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Mastodon Objectives and The Individual Experience

Introduction

Across the globe, it is undeniable that social media has a critical and ubiquitous presence in everyday life. In recent years, these interactive applications have become a central medium for exchanging and consuming information, ideas, interests, and content through various styles of mass media and vast networks of interpersonal communication (Bayer 473). According to Dixon, it is estimated that nearly 4.9 billion people worldwide currently use some form of social media, and this number is projected to only increase to 6 billion by 2027. However, along with this predicted rise of social media, there has also been a critical increase of concerns regarding how Big Tech companies are currently running these popular platforms. Some common critiques include the prevalence of propaganda, noninclusive design, information overload, data privacy issues, etc. In response to these critical issues, many people are now starting to opt out of these for-profit platforms and migrate to decentralized social networks in hopes of gaining better experiences.

One prominent decentralized platform that has recently gained a lot of attention is Mastodon. After Elon Musk completed a $44 billion deal to own Twitter in November 2022, many Twitter users expressed strong disapproval and sought out Mastodon as a “better” alternative (Hoover). In less than two months, Mastodon observed a huge spike in its monthly active users, rising from 380,000 to more than 2.63 million (Hoover, “The Mastodon Bump”). Many people also started to speculate that Mastodon would soon “replace” Twitter as a mainstream platform, but without the current issues mentioned earlier (Hoover).

However, the hype did not last. By late January 2023, Mastodon’s active users fell back to 1.4 million (Hoover, “The Mastodon Bump”). Upon closer inspection of the platform, it is revealed that Mastodon is still in the beginning stages of development. Because of its complicated structure and clunky user interface, Mastodon is not able to effectively handle the scale of a large user base. Consequently, this inhibits the overall enjoyment of the user experience and diminishes the effectiveness of Mastodon’s original ideal frameworks, related to community, autonomy, and quality.

What is Mastodon (Ideally)?

Mastodon is a free, decentralized, and open-sourced social media platform affiliated with the German nonprofit organization, Mastodon gGmbh (“The Company behind Mastodon”) . It

was founded in 2016 by Eugen Rochko, a Russian-born German software developer who became dissatisfied with the overflowing issues on corporate social media, such as Facebook, Instagram, Linkedin, etc. (Knight). To a first time inexperienced user, its features can be summarized as an inspired combination of Twitter and Reddit (Zuilli et al 1190). Similar to Twitter, it facilitates an open space for users to consume information and socialize through microblogging. Instead of "tweets" and "retweets," Mastodon users write posts called "toots" and share with one another using "boosts" (Silberling) In addition, rather than a single server, Mastodon is composed of numerous niche communities called "instances." (Silberling). Like "subreddits" in Reddit, users can sign up and create connections based on similar interests and topics within a chosen instance (Silberling).

Nevertheless, that is not a true holistic representation of what Mastodon hopes to accomplish as a platform. Rather, Mastodon's foundations are built upon far more complex concepts that deviate from what most corporate social media value. In the research article, "Rethinking the 'social' in 'social media': Insights into topology, abstraction, and scale on the Mastodon social network," professors from the Brian Lamb School of Communication at Purdue University investigates how Mastodon intricately restructures the traditional technical model of corporate social media and as a result, creates its own type of social ecosystem. Using several qualitative data, the study found notably three main components that are responsible for the unique socio-technical framework on Mastodon: topology, abstraction, and scale.

Topology is concerned with how objects are positioned and interconnected within a network layout. Zuili et al. brings attention to how Mastodon's topology differs from the topology used in most mainstream social media. On popular corporate platforms like Twitter and Reddit, there is a centralized topology, in which a master node (which is usually the company headquarters) controls all of the other nodes in the network (Zuili et al. 1192). This means that there is only one single service provider that directs the flow of data and dictates the regulations for the entire platform. Thus, if the master node shuts down, so do the smaller nodes (Zuili et al. 1192). In contrast, Mastodon uses a decentralized and federated topology. Instead of relying on a single main hub, Mastodon network is composed of one single flagship node (or instance), mastodon.social, and thousands of smaller key nodes that are all independently operated (Zuili et al. 1192). This means that if one instance, including mastodon.social, was to go down, other communities can still function without any server issues (Zuili et al. 1192). In addition, this federated topology grants autonomy to the users and instance administrators on how they wish to curate their experience and community, rather than being controlled by a central authority. It should be noted that although the instances are independent entities of each other, users are not confined in one instance; users can still communicate across different instances. For example, in Figure 1, a Mastodon profile was created in a technology news instance, defcon.social, but they can still interact with a toot post from Mastodon's flagship instance, and many other communities . This access across a global network of interoperated servers is what defines the term, "The Mastodon Fediverse" (Zuili et al. 1192).

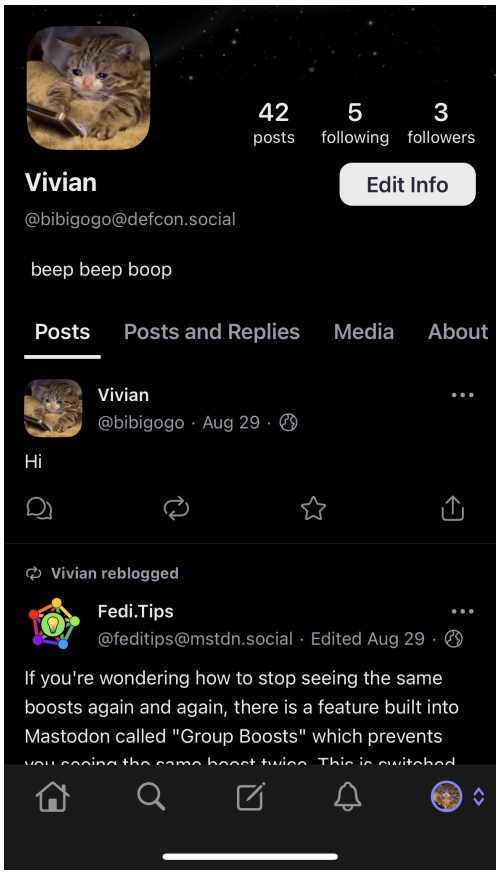

Figure 1

Besides topology, another unique feature of Mastodon is its approach towards abstraction. In software engineering, abstraction refers to when "the internal details of any given software system—from hardware to data storage to the algorithms that sort content—are hidden, especially from end-users" (Zuili et al. 1193). Recently, there have been numerous controversies regarding the various layers of abstraction implemented within many commercial social media platforms. For example, according to the 2020 Ranking Digital Rights Corporate Accountability Index, Bidle and Zhang found that there is very little disclosed information about how these social media platform sites collect and classify user behavioral data to fuel their algorithmic systems. In addition, there is no responsibility taken for how these algorithms can be biased in terms of curating and recommending certain content to users. Some problematic examples of this include how a search about a political event can lead to violent extremist content or a search for beach pictures will display child pornography (Bidle and Zhang). Besides algorithms, there are also abstraction issues regarding content moderation. Sites like Facebook and Twitter have been under public scrutiny due to poor moderation of hate speech and inappropriate content (Zuili et al. 1194). Due to the corporate scale of these platforms, there is unfairly vague information or inconsistent enforcement regarding content moderation policies. In contrast, Mastodon is a free and open source software (FOSS) system, meaning that its code is entirely available to the public (Zuili et al. 1193). This practice allows for virtually anyone (under a specific application process)