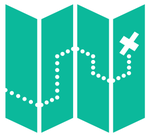
REPHRAIN MAP 

Kopo Marvin Ramokapane
Partha Das Chowdhury
Andres Dominguez Hernández
Alicia Cork
Emily Johnstone
Emily Godwin
Ola Michalec

REPHRAIN MAP

AIM

to establish a baseline of current state-of-the-art.

Features

- a living resource (updated regularly)
- inspired by the Mitre ATT&CK framework 11 for technical cyber attacks
- (key distinction) the REPHRAIN Map is socio-technical
- Allow ability to drill down into advances that mitigate against particular online harms.
- a barometer to evaluate the Centre's progress with regards to the baseline
- Communication of research findings and recommendations to bodies outside academia

Users of the MAP

- Academia, industry, law enforcement, policymakers, the general public, and various organisations

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APPROACH

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Collaborative Approach

Phase 1: Scoping Workshops

- Various scoping sessions with academia, industry, partners, and organisations
- Identified five key components

- ☑ Definition(s)
- ☑ Research Gaps and Challenges
- ☑ Current state of the art
- ☑ Tools and Approaches
- ☑ REPHRAIN Projects

Phase 2: Visual Design

- Drafted visual designs
- Harm centric instead of project centric

Phase 3: Populating the MAP

Data Collection

- Online forms
- Workshops
- One-on-One meetings
- Online searches
- Emails
- 232 Papers from REPHRAIN researchers

Data Curation

- Coding papers

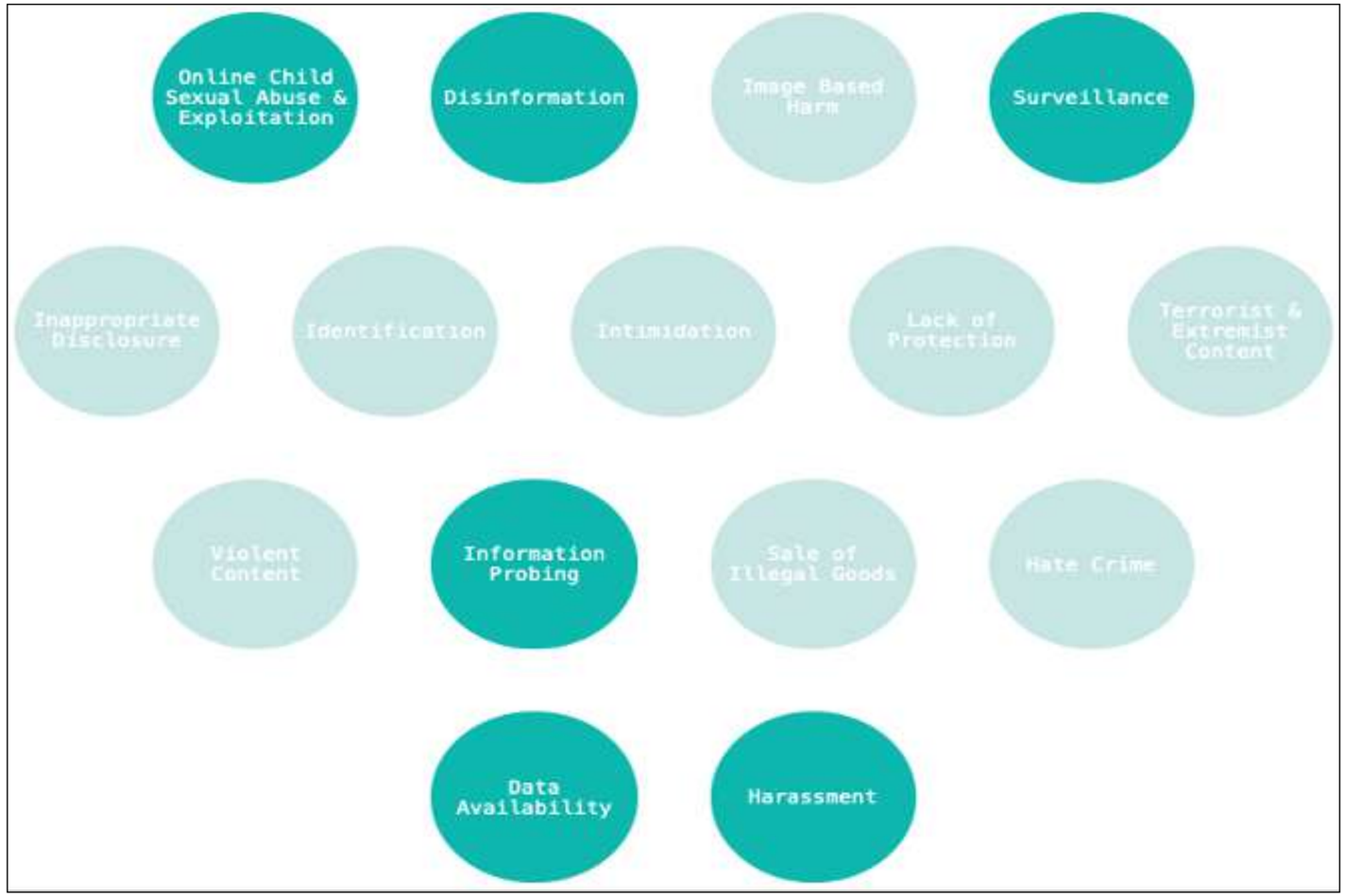
Updating Map

On Going Process

REPHRAIN MAP

Version 0.1

- Harm centric
- Each harm was going to be presented by a circle
- Single entry point
- Navigation stated from individual harms
- Full colour and greyed circles



Online harms

- Disinformation
- Surveillance
- Online Child Sexual Abuse and Exploitation
- Information Probing
- Human trafficking
- Inappropriate/non-consensual disclosure

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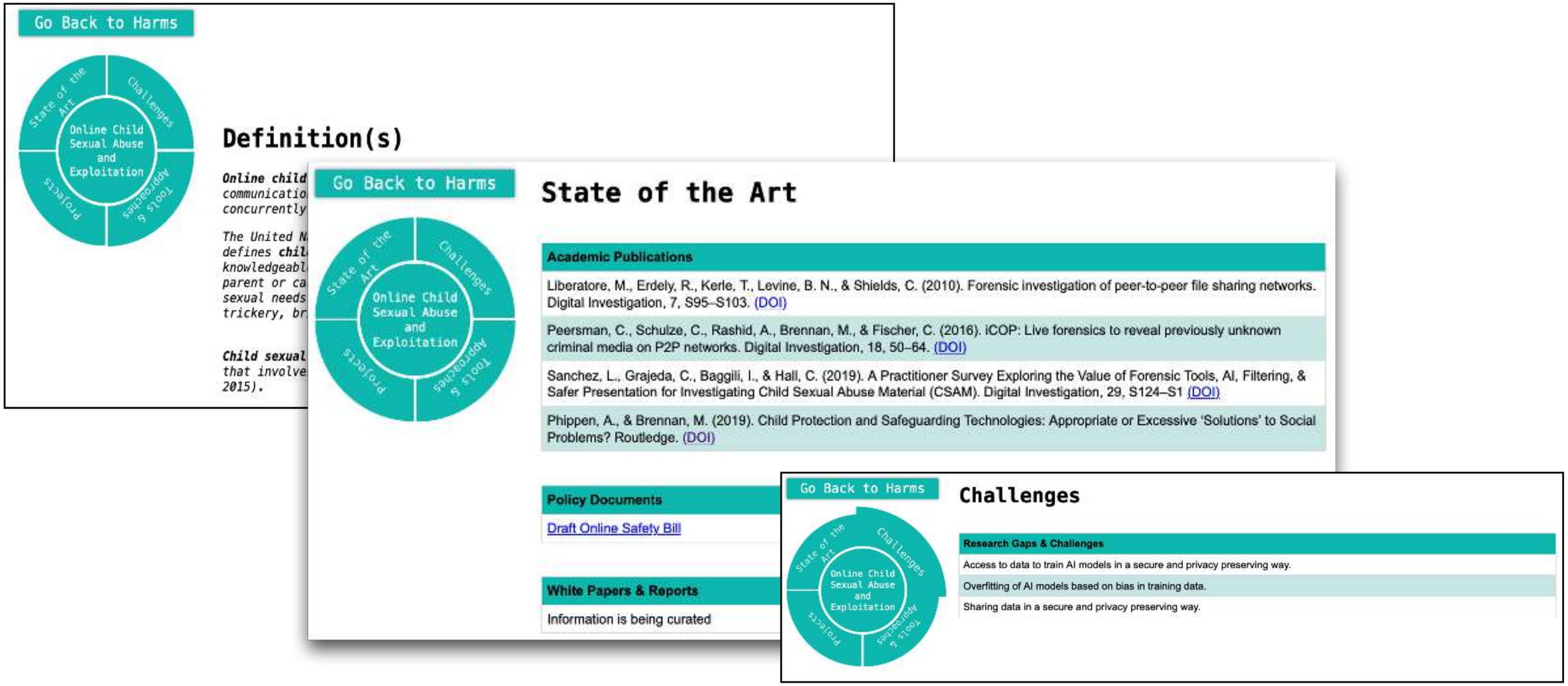
Protecting citizens online

