

Facebook's Terrorism Hash-Sharing Database

On 25/1/2018, I attended a video call from Facebook's offices in BXL with [REDACTED] (based in London), and [REDACTED] (based in SF) on the operation of their data-base to filter terrorist content on facebook and other social media platforms.

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The objective was to learn more about the detailed functioning and limitations of the database. [REDACTED] is the head of fb's counter-terrorism operations; [REDACTED] in understanding and fighting terrorism and radicalisation [REDACTED], and has worked with many industry players on online radicalisation.

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1. The technology of the database is based on facebook's proprietary [ThreatExchange](#) system, the main purpose of which is to share malware information between companies. Known malware is "hashed" in ThreatExchange, and companies can use this database to identify known cybersecurity threats

2. At present some 600 companies are members of ThreatExchange, many from non-terrorist related businesses (e.g. financial services).

3. For the terrorism database, facebook developed a "walled garden" inside ThreatExchange, with the 12 current members of the hash-sharing consortium, using dedicated access control features of the collaborative platform.

4. Currently, only video and image content is processed for the purposes of the database (e.g. PDFs are not accepted on Facebook), as these are the main content types for terrorist content.

5. ThreatExchange supports "a combination of multiple hashing technologies" to fingerprint images and video, without further detail.

6. Members of the consortium sign an agreement to join. Any member can submit a hash to the database; any other member can choose which providers to "trust" and which not to.

7. Access to the database is either via the API, or via a user interface.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Protection of commercial interests Art 4(2)

10. Facebook carries out a *systematic human review* of content it removes on its website against non-Facebook hashes. In other words, before accepting a deletion indicated from a hash provided by another company, Facebook would carry out a human review of the image/video which would be deleted on Facebook.

11. The current level of ISIS propaganda output is estimated to be ~20 major videos per week, down from ~100 per week at the height of ISIS' terror activities. ██████████ confirmed that after the fall of the Caliphate, there is a substantial decrease in terror content.

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12. ISIS uses highly regularised channels on Telegram to push videos out. Facebook uses "contractors" to siphon off ISIS videos from major Telegram channels in real time, and to store these videos and extract hashes in the database. Sometimes, they get videos directly from Telegram. They claim that new ISIS videos from Telegram are hashed within hours.

13. For the definition in the hash sharing database, the consortium uses the UN list of terrorist organisation; although facebook itself uses a much broader definition.

14. ██████████ concedes that it is difficult to check what content a given hash corresponds to. Once a hash is in the database, other companies cannot check which type of image or video the hash corresponds to. Facebook itself however keeps a database of the actual images/videos, and can try to reconstruct which content a given hash would correspond to. As a matter of due diligence, Facebook itself does not delete content without human review (i.e. it must be in Facebook's database of actual content).

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15. Inside ThreatExchange, companies can decide which other companies' hashed they accept or not, i.e. which other companies they trust.

16. Accepting a new company into the consortium requires unanimity by all members.

17. Facebook itself pushes only a small subset of what it considers terrorist content into the database, as it itself has a very wide definition of terrorism.

18. As a matter of principle, they would not accept any law enforcement to submit hashes into the database or to join the consortium. [REDACTED]

Protection of commercial interests

19. Facebook accepts that the scaling of the database to many more partners would present serious governance challenges. [REDACTED] basically agreed fully with [Emma Llanso's criticism of the database](#), and acknowledged that these were hard questions.

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20. Currently, their database contains some 50.000 entries. They claim that Europol has an (independent) database of 10.000 hashes.

21. The main competing technology is [eGlyph](#) from the Counter Extremism Project, which contains some 650 hashes. There was some suggestion that the actual choice of filtered content at the Counter Extremism Project was politically motivated; and that the technology should be open sourced.

22. Some progress report to DG HOME is due next week, but they did not share the details.

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