

Moderating the Moderators: A Look Inside Bluesky's Content Moderation

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FOR SOFTWARE SYSTEMS

Caution : Some slides may contain explicit content.

However, I believe this will make us all appreciate the complexity.

Should the platform take down this image?



A bit of a history ...

- **Napalm Girl**: 1972 Pulitzer Prize winning photo by Nick Ut (AP).
- **2016**: Norwegian journalist Tom Egeland included it in an article reflecting on photos that changed the history of warfare.
- The picture contains graphic suffering and underage nudity.
- **Consequence**: Facebook moderators deleted the post.
- The shown snapshot is the outrage of the editor in chief of Aftenposten on the front page of the newspaper.



Photo taken from Custodians of The Internet by Tarleton Gillespie

Statement from Facebook Vice President

*“These decisions aren’t easy. In many cases, there’s no clear line between an image of nudity or violence that carries global and historic significance and one that doesn’t. Some images may be offensive in one part of the world and acceptable in another, and even with a clear standard, it’s hard to screen millions of posts on a case-by-case basis every week... In this case, we tried to **strike a difficult balance between enabling expression and protecting our community and ended up making a mistake...**”*

Even today...



Bluesky Safety
@safety.bsky.app

+ Follow

Glorifying violence or harm violates Bluesky's Community Guidelines. We review reports and take action on content that celebrates harm against anyone. Violence has no place in healthy public discourse, and we're committed to fostering healthy, open conversations

September 11, 2025 at 12:26 AM Replies disabled

495 reposts 1 quote 2.4K likes 36 saves

The New York Times

[Protests in Nepal](#) | [Updates](#) [What to Know](#) [Class Tensions](#) [Censorship Playbook Fails](#) [Longstanding Problems](#)

Nepal Bans 26 Social Media Platforms, Including Facebook and YouTube

Critics worry a new law could curb freedom of expression, affect tourism and cut communication with the many Nepalis who work abroad.

Definition from the Digital Services Act (DSA)

Article 3(t) defines content moderation as:

*“content moderation means the activities undertaken by platforms aimed at **detecting, identifying and addressing illegal content** or information incompatible with ***their terms and conditions ...***”*

Takeaways



Content moderation is often striking a balance between enabling expression of the community and protecting the community.



Thus, it is notoriously difficult.

The centralized black box

Terms and conditions : Community standards

Transparency Center Policies Enforcement Security Features Governance Research tools Reports

Community Standards

Our Community Standards apply to everyone, all around the world, and to all types of content, including AI-generated content.

Each section of our Community Standards starts with a “Policy Rationale” that sets out the aims of the policy followed by specific policy lines that outline:

➡ Content that's not allowed; and

⚠ Content that requires additional information or context to enforce on, content that is allowed with a warning screen or content that is allowed but can only be viewed by adults aged 18 and older.

Coordinating Harm and Promoting Crime
Dangerous Organizations and Individuals
Fraud, Scams, and Deceptive Practices
Restricted Goods and Services
Violence and Incitement
Adult Sexual Exploitation
Bullying and Harassment
Child Sexual Exploitation, Abuse, and Nudity
Human Exploitation
Suicide, Self-Injury, and Eating Disorders
Adult Nudity and Sexual Activity
Adult Sexual Solicitation and Sexually Explicit Language
Hateful Conduct
Privacy Violations
Violent and Graphic Content
Account Integrity
Authentic Identity Representation
Cybersecurity
Inauthentic Behavior
Memorialization
Misinformation
Spam
Third-Party Intellectual Property Infringement
Using Meta Intellectual Property and Licenses
Additional Protection of Minors
Locally Illegal Content, Products, or Services

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Help Center

Using X Managing your account Safety and security Rules and policies

participate in the public conversation freely and safely.

Safety

Violent Content: You may share graphic media if it is properly labeled, not prominently displayed and is not excessively gory or depicting sexual violence, but explicitly threatening, inciting, glorifying, or expressing desire for violence is not allowed. [Learn more](#).

Violent & Hateful Entities: You can't affiliate with or promote the activities of violent and hateful entities. [Learn more](#).

Child Safety: We have zero tolerance for any forms of child sexual exploitation and remove certain media depicting physical child abuse to prevent the normalization of violence against children. [Learn more](#).

Abuse/Harassment: You may not share abusive content, engage in the targeted harassment of someone, or incite other people to do so. [Learn more](#).

Hateful conduct: You may not attack other people on the basis of race, ethnicity, national origin, caste, sexual orientation, gender, gender identity, religious affiliation, age, disability, or serious disease. [Learn more](#).

Perpetrators of Violent Attacks: We will remove any accounts maintained by individual perpetrators of terrorist, violent extremist, or mass violent attacks, and may also remove posts disseminating manifestos or other content produced by perpetrators. [Learn more](#).

Suicide: You may not promote or encourage suicide or self-harm. [Learn more](#).

Adult Content: You may share consensually produced and distributed adult nudity or sexual behavior, provided it's properly labeled and not prominently displayed. [Learn more](#).

Illegal or Certain Regulated Goods or Services: You may not use our service for any unlawful purpose or in furtherance of illegal activities. This includes selling, buying, or facilitating transactions in illegal goods or services, as well as certain types of regulated goods or services. [Learn more](#).



Search

Content Moderation

Keeping our platform safe, trustworthy, and vibrant requires balancing creative expression and preventing harm. We use a combination of safety approaches to strike the right balance:

Remove content that we do not allow

Everyone who joins TikTok has the ability to freely share content on the platform. However, we remove content—whether posted publicly or privately—when we find that it violates our rules.

Restrict content that is not suitable for youth

We allow a range of content on our platform, but also recognize that not all of it may be suitable for younger audiences. We restrict content that may not be suitable so that it is only viewed by adults (18 years and older). A summary of restricted content categories can be found [here](#).

Make ineligible for the FYF content that does not meet our recommendation standards

The FYF is an opportunity to discover new content and reach new audiences, but it is not guaranteed that all content will be recommended. Content that does not meet our standards will be ineligible for the FYF. A summary of these standards can be found [here](#).

Empower our community with information, tools, and resources

YouTube Help

Describe your issue

Sensitive content

We hope to protect viewers, creators, and especially minors. That's why we've got rules around keeping children safe, sex & nudity, and self-harm. Learn what's allowed on YouTube and what to do if you see content that doesn't follow these policies.

- Nudity & sexual content policies
- Thumbnails policy
- Child safety policy
- Suicide, self-harm, and eating disorders policy
- Vulgar language policy

Violent or dangerous content

Hate speech, predatory behavior, graphic violence, malicious attacks, and content that promotes harmful or dangerous behavior isn't allowed on YouTube.

- Harmful or dangerous content policies
- Violent or graphic content policies
- Violent criminal organizations policy
- Hate speech policy
- Harassment & cyberbullying policies

Regulated goods

Certain goods can't be sold on YouTube. Find out what's allowed and what isn't.

- Sale of illegal or regulated goods or services policies
- Firearms policy

Misinformation

Certain types of misleading or deceptive content with serious risk of egregious harm are not allowed on YouTube. This includes certain types of misinformation that can cause real-world harm, like promoting harmful remedies or treatments, certain types of technically manipulated content, or content interfering with democratic processes.