REPHRAIN MAP

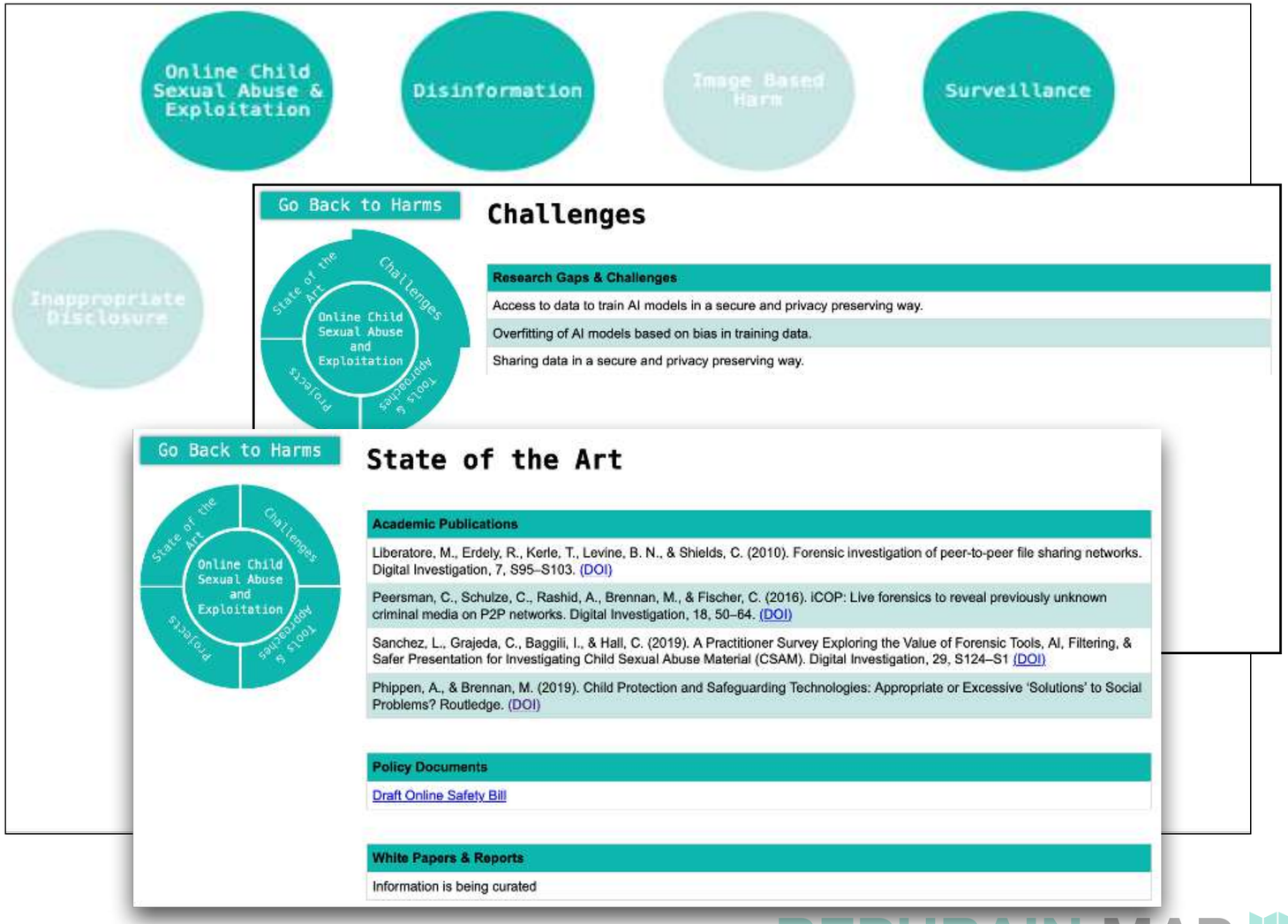
Version 0.1



REPHRAIN MAP

Public Consultation

- The map was resourceful and potential to be a useful tool
- Bubbles provided nothing meaningful
- There was no relationship between the harms
- Terminology
- No guidance for users (No use cases)
- Confusion over full colour and greyed circles



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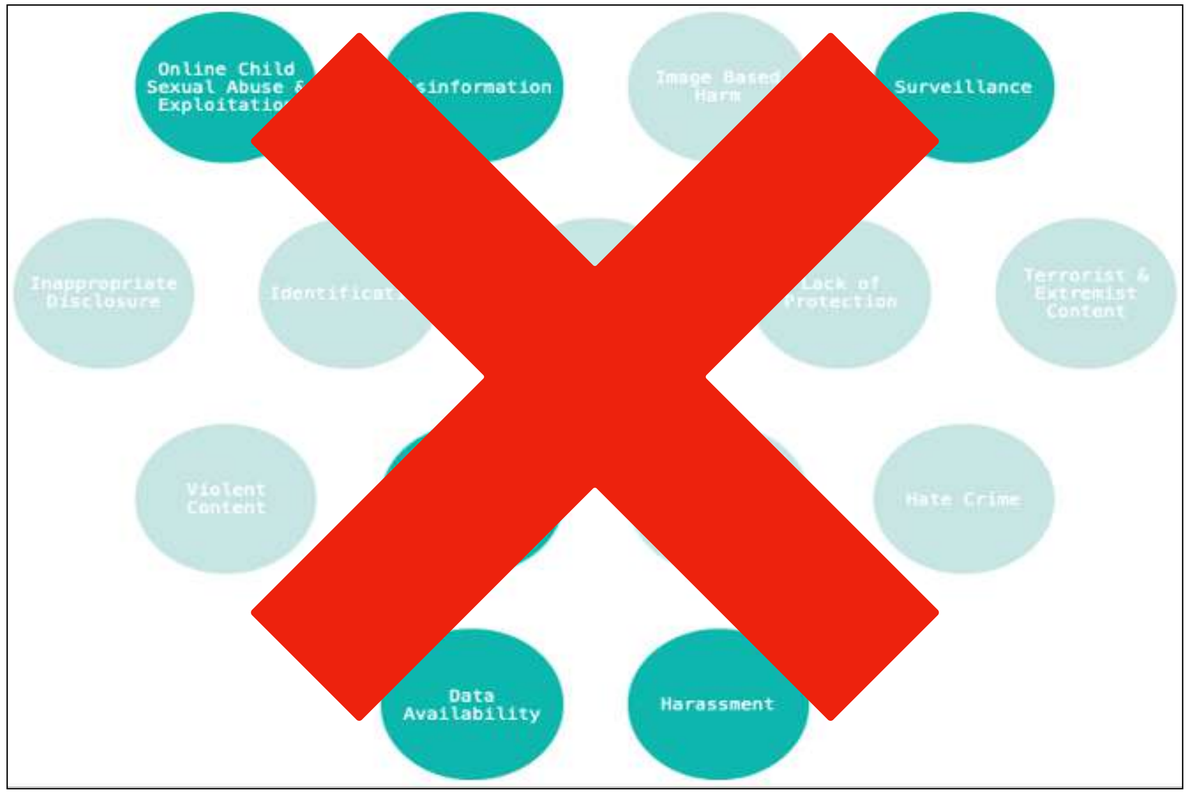
REPHRAIN MAP

New framework of classifying harms

Threat model considered desirable or positive attributes and UN Human Rights list.

- **Privacy**
- **Safety**
- **Reputation**
- **Financial security**
- **Freedom of speech**
- **Fairness**



REPHRAIN MAP

Positive attributes and Harms/Risks

Privacy	Safety	Reputation	Financial Security	Freedom of Speech	Fairness
• Surveillance/ Dataveillance • CSAM • Information Probing • Non-Consensual Disclosure	• Intimidation/Harassment • Non-Consensual Disclosure • CSAM • Hate Crime • Human Trafficking • Surveillance • Violent Content • Image Based Harm • Sale of Illegal Goods • Institutional Discrimination	• Image Based Harm • Non-Consensual Disclosure • CSAM • M(D)isinformation • Institutional Discrimination	• Non-Consensual Disclosure • Surveillance • Human Trafficking • Sale of Illegal Goods • Information Probing • Institutional Discrimination • Bank Fraud	• Censorship • Self-Censorship/Chilling Effects • Intimidation/Harassment	• Institutional Discrimination • Intimidation/ Harassment • Image Based Harm • Hate Crime • Surveillance • Information probing

REPHRAIN MAP

Summary of the major changes

Landing page

- Moved from bubbles to a sangkey diagram
- “Online harms” to "harms, risks and vulnerabilities”
- Two entries: positive attributes and online harms/risks

Categories

- Four Components
  - Description of the harm
  - Research challenges
  - REPHRAIN projects
  - Related resources

New harms and updated terminology,

- Human trafficking / modern day slavery
- Information probing and phishing
- Cyber bullying and harassment

Added contributions from REPHRAIN Researchers

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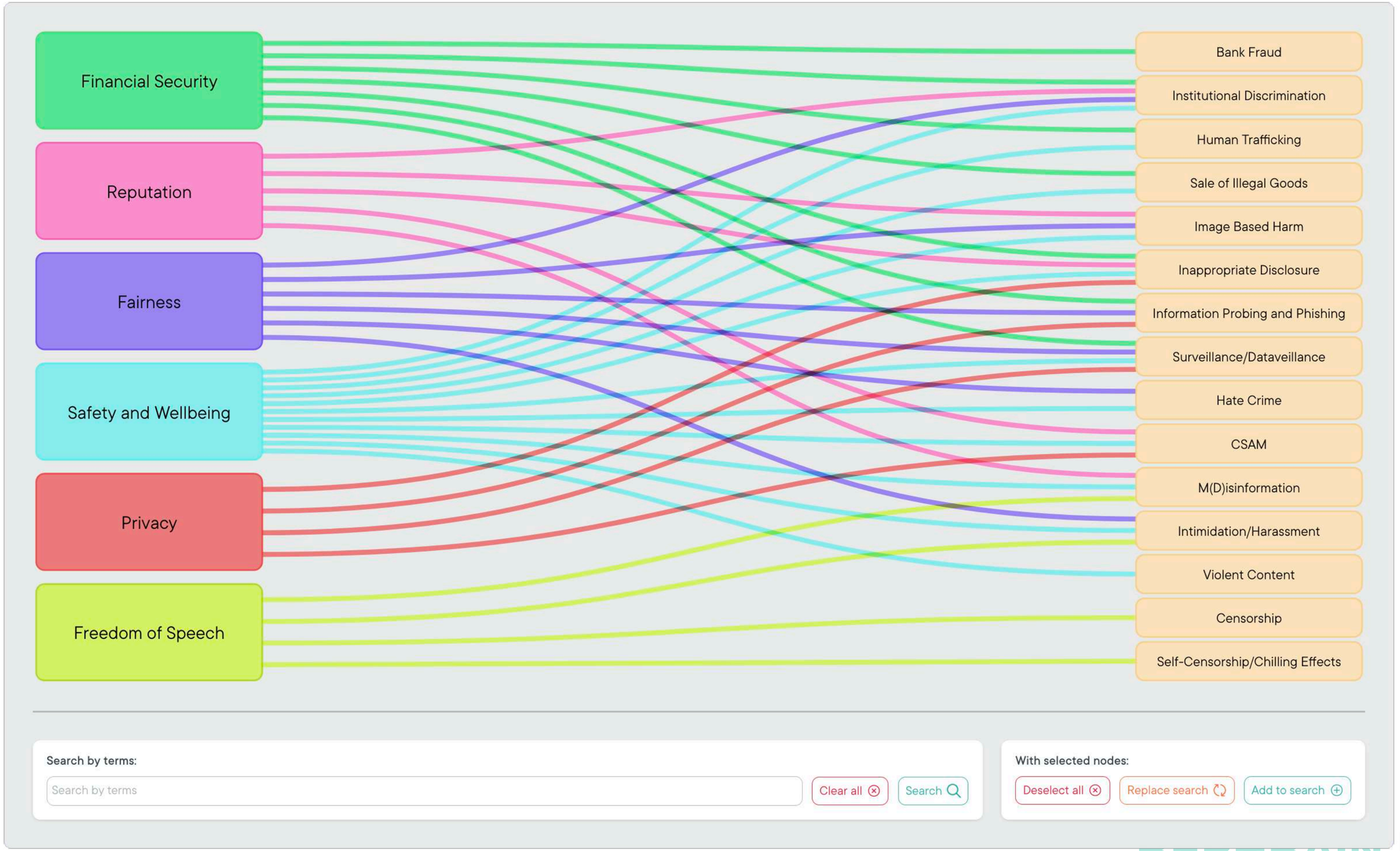
REPHRAIN MAP
Version 1.0

