Hidden Surveillance by Contemporary Web Sites

We establish a lower bound on the amount of clickstream surveillance technology in place at Web sites by counting Web bugs -- those hidden, lightweight tracking devices also known as Pixel Tags, Web Beacons, and Clear GIFs. Under the most restrictive definition in use, we establish that over 1/2 of "popular" Web sites and over 1/3 of those in a random sample of consumer-oriented Web sites carry Web bugs. Not only are the Web bugs themselves visible, but almost 1/3 of the "popular" sites that carry Web bugs make no relevant disclosures about them in their privacy policies.

The system we used to count the Web bugs is an automated version of Bugnosis. Downloaded and installed by over 100,000 users to date, Bugnosis contributes to network privacy indirectly -- without any technical protection measures such as filtering or anonymization -- by raising awareness about Web bugs and arming users with specific information about current Web site practices. We describe challenges we faced in designing, implementing, and deploying Bugnosis as it grew from an independent study project into a full blown distribution.

Part of this talk will be presented at the 2002 Workshop on Privacy Enhancing Technologies.