- Misinformation policies
- Elections misinformation policies
- Medical misinformation policies

Partial list of violations

- Abusive accounts
- Privacy violation
- Spam
- Financial scams
- Regulated goods
- Adult sexual exploitation
- Adult sexual solicitation
- Child nudity and sexual exploitation
- Human trafficking
- Self harm
- Violence and graphical content
- Societal harm
- Personal harm
- Bullying
- Credible threats of violence
- Hate speech
- Misinformation
-

A typical content moderation pipeline

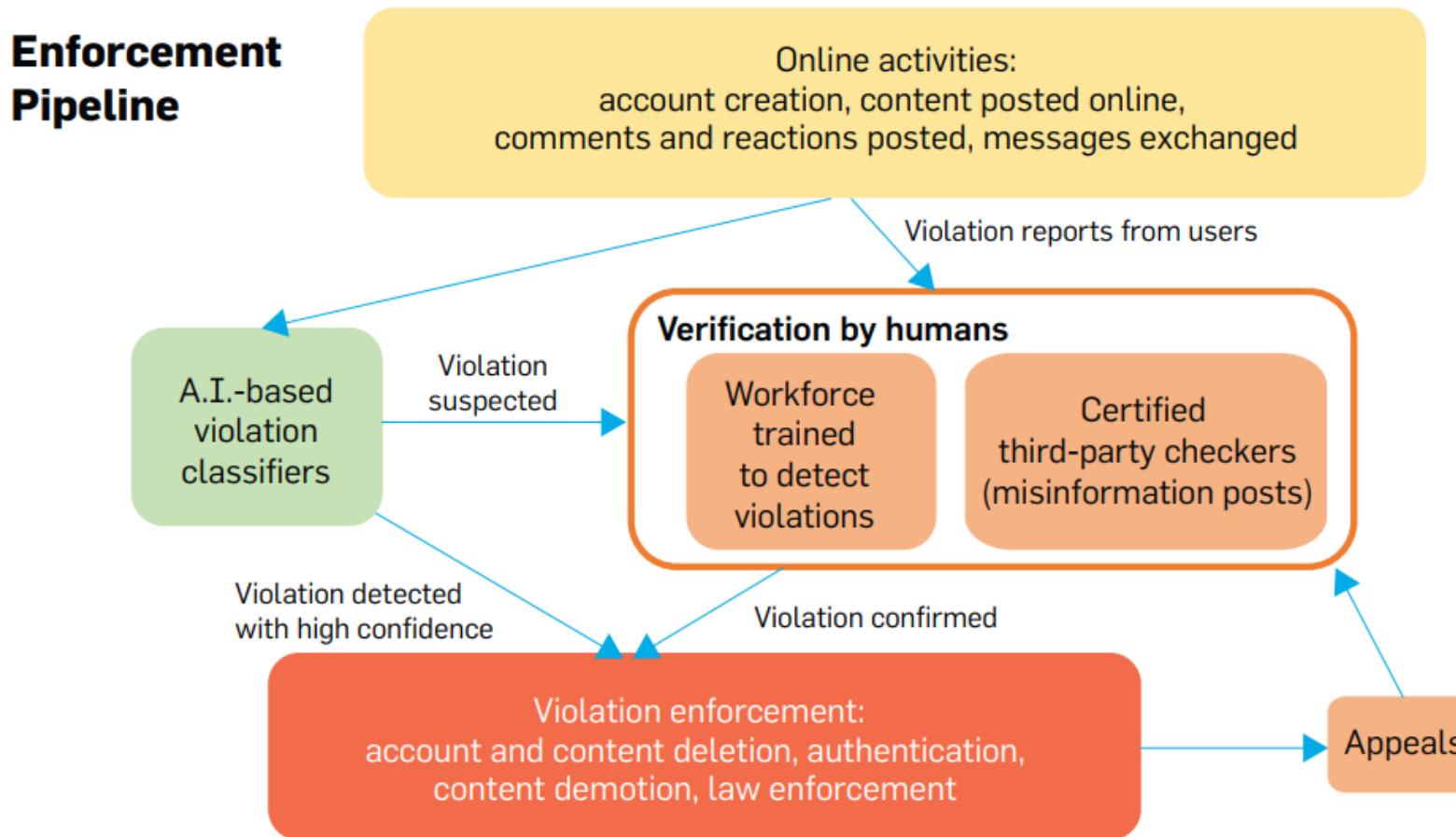
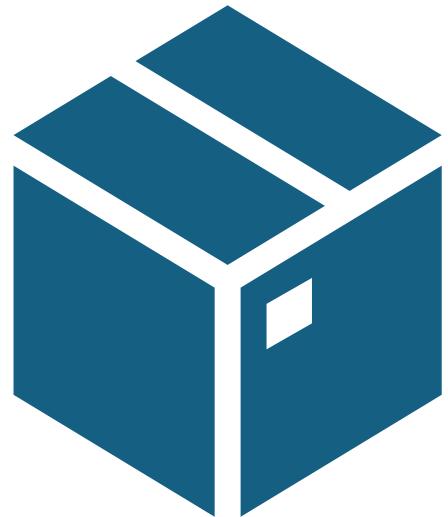
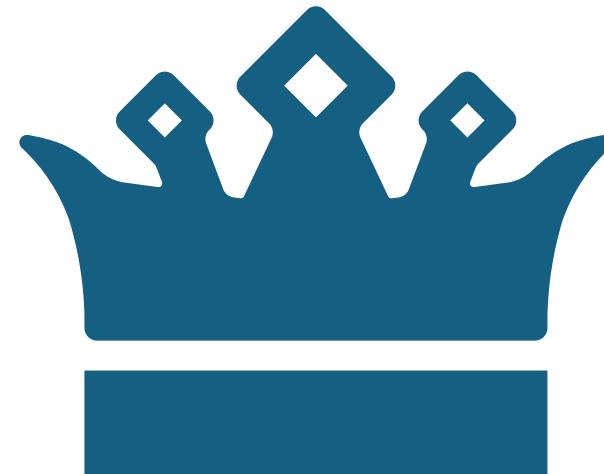


Figure courtesy : Halevy, Alon, et al. "Preserving integrity in online social networks." *Communications of the ACM* 65.2 (2022)

Although thoughtful, some systemic flaws exist



**Opaque by
design**



**Centralized
power**



**Zero user
agency**



**Arbitrary /
inconsistent
enforcement**

XChecks : Above the community standards

from the files

- This undermines our fairness and legitimacy efforts; creates legal and compliance risks for the company.
- Based on an initial company-wide audit, this problem is pervasive across the company.
- We are mitigating short-term risks as part of US 2020 lockdown and have plans for long-term mitigation, which requires substantial investment in XFN and reviewer staffing. See [XCheck - Get Well Plan](#) for details.

Context - What is XCheck?

XCheck (previously known as "shielding" - *Please don't use that term anymore!*) is a system for reducing false positives when enforcing against high profile personalities, entities and content. It also allows for making nuanced decisions, in cases that requires policy deliberations and comms outreach. The system (when setup correctly) works by identifying high risk people/entities and doing multiple specialist reviews to ensure enforcement decisions are accurate.

For additional details on XCheck, see [Wiki](#).

What is "Whitelisting" (Special Exemptions)?

That means, for a select few members of our community, we are not enforcing our policies and standards. Unlike the rest of our community, these people can violate our standards without any consequences.

from the files

them from being erroneously removed. We may Cross Check posts of celebrities, governments, news organizations or pages where we have made mistakes in the past based on the type of content posted. For example, we Cross Checked decisions on an American civil rights activist's account when content was reported to avoid deleting posts where he was highlighting hate speech he'd been subjected to. However, if someone posts something that breaks our Standard and their page was Cross Checked, we would still remove that content from Facebook after double-checking this was the correct decision.

In addition to this external communication, there have been interviews where we have shared a similar message.

Why is this a problem?

Exempting (aka whitelisting) specific people and entities creates numerous legal, compliance, PR risks for the company and harms our community.

1. **Harms Community** - Potentially harmful/violating content and violators are allowed to stay on the platform. This creates bad experiences & harm for the community.
2. **Creates legal & compliance risks** - When a select few are exempted from following our standards, it creates specific legal/compliance risks, particularly in the Civic (political) sphere.
3. **Hurts legitimacy** - Whitelisting and special exemptions treatments are *not* publicly defensible. It creates distrust, fuels the narrative that "Facebook is biased" and undermines our goal of building legitimacy with stakeholders and community.

Importantly, it is a breach of trust, we are not *actually* doing what we say we do publicly.

from the files

4. We can and should set up a firewall between content-policy and other parts of the company.

Political Influence on Content Policy at Facebook

1. Facebook has a huge team of people working on content policy who do great work. Our moderation meant to cast doubt on that.