Link: https://rephrain-map.co.uk

Link: https://www.rephrain.ac.uk/rephrain-map/

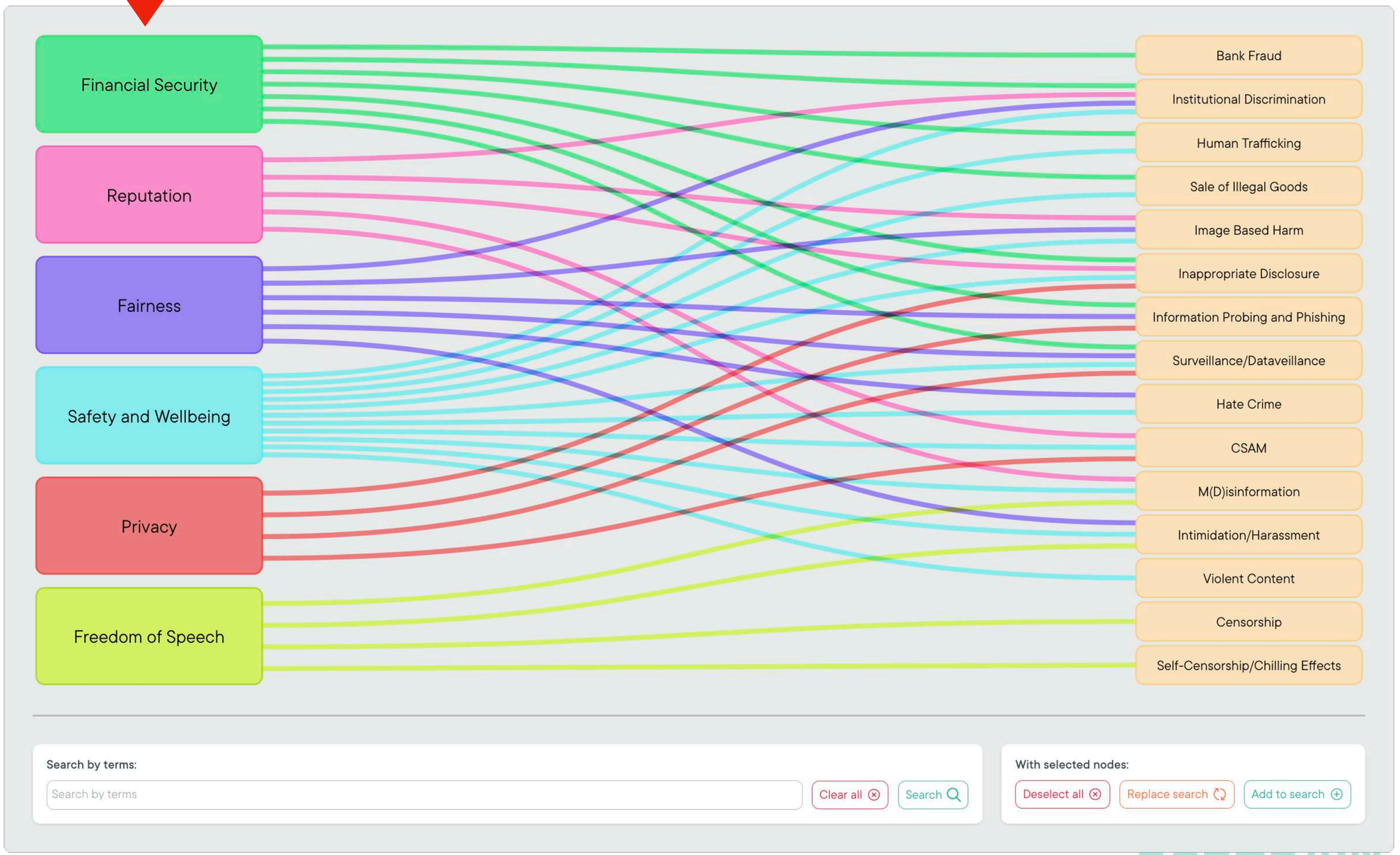
REPHRAIN MAP v 1.0

REPHRAIN Protecting citizens online
BETA



Positive Attribute

REPHRAIN MAP v 1.0



National Research Centre on Privacy, Harm Reduction and Adversarial Influence Online

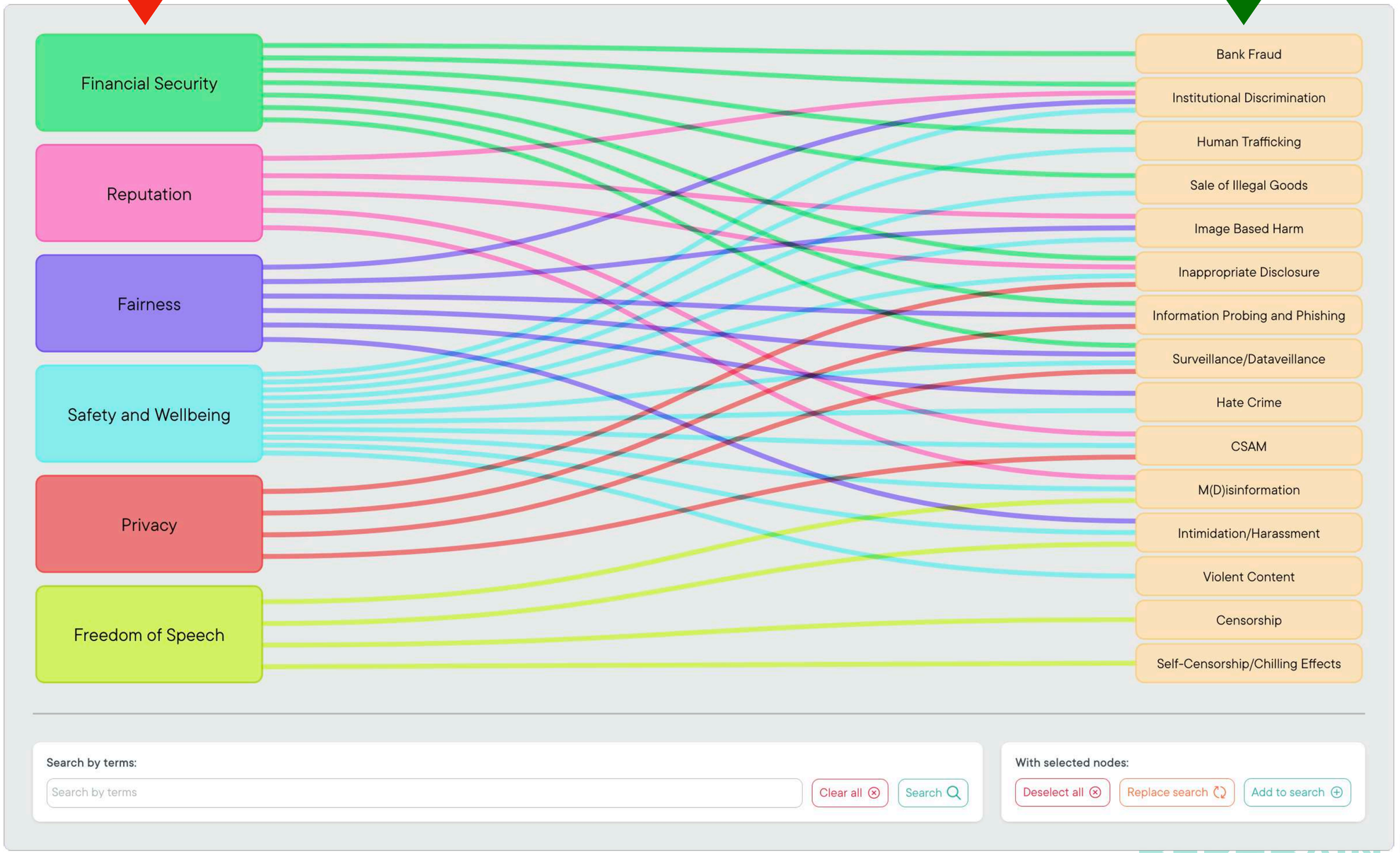
REPHRAIN MAP v 1.0

REPHRAIN
Protecting citizens online

Positive Attribute

Online harms/risks

REPHRAIN
Protecting citizens online
BETA



National Research Centre on Privacy, Harm Reduction and Adversarial Influence Online

