

Tab Nabbing Report

Team Name: CHEAT CODE

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Team Project: Tab Nabber

Our project consisted of 3 major components

1. A MySQL database (Tamieem Jaffary)
 - a. A local DBs for storing both the url of a malicious website along with the UNIX time at which it occurred.
 - b. Unix time was stored as an example for it larger websites want to know when their own sites were commandeered and attacked in the event malicious code where forced to their site.
2. A Node.js server (Mo Jahan)
 - a. A connection to the local MySQL DBs so that the client could grab the list of malicious sites for their own use
 - b. Listening on a certain port as an API in order to send both the web_url and Atomic UNIX time to the malicious url table.
3. The Tab Nabbing Client (Thomas Clarke, Jessica Guan)
 - a. Made use of the Resemble.js photo comparison library in order to compare screenshots of the webpages as they were taken.
 - b. Made use of the chrome web api for both extensions and tabs in order to take photos of the webpage and communicate over various tabs.

Tab Nab Client Process:

When the client is initialized a local map of malicious websites is grabbed from the MySQL table, in the event a user is to visit one of these sites a warning will popup informing the user that this site had previously been marked as a danger. When the client detects a user has entered a valid webpage then a photo is taken. If this is an initial photo, then it is entered into a New Map of all tabs most recent photos. If it is not then the older photo is placed in a Later Map object and the new photo is placed in the New Map.

When the client has detected the user has revisited a tab a photo is taken and compared against the one within the New Map. Depending on the level of difference the Extension Icon either says Green or changes to Yellow or Red. In the event the screen changes enough photo are no longer taken and the user is to click the Extension Icon to further see these changes.

Once clicked a page is brought up of both the most recent and earlier photo. Below them is the comparison of the two showing an opaque layer of change from the older to the newer. Below that is a checkbox which the user will use to decide if the changes are of a malicious nature or not. If the box was checked checked and the button clicked a request is sent to the Node.js server on port 4000. If the user so wishes that the change is not of a malicious nature, then they can close the tab and the Tab Nabber will continue as normal.