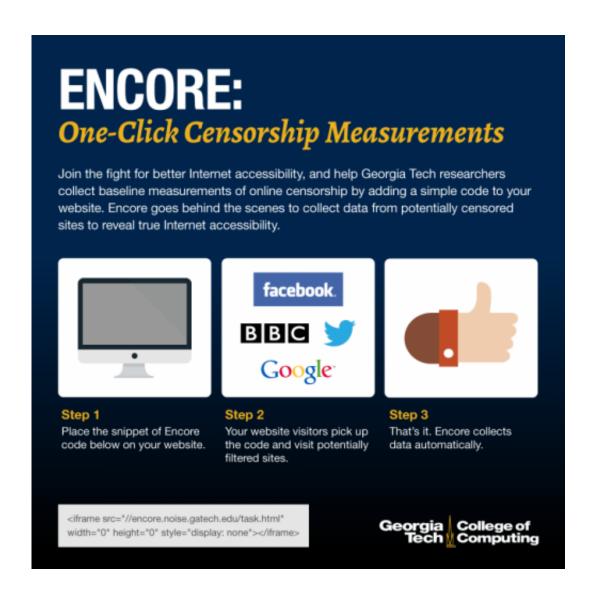# Georgia Tech researchers develop 'Encore' to monitor Web access

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Georgia Tech researchers have created a tool to monitor the accessibility of Web pages around the world that can be installed by adding a single line of code to a web page. The tool, Encore, runs when a user visits a website where the code is installed and then discreetly collects data from potentially censored sites.

The researchers hope the data they collect will allow them to determine the wheres, whens and hows of what's blocked, as well as identify ways to get around restricted access.

"Web censorship is a growing problem affecting users in an increasing number of countries," said Sam Burnett, the Georgia Tech Ph.D. candidate who leads the project. "Collecting accurate data about what sites and services are censored will help educate users about its effects and shape future Internet policy discussions surrounding Internet regulation and control."

The measurement tool that Burnett and his adviser Nick Feamster, professor at the Georgia Tech School of Computer Science, developed – known as Encore – works by collecting information about a users' Web access and censorship of various sites across other countries.

These measurements happen automatically in the background after a page has loaded and do not affect a site's performance or a user's experience. Most users won't ever notice them or realize they are helping to measure Web accessibility, although the tool provides ways to inform users that their browsers are conducting the measurements.

"Encore doesn't track users' browsing behaviors or the content they visit, only whether or not a potentially censored website is reachable from where they are," Burnett said.

Currently, Encore gathers data from a list of sites compiled by Herdict, a

user-driven platform designed to identify Web blockages such as denials of service, censorship and other filtering. But where Herdict relies on anecdotal evidence, Encore automates the measurements.

Burnett and Feamster hope to provide a global database of information generated through this study that will be available to help paint a clearer picture related to the health of the Internet.

"People who work on Internet freedom—ranging from policymakers to the developers of tools for improving access to information—need accurate information about what information is inaccessible and when it becomes blocked," Feamster said. "Encore is the first tool that makes it possible to provide this kind of information continuously, on a global scale."

Encore research has been submitted for a presentation at the Internet Measurement Conference in November in Vancouver, British Columbia.

For information or to volunteer to collect measurement data for this research study, visit https://encore.noise.gatech.edu/faq.html.

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