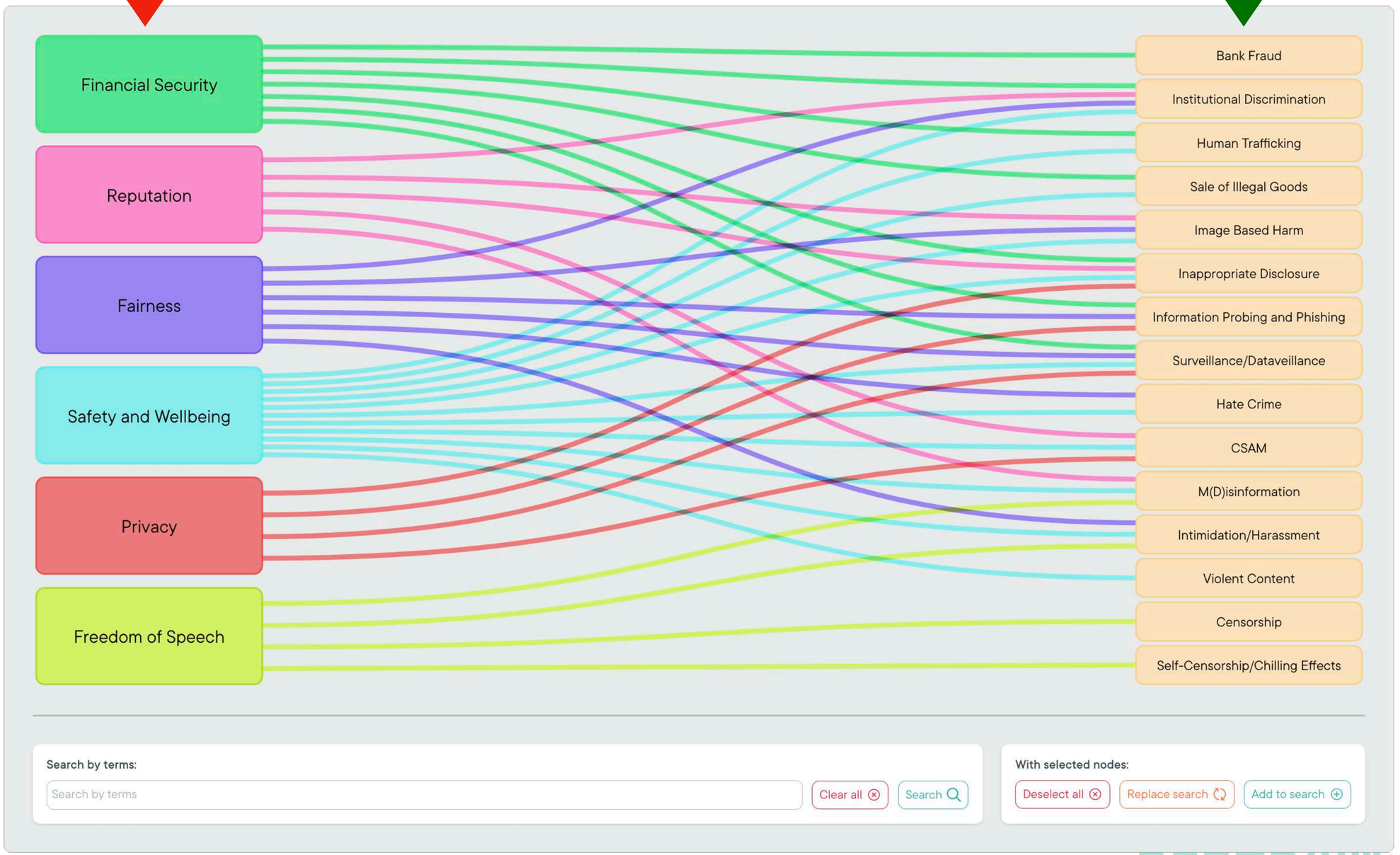
REPHRAIN MAP v 1.0

REPHRAIN
Protecting citizens online

Positive Attribute

Online harms/risks

REPHRAIN Protecting citizens online
BETA

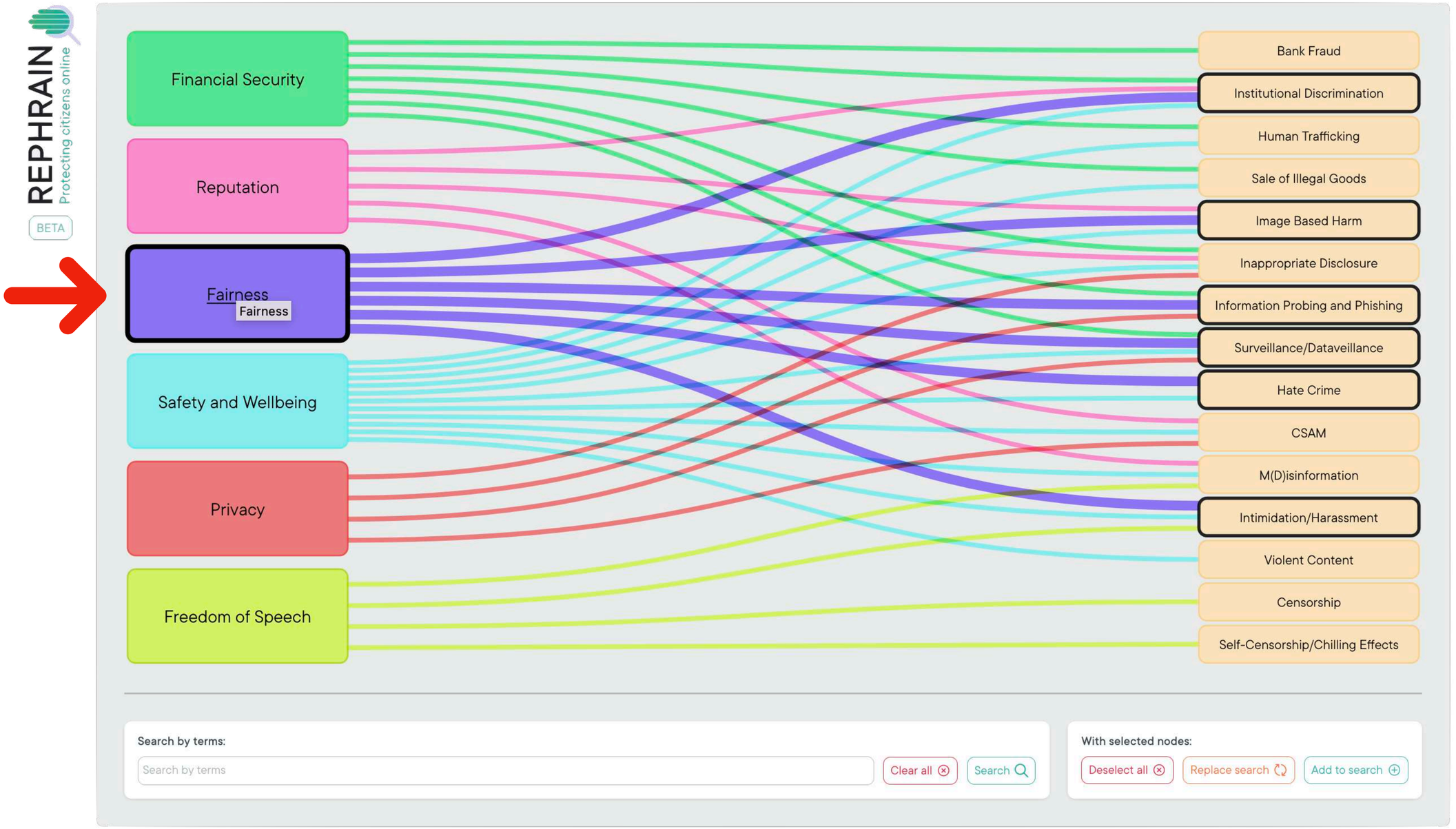


Search functionality

bristol.ac.uk

REPHRAIN MAP

REPHRAIN MAP v 1.0



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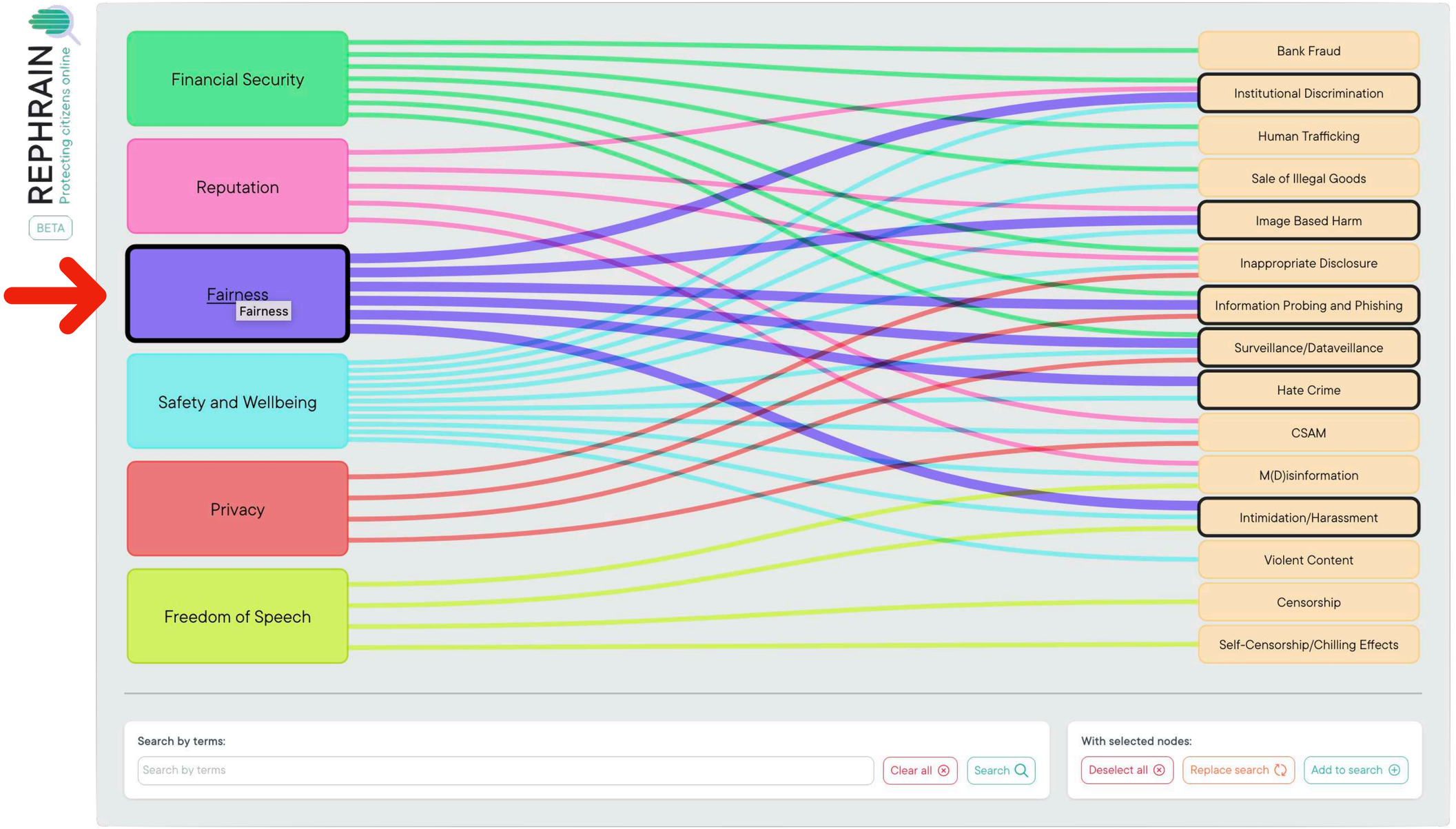

