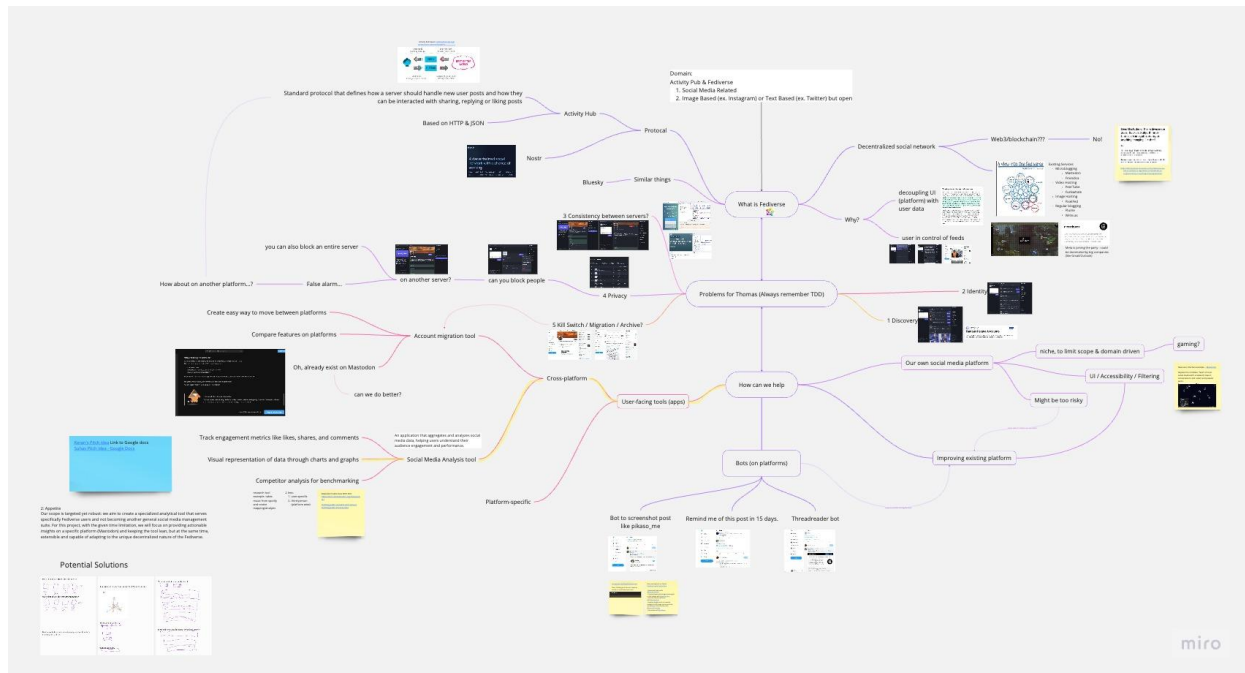
User Personas

Megan Reeves

AGE	45
EDUCATION	PhD in Economics
STATUS	Married
OCCUPATION	Professor
LOCATION	London

> I am very into participating in discussions about economics and sharing my thoughts with others.

Personality

Introvert   Thinker

Tech-savy

Bio

She currenlty lives in London as a university professor, lecturing Economics. She finished her PhD in Economics and and used to use Twitter heavily for participating in Economics discussions with people in the industry. During the pandemic, she found out about the Fediverse and started to use Mastodon over Twitter as her main social media tools.

Core needs

- Need to find people can provide valuable thoughts on the industry like her to share ideas.
- Need to post or share some hot takes without worrying about being restricted by the platform.
- Need to find the better community for Economics discussions.

Frustrations

- Hard to find people in the community simply using the direct search feature.
- Troubles in switching between platforms/servers.
- Feeds are not optimized, as it is shown in chronological order in most cases, not all posts are recommended properly.

Social Media