

UNIVERSITY OF PADOVA

COMPUTER AND NETWORK SECURITY

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Students:

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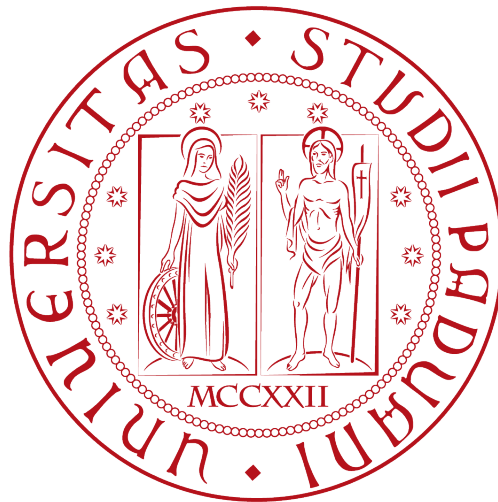
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1 Activity Logger Extension

1.1 Scope of the extension

The extension aims to keep traces about the activities of other extensions and let the user know about them through a dedicate page in which can check for every extension that are installed on the Chrome browser. This logger keep traces of logs even if some extensions are uninstalled.

The extension makes use of the following permission in the manifest file:

- management
- storage
- unlimitedStorage

1.2 How the extension work

The extension at the browser start check the list of installed extension and updates the logs list with the one missing from it. After this first check and update we create listener for the events related to extensions which are:

- chrome.management.onInstalled
- chrome.management.onUninstalled
- chrome.management.onEnabled
- chrome.management.onDisabled

Every time the user or some malicious code install, uninstall, enable or disable an extension a log of the triggered event is saved in the specific event log for the specific extension in

the chrome storage. The computation time is defined by the computation time of the Chrome search in his storage.

1.3 Limitations

The main limitation to this extension can be reconducted to the limitation imposed by or absence of Chrome APIs. At the moment we can just check the events described early in the paper, every other event defined in Chrome APIs and the presence or absence of listener for a specific event. A better controll on browser activity could be achieved by adding APIs, for example that return the name of extension from which is running codes in response to a specific event.

1.4 Future work

The final aims of this extension are to log every single activity of installed extensions and javascript scripts inside web pages in response to every event happening inside Chrome itself (like a modification inside the chrome storage area) or the web pages visited by the user (the presson of a button) and let the user check these logs in order to let users check some strange and unwanted activities caused by some malicious code. At this time, for what we have find out from our research on chrome API documentation we can just check if there is some code

waiting a specific events that trigger it. But this is also a double-edged weapon that can led to problems for privacy maintenance because let every user, capable of writing chrome extension the possibility to check every activity, but from the other hands let malicious users the possibility on customizzable browsers to get knowledge about users routines, personal data and ad-hoc javascript code injection.