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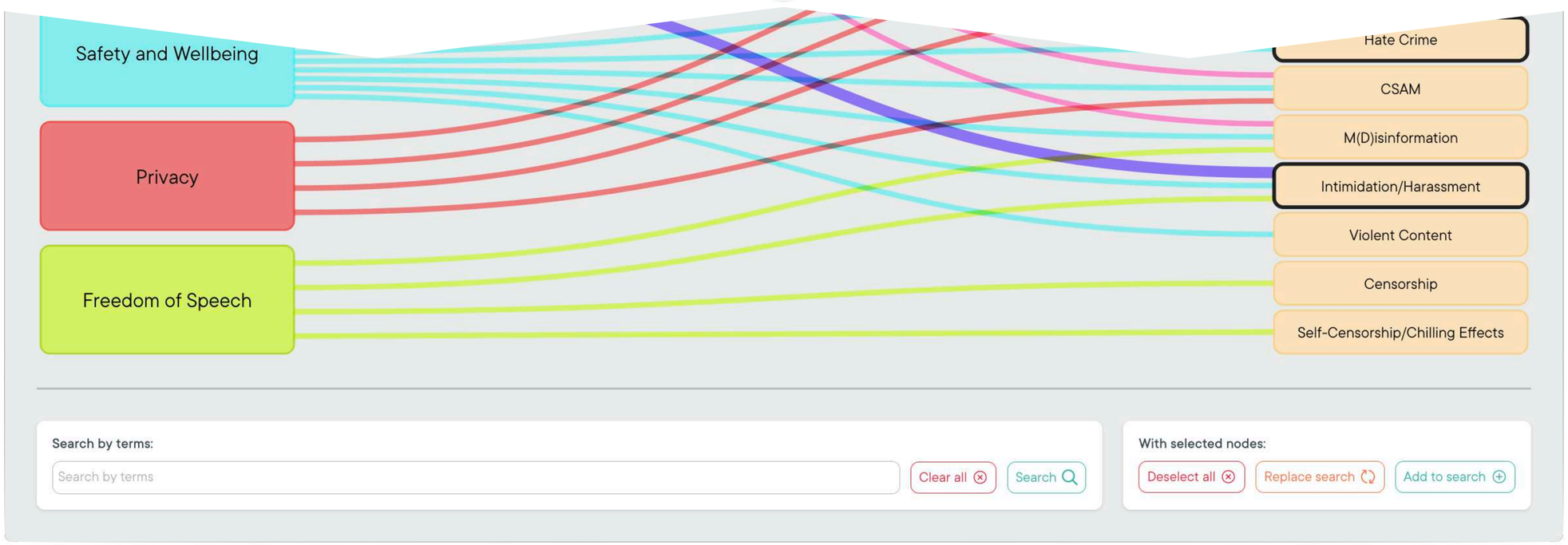


Positive Property:

Fairness

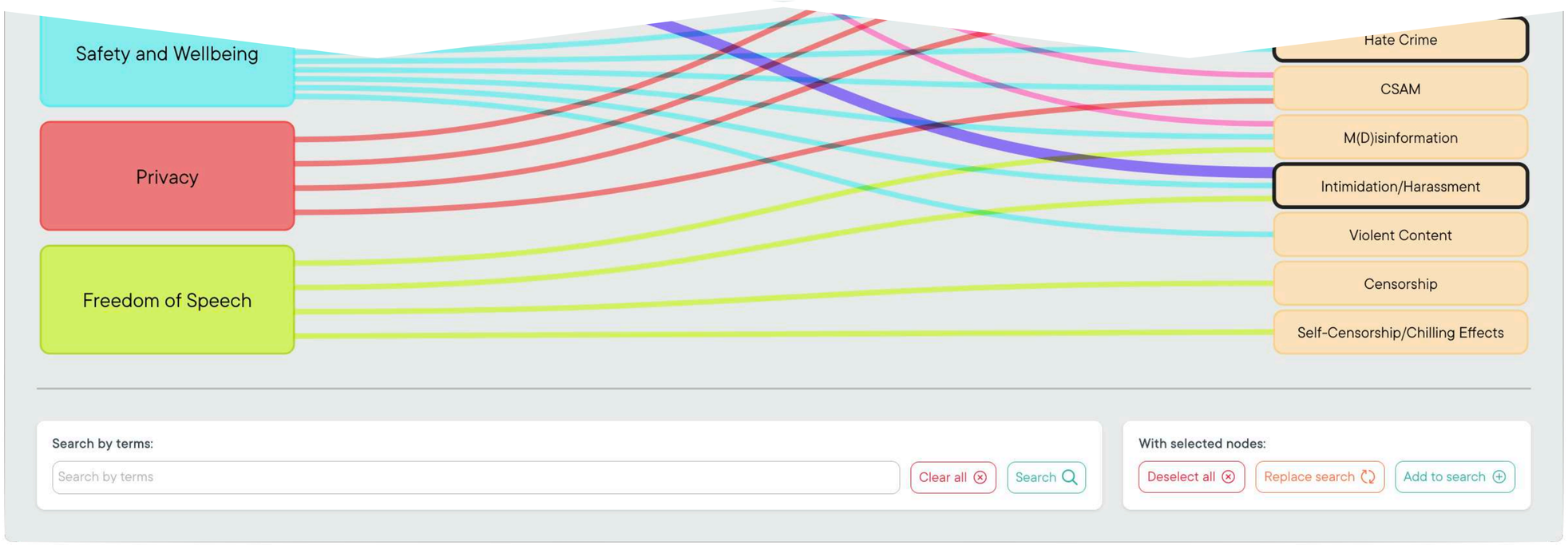
Participating online should be inclusive, respectful, and free from biases. This category includes harms that are a consequence of bias by systems.

POSITIVE PROPERTY: FAIRNESS

Related Harms:

Hate Crime | **Image Based Harm** | **Information Probing and Phishing** | **Institutional Discrimination** | **Intimidation/Harassment** | **Surveillance/Dataveillance**

REPHRAIN MAP v 1.0



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Online harms/risks

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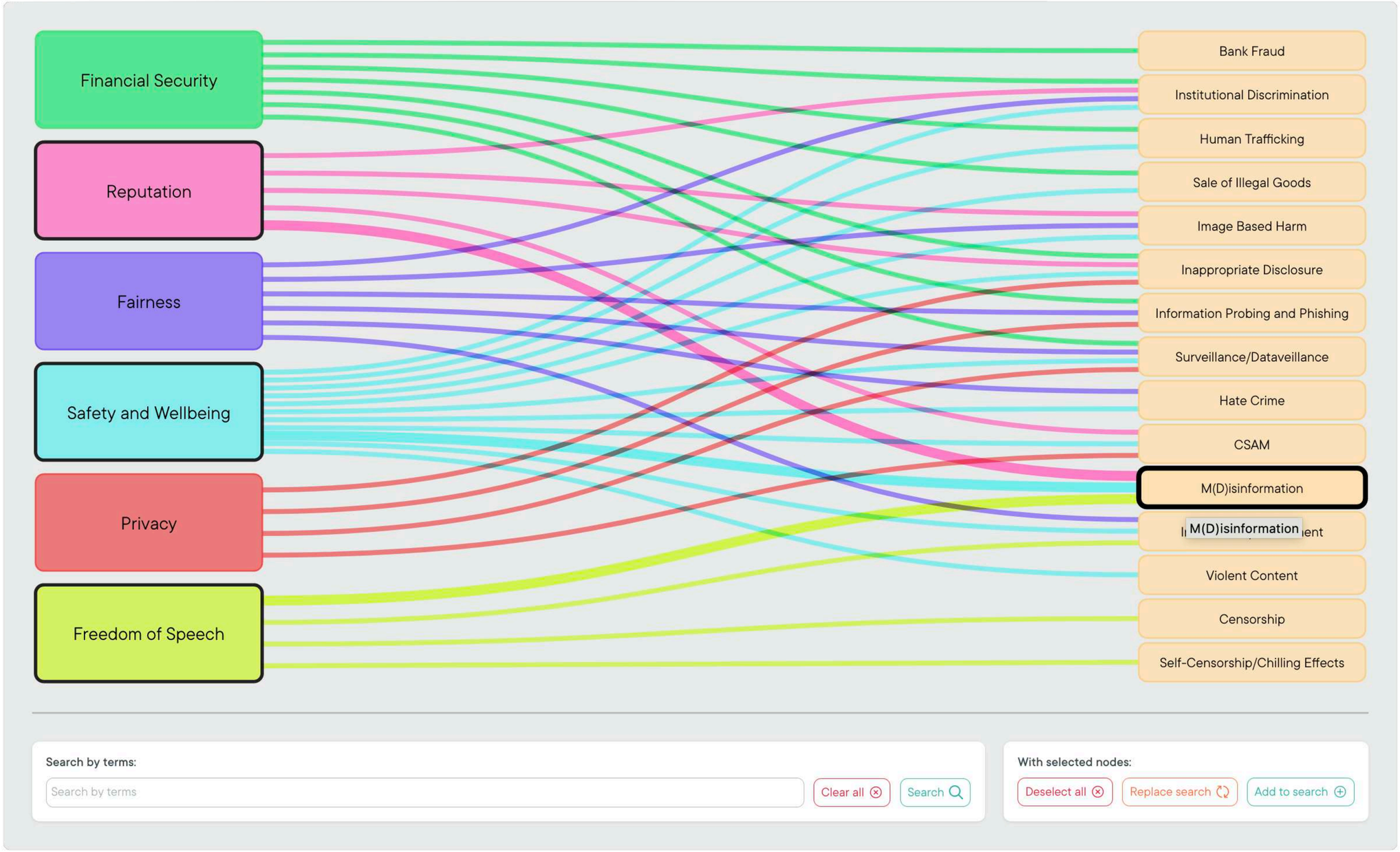