Facebook routinely makes exceptions for powerful actors when enforcing content policy.

protects powerful constituencies. Detailed examples are given below. Briefly:

- a. Misinformation repeat-offender escalations seem to have regularly been influenced by input from Public Policy, exempting publishers on the grounds that they are "sensitive" or likely to retaliate. In the US it appears that interventions have been almost exclusively on behalf of conservative publishers.
- b. We have made one-off carve-outs in misinformation enforcement, apparently due to political pressure.
- c. In India a politician who regularly posted hate speech was exempted by the Indian Public Policy team from normal punishment explicitly for political considerations. A Facebook spokesperson would only go as far as saying that this "wasn't the sole factor".

3. Facebook routinely makes decisions about algorithms based on input from Public Policy.

- a. When significant changes are made to our algorithms (ranking, recommendations) they are usually reviewed by staff from Public Policy. Public Policy typically are interested in the impact on politicians and political media, and they commonly veto launches which have significant negative impacts on politically sensitive actors.



Takeaways



Centralized moderation is an incredibly complex, expensive, human-in-the-loop socio-technical system, built with thoughtful policies.



However, its opaque and centralized nature leads to arbitrary enforcement, denying users agency and eroding trust.

A decentralized alternative: Bluesky

Bluesky

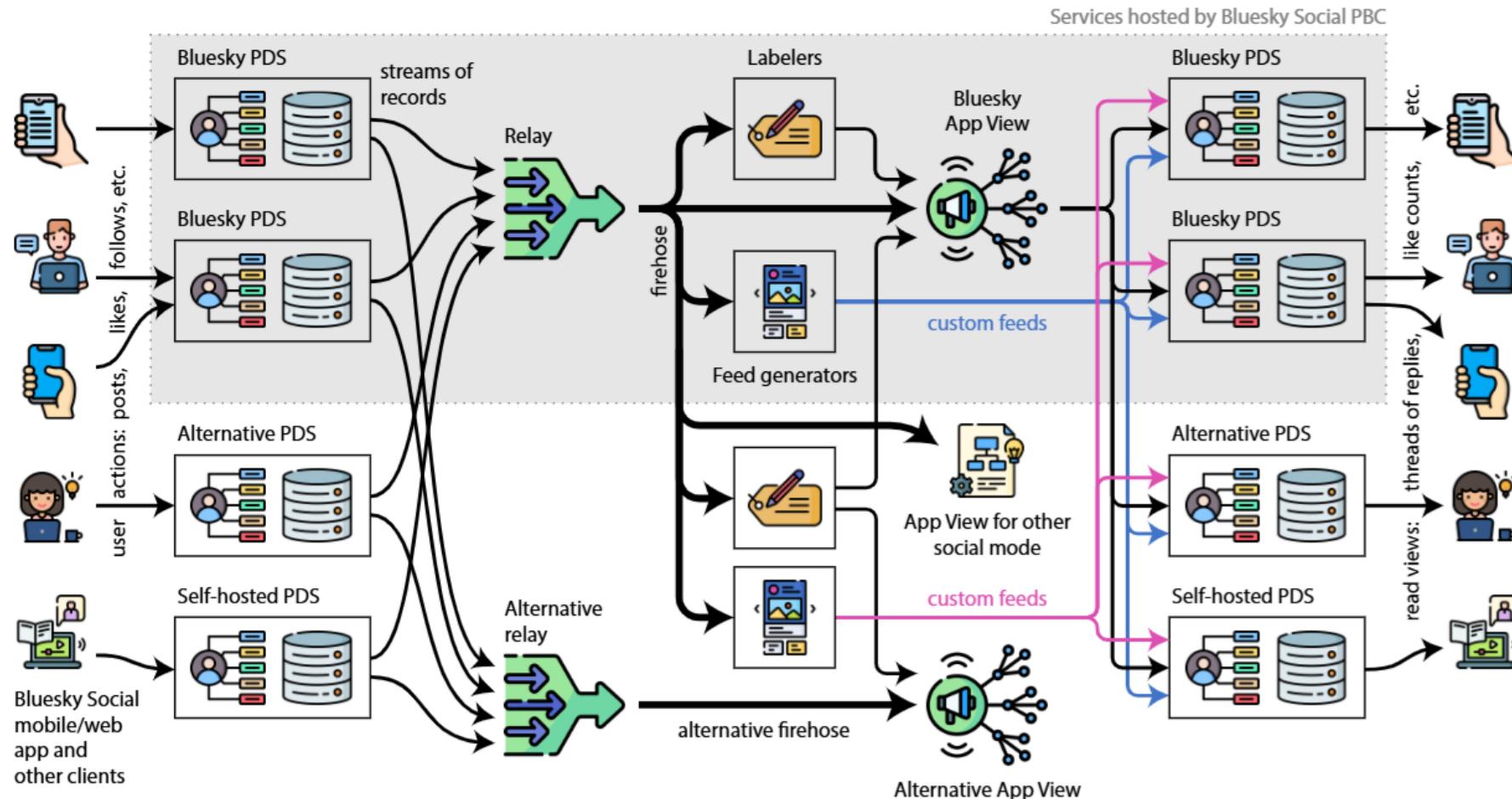
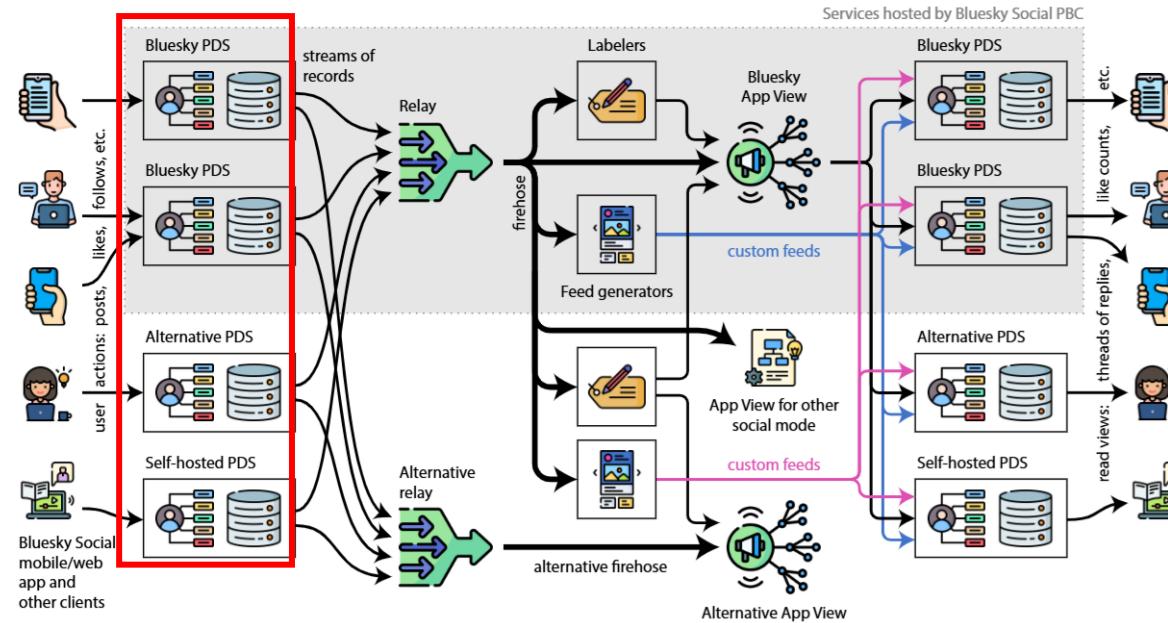



