

27 February 2014

GCHQ OPTIC NERVE

Britain's [surveillance](#) agency [GCHQ](#), with aid from the US National Security Agency, intercepted and stored the webcam images of millions of [internet](#) users not suspected of wrongdoing, secret documents reveal.

GCHQ files dating between 2008 and 2010 explicitly state that a surveillance program codenamed Optic Nerve collected still images of [Yahoo](#) webcam chats in bulk and saved them to agency databases, regardless of whether individual users were an intelligence target or not.

In one six-month period in 2008 alone, the agency collected webcam imagery – including substantial quantities of sexually explicit communications – from more than 1.8 million Yahoo user accounts globally.

SECRET STRAP1

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OPTIC NERVE – Yahoo Webcam display and target discovery



Summary

A report on the development of OPTIC NERVE – a web interface to display Yahoo Webcam images sampled from unselected intercept and a system for proportionate target discovery

Metadata:

- At the moment OPTIC NERVE's data supply (run by B13) does not select but simply collects in bulk, and as a trade-off only collects an image every 5 minutes. It would be helpful to incorporate selection and collect images at a faster rate (all?) for targets. CS to find out from B13 if this is feasible.

27. Unfortunately, there are issues with undesirable images within the data. It would appear that a surprising number of people use webcam conversations to show intimate parts of their body to the other person. Also, the fact that the Yahoo software allows more than one person to view a webcam stream without necessarily sending a reciprocal stream means that it appears sometimes to be used for broadcasting pornography.

28. A survey was conducted, taking a single image from each of 323 user ids. 23 (7.1%) of those images contained undesirable nudity. From this we can infer that the true proportion of undesirable images in Yahoo webcam is $7.1\% \pm 3.7\%$ with confidence 95%.

[edit] Potentially Undesirable Images

We use face detection to try to censor material which may be offensive but this does not work perfectly so you should read the following before using OPTIC NERVE:

- **It is possible to handle and display undesirable images. There is no perfect ability to censor material which may be offensive. Users who may feel uncomfortable about such material are advised not to open them.**
- **You are reminded that under GCHQ's offensive material policy, the dissemination of offensive material is a disciplinary offence.**
- **Retrieval of or reference to such material should be avoided; see IB 150 for guidance on dealing with offensive material**

The Optic Nerve documentation shows legalities were being considered as new capabilities were being developed. Discussing adding automated facial matching, for example, analysts agreed to test a system before firming up its legal status for everyday use.

"It was agreed that the legalities of such a capability would be considered once it had been developed, but that the general principle applied would be that if the accuracy of the algorithm was such that it was useful to the analyst (ie, the number of spurious results was low, then it was likely to be proportionate)," the 2008 document reads.

The document continues: "This is allowed for research purposes but at the point where the results are shown to analysts for operational use, the proportionality and legality questions must be more carefully considered."