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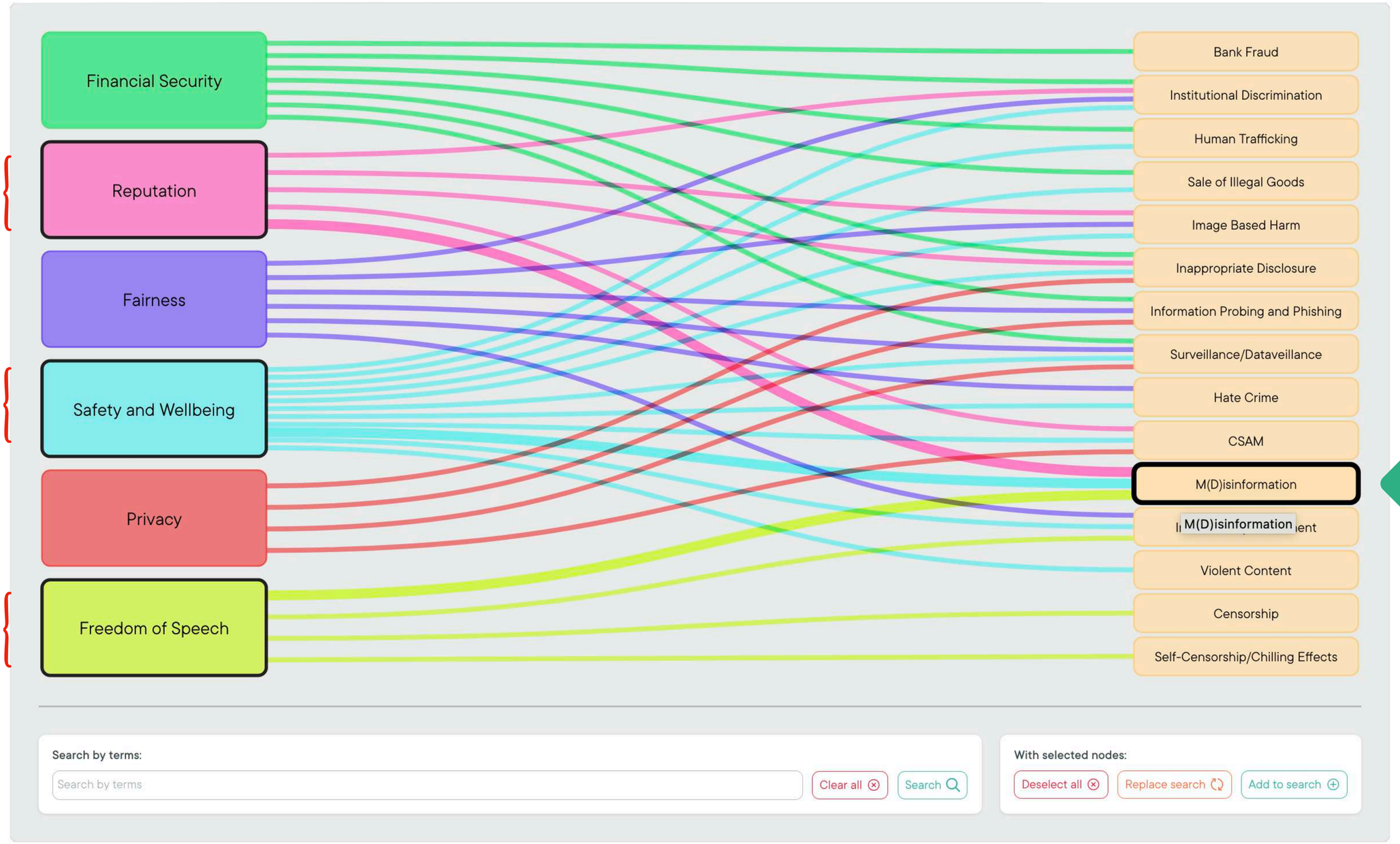

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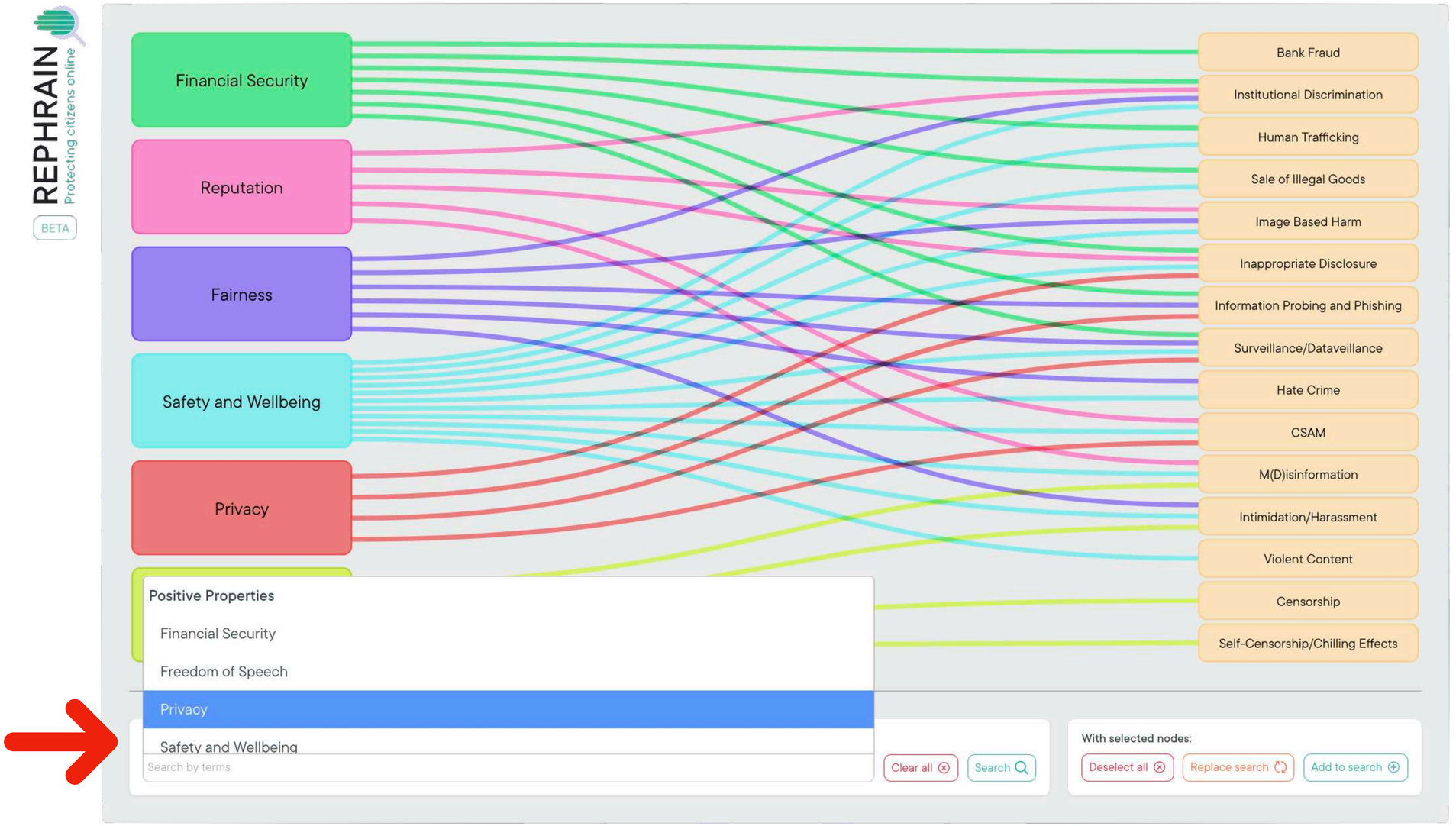
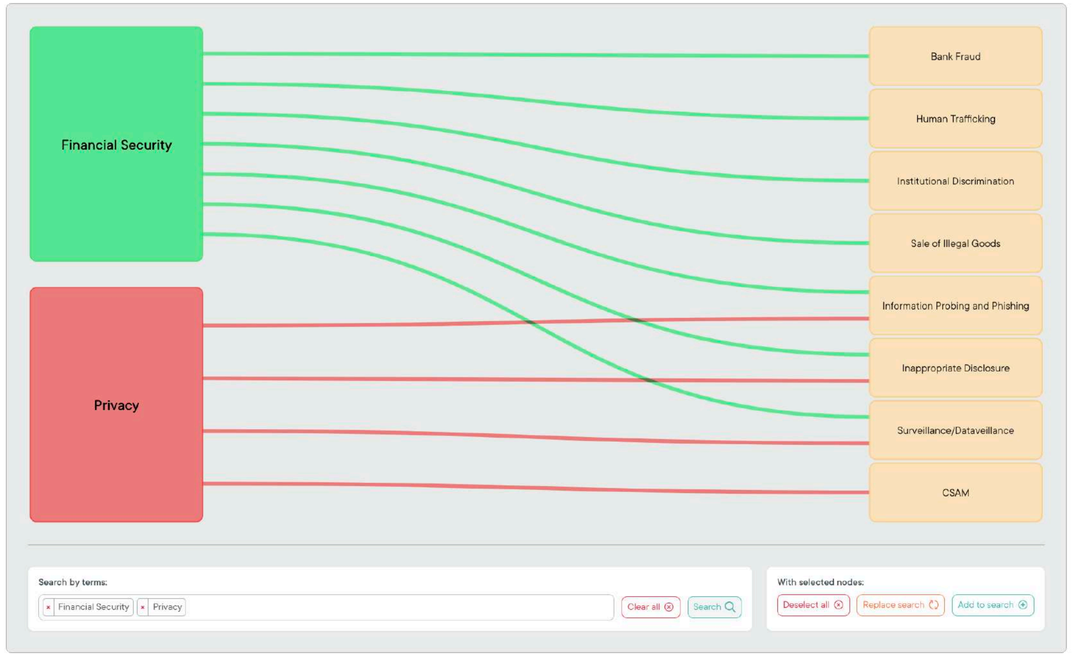