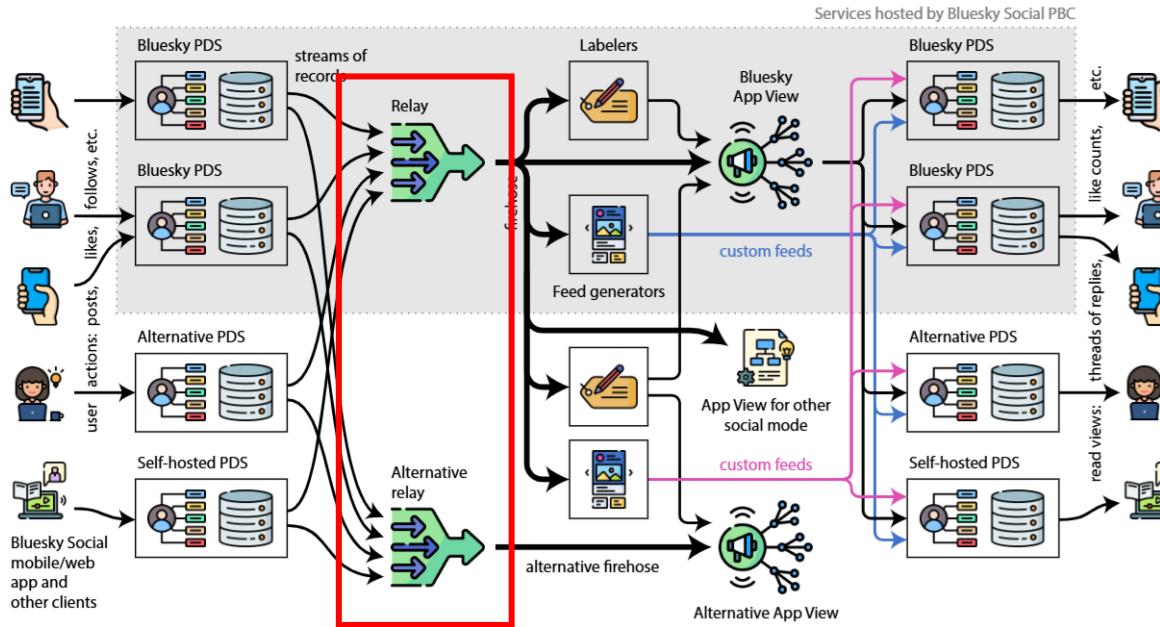
Figure courtesy : Kleppmann, Martin, et al. "Bluesky and the at protocol: Usable decentralized social media." *Proceedings of the ACM Conext-2024 Workshop on the Decentralization of the Internet*. 2024.

User data storage : Personal Data Servers



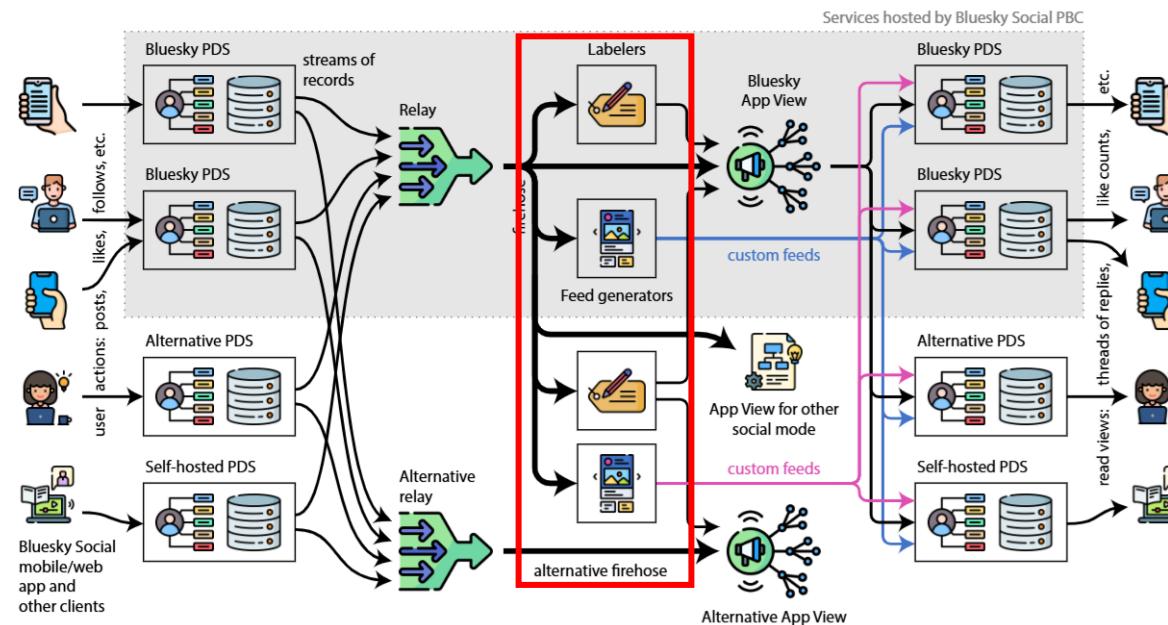
- ❑ A Personal Data Server (PDS) stores the user's repositories (i.e., all the actions they ever performed).
- ❑ Currently, there are 2,555 valid PDSs on Bluesky and 70 of them are run by Bluesky Social PBC.

Indexing I : Relay



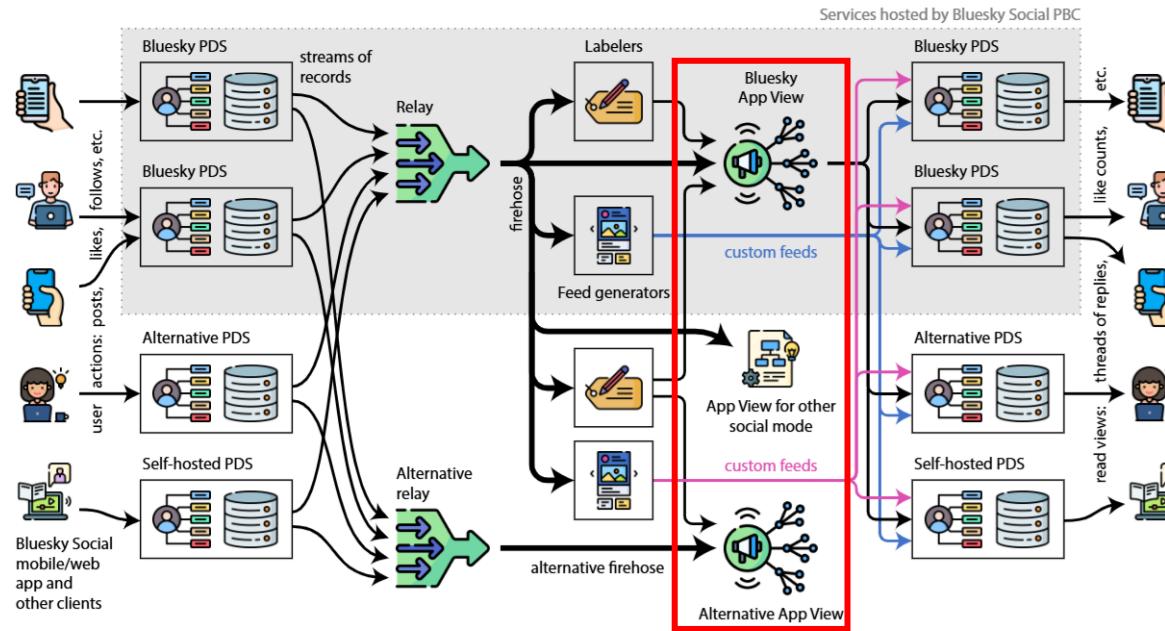
- Relay crawls the user repositories on all known PDSes and consumes the streams of updates that they produce
- Relay creates the firehose: an aggregated stream of updates.

Content dissemination : Labeler and Feed generators



- Labelers consume the firehose and moderate the content.
- Feed generators consume the firehose and reorder the content.

Indexing II & User interface : App view



- The App View is a service that consumes the firehose, and processes the records that are relevant to the Bluesky social app
- The App View is also responsible for enforcing moderation controls.

Takeaways



Bluesky is a decentralized alternative where the power is diffused across different entities.



Moderation is no longer a top-down function of the platform, but a service in an open marketplace.