REPHRAIN MAP v 1.0

Search: Positive Attribute



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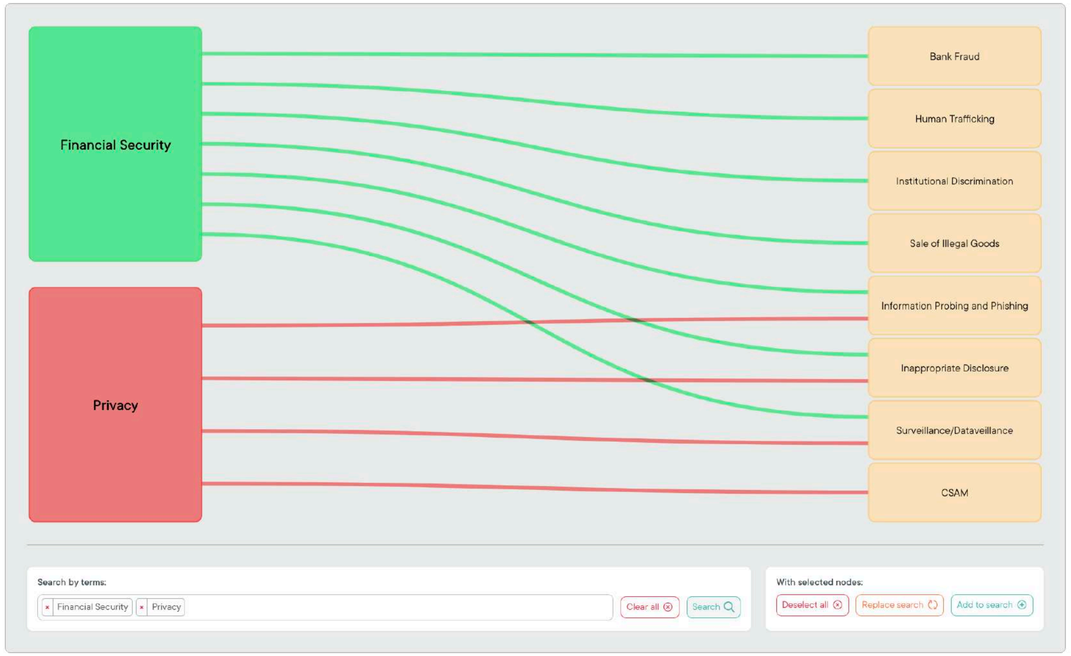
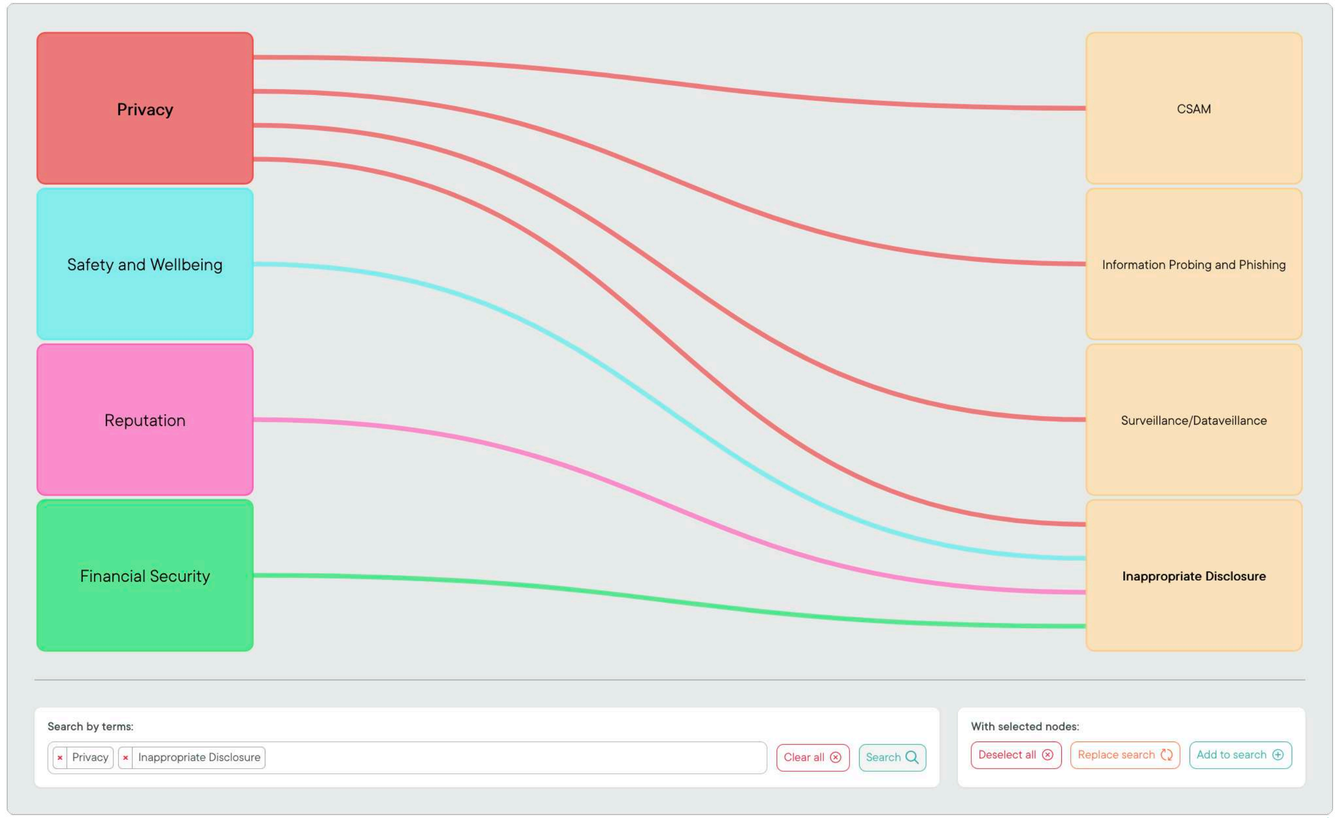
REPHRAIN MAP v 1.0

REPHRAIN
Protecting citizens online

Search: Positive Attribute



Search: Positive Attribute + Online harm



Harm:

M(D)isinformation

Any information that turns out to be false after first considered to be true is commonly referred to as misinformation, whereas wilful deceptions are labelled disinformation. Disinformation thus refers to the subset of misinformation that is spread intentionally, although the psychological effect—and harm—on the recipient is likely to be the same regardless of intent.

Related Positive Properties:

Reputation | Safety and Wellbeing | Freedom of Speech

Research Challenges:

These research challenges have evolved from REPHRAIN researchers working in the area.

1. What constitutes disinformation? We currently rely on professional journalists' verdicts, but sometimes they disagree
2. Current research on automatic misinformation detection is almost exclusively in English, despite facts arising in all languages around the world
3. Current research on automatic misinformation detection only uses a couple of modalities (text and images), despite there being many other features available in real-world situations, such as the social network of the person stating the claim or the replies to the claim. High-quality datasets are quite scarce.
4. High-quality datasets are quite scarce
5. Locating the relevant social contexts that are sharing and discussing a relevant fact-checked claim
6. Ensuring that as many languages are represented as possible

REPHRAIN Projects:

Relevant ongoing and past projects funded under REPHRAIN.