Composable content moderation on Bluesky

Labelers on Bluesky

The image shows the Bluesky Moderation Service interface. At the top, there's a purple header with a shield icon and the text "Bluesky Moderation Service" and "@moderation.bsky.app". Below the header, there are three tabs: "Labels" (which is active), "Posts", and "Replies". A sub-header states: "Labels are annotations on users and content. They can be used to hide, warn, and categorize the network." Under the "Labels" tab, there are several sections with labels and their descriptions:

- Adult Content**: Explicit sexual images. Status: Configured in moderation settings. Buttons: Off (dark blue), Warn (white), Hide (light gray).
- Sexually Suggestive**: Does not include nudity. Status: Configured in moderation settings. Buttons: Off (dark blue), Warn (white).
- Non-sexual Nudity**: E.g. artistic nudes. Status: Configured in moderation settings. Buttons: Off (dark blue), Warn (white).
- Sexually Suggestive (Cartoon)**: Art with explicit or suggestive sexual themes, including provocative imagery or partial nudity. Buttons: Off (dark blue), Warn (white).
- Graphic Media**: Explicit or potentially disturbing media. Status: Configured in moderation settings. Buttons: Off (dark blue), Warn (white).
- Self-Harm**: Promotes self-harm, including graphic images, glorifying discussions, or triggering stories. Buttons: Off (dark blue), Warn (white).
- Sensitive**: May be upsetting, covering topics like substance abuse or mental health issues, cautioning sensitive viewers. Buttons: Off (dark blue), Warn (white).
- Extremist**: Radical views advocating violence, hate, or discrimination against individuals or groups. Buttons: Off (dark blue), Warn (white).
- Intolerance**: Discrimination against protected groups. Buttons: Off (dark blue), Warn (white).

The image shows the Bluesky Moderation Service (Germany) interface. At the top, there's a purple header with a shield icon and the text "Bluesky Moderation Service (Germany)" and "@moderation-de.bsky.app". Below the header, there are three tabs: "Labels" (which is active), "Posts", and "Replies". A sub-header states: "Labels are annotations on users and content. They can be used to hide, warn, and categorize the network." A note below says: "This labeler hasn't declared what labels it publishes, and may not be active." The "Labels" tab is active, showing a single section:

Labels are annotations on users and content. They can be used to hide, warn, and categorize the network.

The image shows the Blacksky Moderation interface. At the top, there's a black header with a green star icon and the text "blacksky algorithms" and "Subscribe to Labeler". Below the header, there are three tabs: "Labels" (which is active), "Lists", "Posts", and "Replies". A sub-header states: "Labels are annotations on users and content. They can be used to hide, warn, and categorize the network." A note below says: "Liked by 6,237 users". The "Labels" tab is active, showing several sections with descriptions and buttons:

- Synthetic Media**: Content which has been generated or manipulated to appear as though based on reality, when it is in fact artificial. Also referred to as manipulated media. Synthetic media may sometimes (but not always) be generated through algorithmic processes (such as artificial intelligence or machine learning). A deepfake is a form of synthetic media where an image or recording is altered to misrepresent someone doing or saying something that was not done or said.
- Violence**: Content that expresses violence via images or statements that target Black people. This may include, but is not limited to, threats of physical violence and sexual violence.
- White Supremacy or Antiblack Rhetoric**: Content that expresses statements that are rooted in white supremacy and anti-black rhetoric that does not fall under targeted anti-black harassment. This may include internalized anti-blackness that is harmful in nature.
- Doxing**: The act of disclosing someone's personal, non-public information — such as a real name, home address, phone number or any other data that could be used to identify the individual — in an online forum or other public place without the person's consent.
- Non-Consensual Intimate Imagery**: Non-consensual image sharing, or non-consensual intimate image sharing (also called 'non-consensual explicit imagery' (NCEI) or colloquially called 'revenge porn'), refers to the act or threat of creating, publishing or sharing an intimate image or video without the consent of the individuals visible in it.
- Misogynoir**: Content that expresses hatred, bias, or prejudice against Black women, specifically where racism, sexism, and/or transphobia intersect. This includes sexual harassment, objectification, and targeted attacks on Black women's identity or appearance.
- Antiblack Harassment**: Content that targets individuals or groups based on their Black identity with derogatory, hateful, or dehumanizing language or imagery. This label is applied to content that perpetuates harmful stereotypes, slurs, or direct harassment aimed at Black individuals or communities.

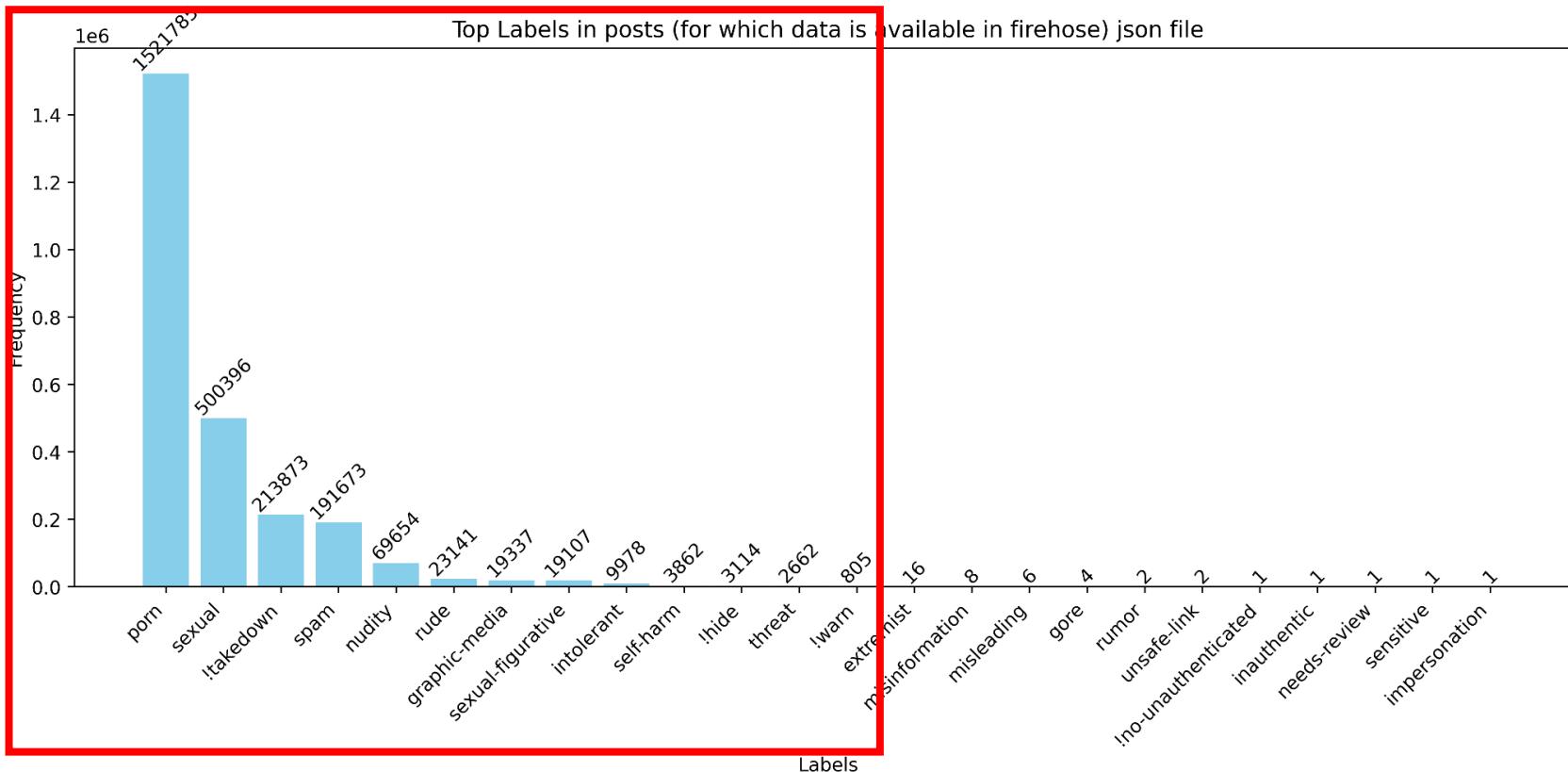
Users have more autonomy and agency

- ❑ Bluesky and country specific labeler apply by default.
- ❑ On the other hand, this architecture empowers users to
 - ❑ choose what should be added to their feed.
 - ❑ choose how labeled content should appear.
 - ❑ choose which other lebeler should affect their feed.

Some questions that may arise

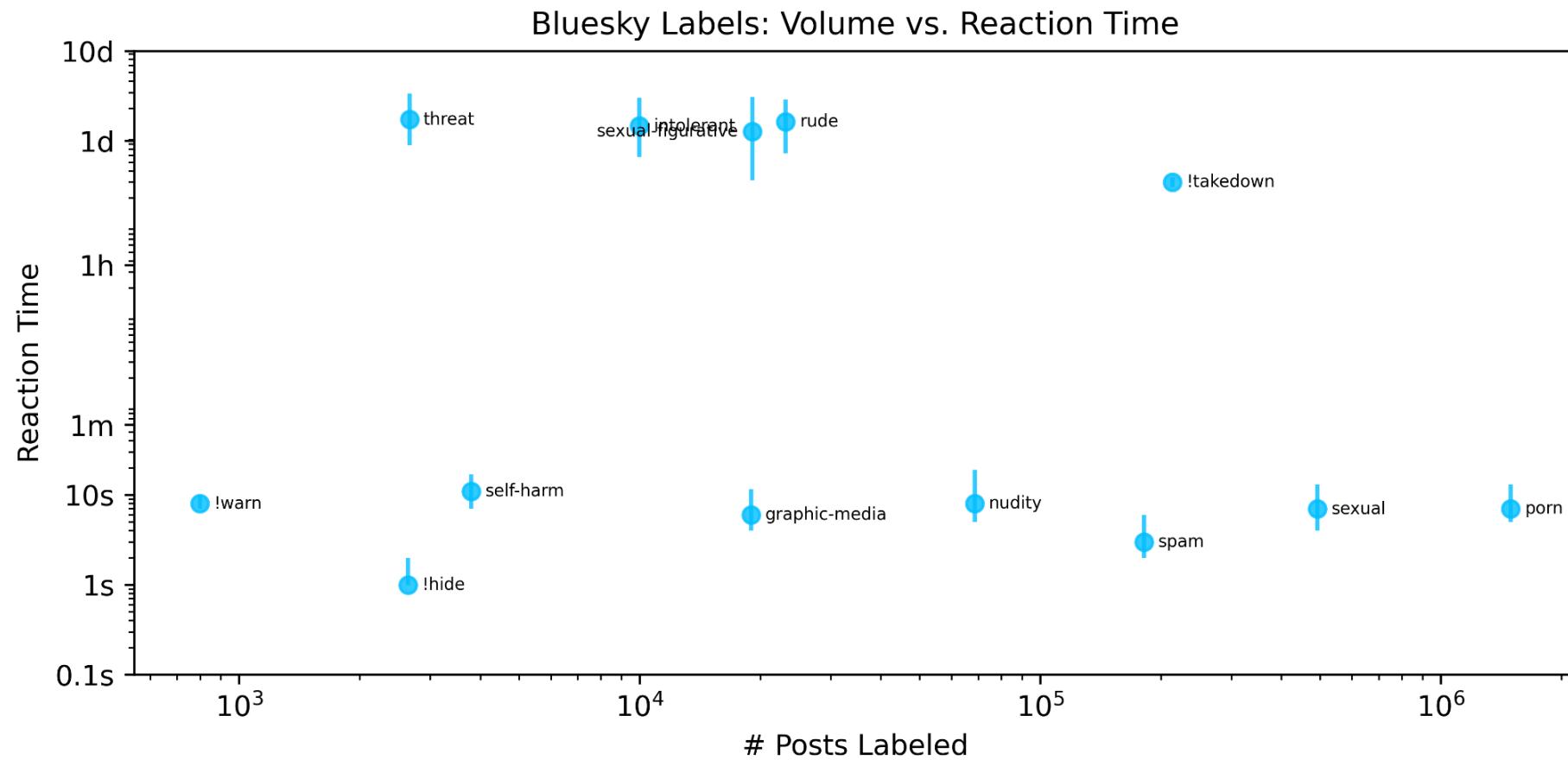
- What kind of labels do these labelers apply?
- Who apply these labels : Algorithms or Humans?
- How do the labelers operationalize abstract principles?
- How consistent are these operationalizations?

Labeler outcomes are publicly accessible

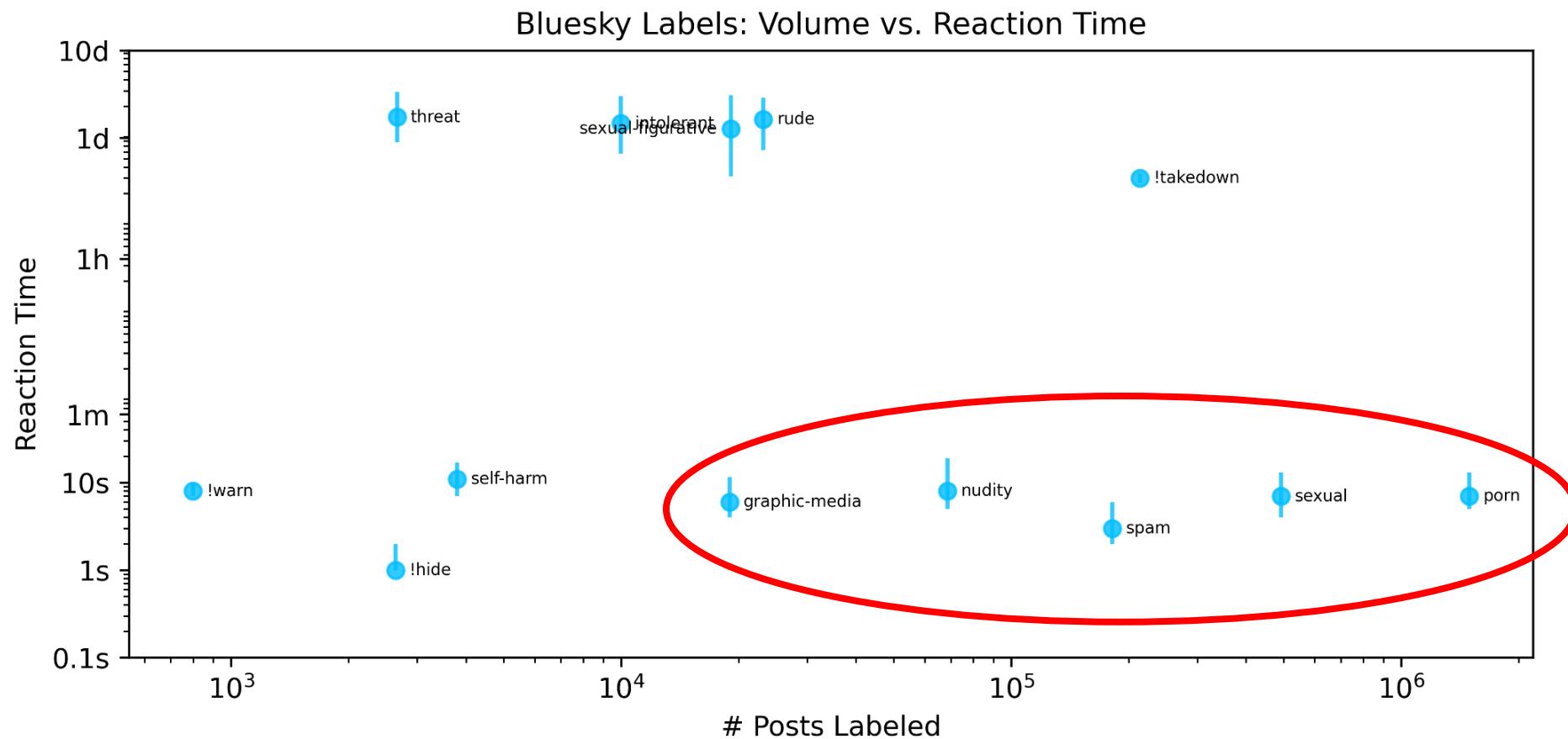


- ❑ Total distinct posts labelled : 2,528,786 (19 March '25 - 1 June '25)
- ❑ The data reveals a strong focus on platform hygiene (spam, porn) and user safety issues (intolerance, rude).