Bureau
Citizens Data Advice Bureau
Visit project

Clariti
Social Networks and the Real Danger of Pseudoscience, Fake News and Conspiracy Theories to Public Health
Visit project

MITIGATE
Understanding and Auditing the Impact of Mitigation Strategies on Online Harms
Visit project

NEWS
Predicting Personality from News Consumption
Visit project

SURVEY
Global Survey of Policy Approaches to Protecting Citizens Online
Visit project

Related Resources:

All | Academic Literature | Policy Documents | Other Approaches | Whitepapers

REPHRAIN
Protecting citizens online

Description of the Harm/risk

Related Positive Properties

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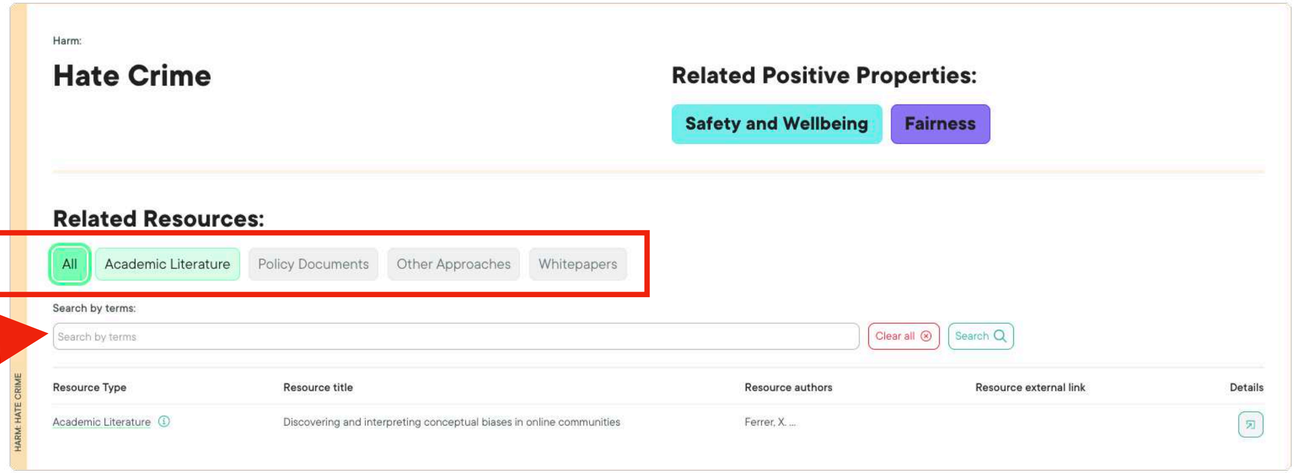
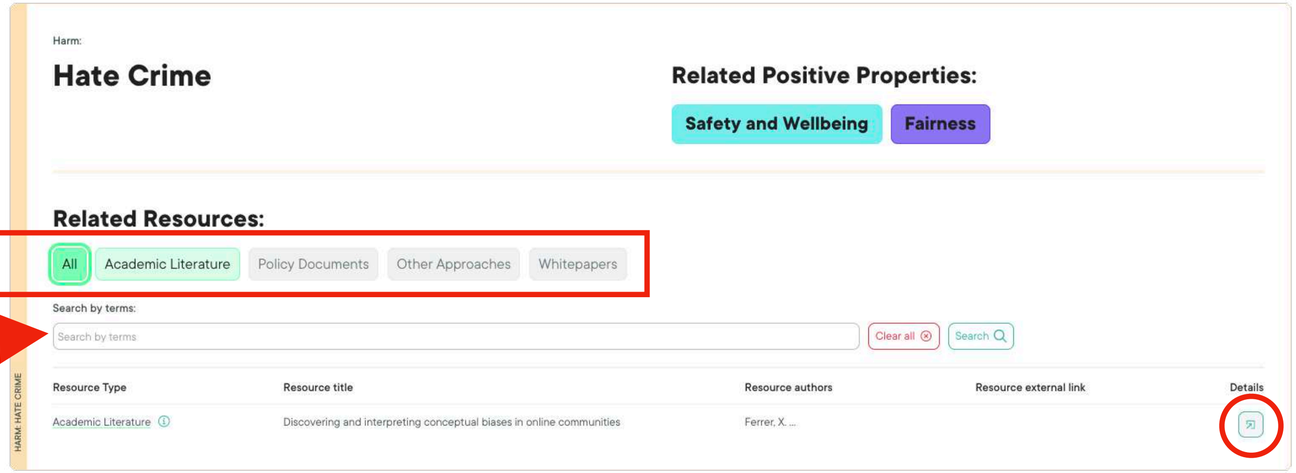
Filters

Search bar

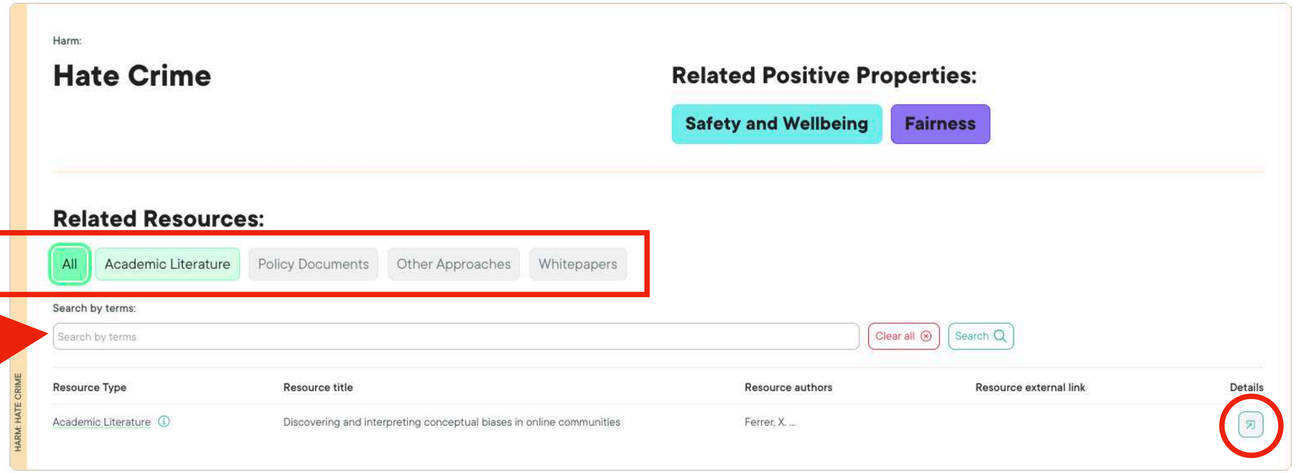




Filters

Search bar

Detailed info about a resource



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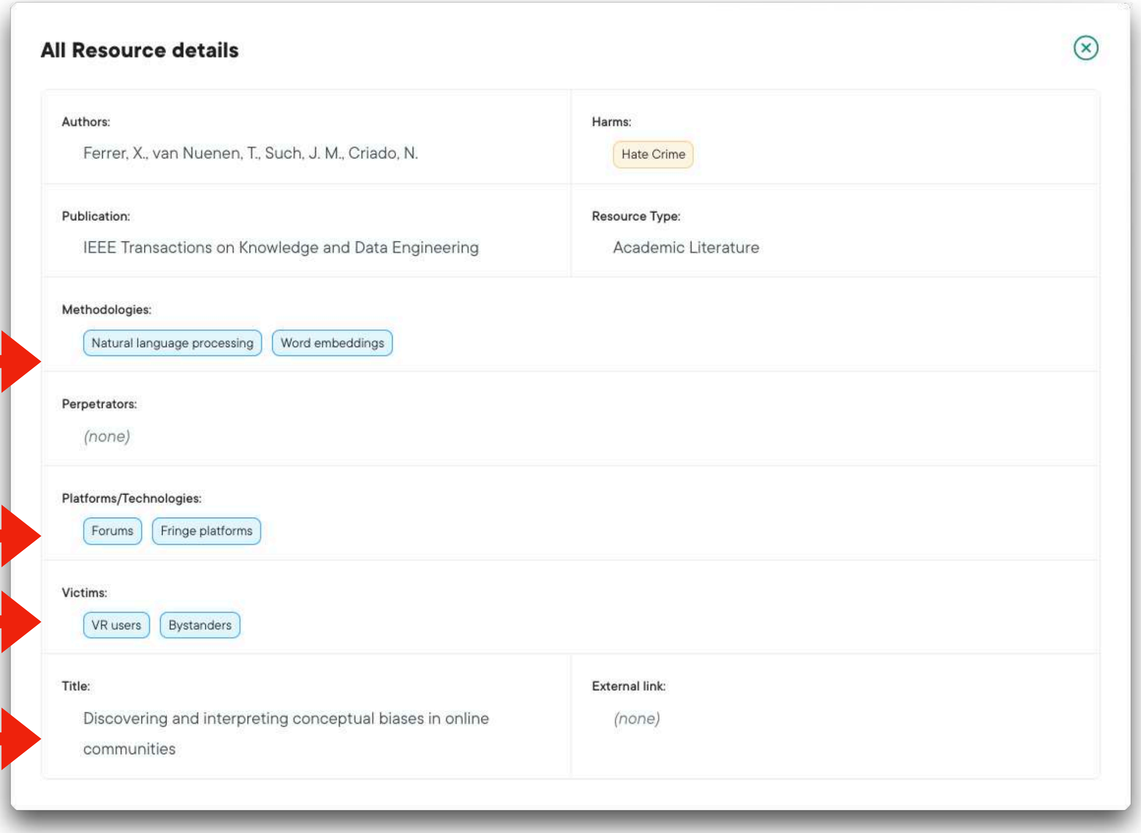

Resources (e.g., papers) are coded according to:

- **Harm being addressed**
- **Adopted methodology**
- **Platform or technology**
- **Targeted group/Victims**
- **Perpetrators**

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Protecting citizens online

LESSONS LEARNED

REPHRAIN MAP as a METHOD

- Shows how different bodies of knowledge link
- Brings research from different disciplines together
- Translate concepts from specific discipline-specific jargon
- Visualises complex areas of research

Victims	Perpetrator	Platform/Technology	Methodology
Bystanders	Campaign groups	AI systems	Anomaly detection
Children	Darknet communities	Internet of Things	Case studies
Consumers	Extremist groups	Cloud systems	Usability Studies
IPV victims	Government agencies	Contact tracing apps	Detection system
Online dating users	IPV perpetrators	Content-sharing services	Digital forensics
Political organisations	Law enforcement	Critical infrastructure	Digital traces
Sex workers	Nation State	Darknet markets	Ethnography
Social media users	Online fitness communities	Emails	Experimental
Teenagers	Organized crime groups	E-recruitment platforms	Focus groups
Refugees	Romance Scammers	Virtual Reality	Interviews
Bystanders	Sex Offenders	Social Media Platforms	Surveys
Women	Social Media Users	Smartphones	Social Network Analysis

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REPHRAIN MAP as a MEDIUM

- Shows what areas of research have been covered
- The research gaps that need to bridged
- Existing tools or approaches to tackle online harm/risks
- What REPHRAIN is doing and areas that still need attention

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- The research gaps that need to bridged
- Existing tools or approaches to tackle online harm/risks
- What REPHRAIN is doing and areas that still need attention

REPHRAIN MAP as a PROVOCATION

- Debates around the concept of online harm
- Appropriateness of terms “MAP of online harms” vs “MAP of technology-mediated harms”
- Outdated terms

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Protecting citizens online

Thank you

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