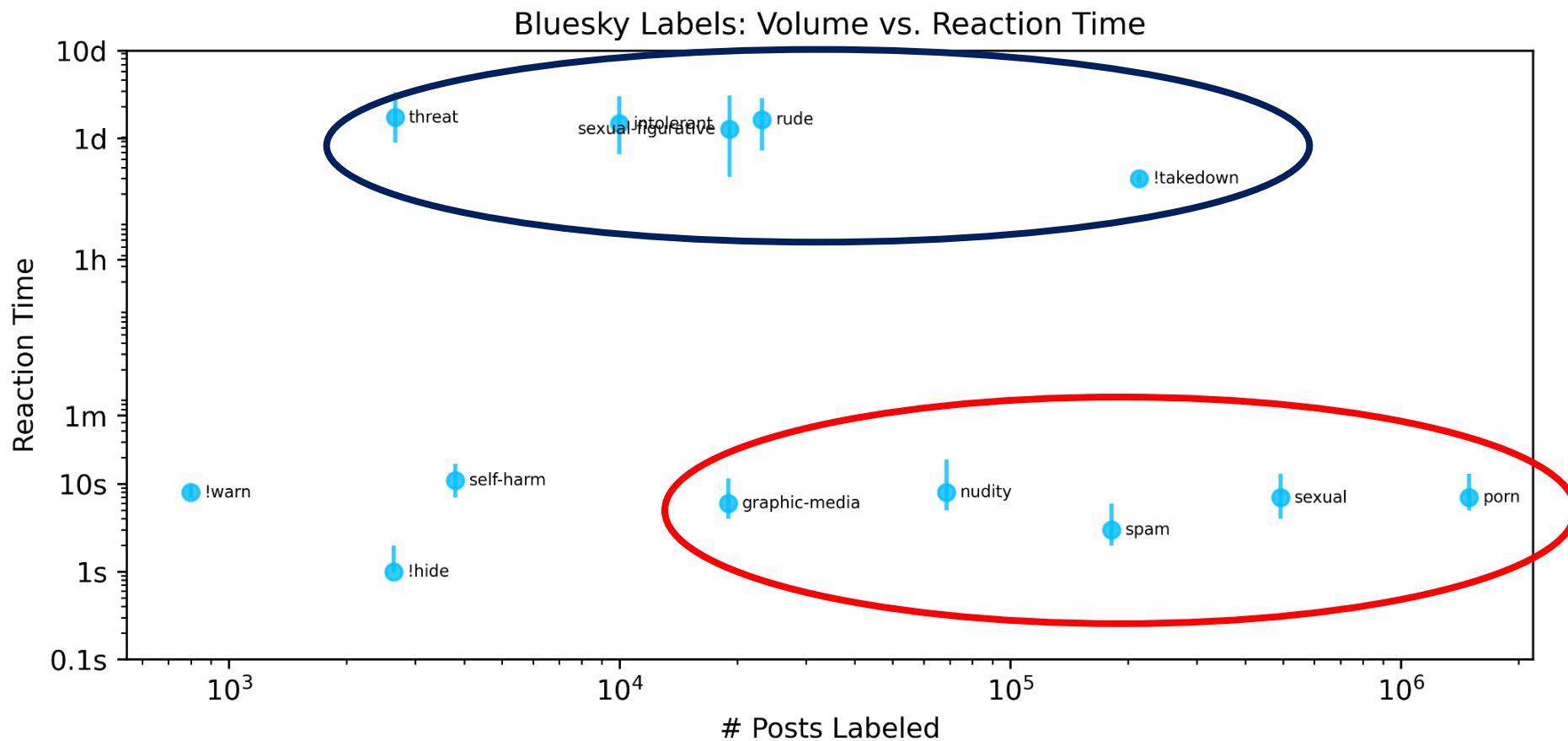
Timeliness of application of labels



Automated vs. Human-in-the-loop labels



Automated vs. Human-in-the-loop labels



What do these labels even mean?

Labels	Description
Intolerance	Discrimination against protected groups.
Threats	Promotes violence or harm towards others, including threats, incitement, or advocacy of harm.
Rude	Rude or impolite, including crude language and disrespectful comments, without constructive purpose.

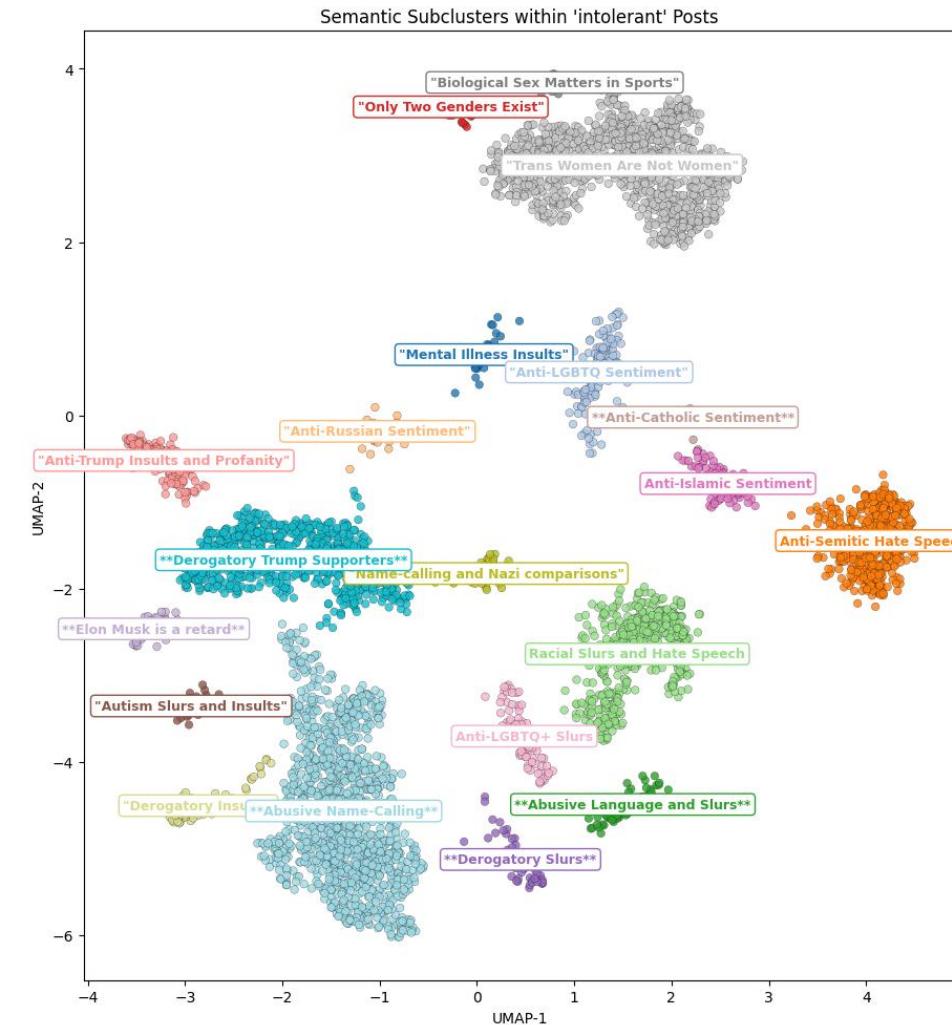
Intolerance: Discrimination against protected groups

Q: *How does Bluesky labeler operationalize ‘protected group’?*

Information about someone's protected characteristics—*such as sexual orientation, gender identity, disability, caste, or immigration status*—for the purpose of targeting them or discriminating against them.

Understanding operationalization from label stream

- ❑ Here is a cluster of all the posts labelled as Intolerance.
 - ❑ Many of the clusters correspond to gender, religion, race, health status, politics etc.



How does Bluesky apply these labels?

We can see *what* was labeled, but not *why*. The implementation policies remain **opaque**, while the operationalization outcome is **transparent**.

How consistent are these operationalizations?

- ❑ Let's look at one of the clusters : "Only two genders exist" cluster

"Only two genders exist" cluster

Should the posts on the right be labelled?

Only two genders exist: Male Female
~Anything other than that is pure confusion.

There's only two genders

There are only 2 genders

Il existe deux genres, mâle et femelle. Le reste c'est de la psychiatrie.

There are 3 genders: Male Female
Mentally ill!

There's only 2 genders

There's only two genders

Есть только два гендера

There are exactly two genders. Just two.

Gibt trotzdem nur 2 Geschlechter



Examples labeled as Intolerant by Bluesky

From Top-k posts from firehose

"Only two genders exist" cluster

Bluesky labels

Only two genders exist: ♂ Male ♀ Female
~Anything other than that is pure confusion.

There's only two genders

There are only 2 genders

Il existe deux genres, mâle et femelle. Le reste c'est de la psychiatrie.

There are 3 genders: Male Female Mentally ill!

There's only 2 genders

There's only two genders

Есть только два гендеров

There are exactly two genders. Just two.

Gibt trotzdem nur 2 Geschlechter



Examples labeled as Intolerant by Bluesky

From Top-k posts from firehose

LLM based consistency evaluation

Prompt (for Llama 3 70B Instruct) :

You are a human annotator. The posts given are labeled as *intolerant* in a semantic subcategory of "`{cluster_name}`":

`{examples_str; randomly chosen at most 50 examples}`

Following only these labeled examples as implicit rules to ascertain what gets labeled as *intolerant*, would you label the following post as 'intolerant' or 'not intolerant' and give reasoning based on already labeled content:

Post Text: `{target_text}`

Your label ('intolerant' or 'not intolerant'):

An anecdote

- LLM Label : Intolerant



bluenomatterwho69.bsky.social
@bluenomatterwho69.bsky.social

+ Follow

There are only 2 genders. Male or female. You can be confused all you want but you are one or the other.

20 March 2025 at 16:30 ⓘ Everybody can reply



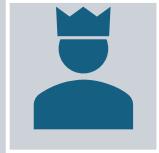
...

- **Reason:** The post asserts that there are only two genders, male and female, and implies that anyone who identifies otherwise is "confused." This language is similar to other posts that have been labeled as intolerant, such as "Non-binary does not compute, biologically; it is ILLOGICAL. There are ONLY TWO GENDERS, despite the inane claims of the lgbqt alphabet Gestapo." The tone is also dismissive and condescending, implying that the author's view is the only correct one.

Consistency in intolerance clusters

Cluster	# LLM Intolerant	# Has Intolerant	Consistency (%)
cluster_0 <i>mental illness insults</i>	67	0	0.00
cluster_1 <i>anti-LGBTQ sentiment</i>	34	2	5.88
cluster_2 <i>anti-semitic hate speech</i>	65	4	6.15
cluster_3 <i>anti-Russian sentiment</i>	73	0	0.00
cluster_4 <i>abusive language and slurs</i>	37	0	0.00
cluster_5 <i>racial slurs and hate speech</i>	73	0	0.00
cluster_6 <i>only two genders exist</i>	29	3	10.34
cluster_7 <i>anti-Trump insults and profanity</i>	93	2	2.15
cluster_8 <i>derogatory slurs</i>	7	0	0.00
cluster_9 <i>Elon Musk is a retard</i>	49	1	2.04
cluster_10 <i>autism slurs and insults</i>	16	0	0.00
cluster_11 <i>anti-Catholic sentiment</i>	26	1	3.85
cluster_12 <i>anti-Islamic sentiment</i>	49	2	4.08
cluster_13 <i>anti-LGBTQ+ slurs</i>	87	2	2.30
cluster_14 <i>biological sex matters in sports</i>	20	2	10.00
cluster_15 <i>trans women are not women</i>	18	1	5.56
cluster_16 <i>name-calling and Nazi comparisons</i>	95	0	0.00
cluster_17 <i>derogatory insults</i>	28	1	3.57
cluster_18 <i>derogatory Trump supporters</i>	89	1	1.12
cluster_19 <i>abusive name-calling</i>	91	12	13.19

Takeaways

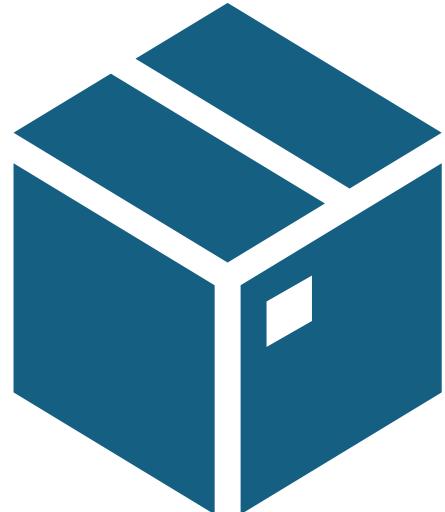


Bluesky's composable moderation paradigm provides more autonomy and agency to users.



While procedural transparency is still lacking on Bluesky labeler, it is auditable thanks to the accessible label stream.

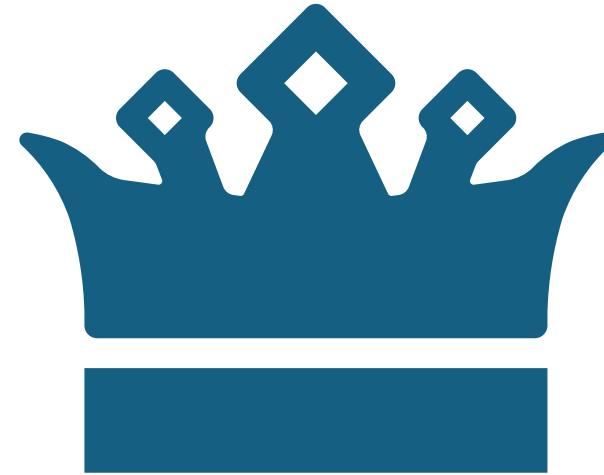
Systemic flaws still exist



Opaque by design



Opacity has decreased



Centralized power



Implementation is centralized



Zero user agency



Better user agency



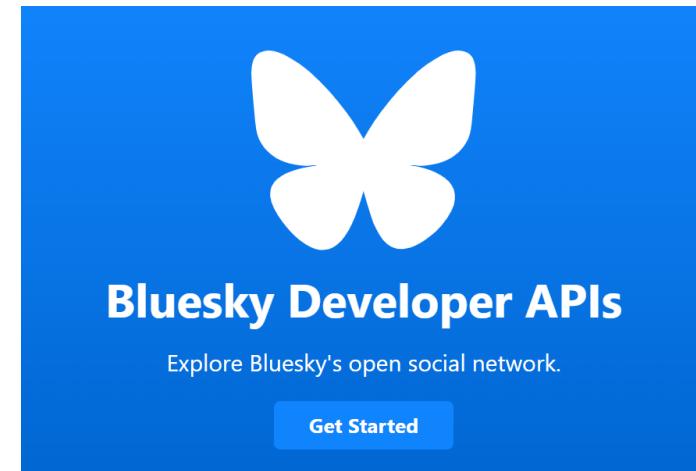
Inconsistent enforcement



Now auditable

Opportunity 1: Data Access

- ❑ Reliability of content moderation is now measurable.
- ❑ We will see some examples of this in the hands-on session.
 - ❑ What kind of labels are applied?
 - ❑ Are they applied timely?
 - ❑ Are they applied consistently?



Opportunity 2: Open marketplace

- ❑ For ages, researchers have been able to audit platform practices.
- ❑ Now, we have the opportunity to rectify the drawbacks.



Opportunity 3 : Stay ahead of the curve

Proactively think about regulations for better accountability, data protection while not hindering innovation.



Takeaways



Centralized moderation is opaque and unaccountable.



Decentralized moderation is more transparent and composable, giving users more autonomy.
Yet it lacks procedural transparency.



This paradigm shift empowers us not only to measure the moderation service, but also to set the standards.

Thank You!



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Colab notebook to explore