Concordia Institute for Information System Engineering

(CIISE)

Concordia University

INSE 6150 – Security Methodology Evaluations

Assignment -2

Submitted to:

Professor Jeremy Clark

Submitted By:

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Usability Study

In this assignment, you will perform a usability study of a privacy-enhancing browser extension using the cognitive walkthrough method. To do so, you will need to install Chrome, Firefox, or another supported browser. Concordia computers have Chrome installed. Further, install the extension. Choose one of the following to study:

Ghostery Ad Blocker (free version): https://www.ghostery.com EFF Privacy Badger: https://privacybadger.org

Question 1 (14 marks)

As a first step, list seven core tasks that a typical user would want to perform using Ghostery/ Privacy Badger. Describe each task briefly (maximum three sentences) and why it should be considered a core task.

Answer:

Privacy Badger

Privacy Badger is a browser extension that prevents advertising and other third-party trackers from tracking where you go on the Internet and what pages and data you access. If an advertising appears to be monitoring you across many websites without your consent, Privacy Badger will prevent that advertiser from loading any more material in your browser and the advertiser will think you have gone or disappeared.

The following are the seven core tasks that a user would want to perform using Ghostery:

1) Install Ghostery extension from the Chrome Store

Locate Ghostery in the app store/chrome store and select "Add to browser." Find and click on the Ghostery symbol next to the address bar to see if the extension is installed. Installing it in the browser allows us to begin utilising the extension and its privacy capabilities.

2) Verify that anti-tracking is turned on and that trackers are being blocked.

Anti-tracking is enabled by default in Ghostery. Confirm that trackers are visible for the website and that undesired trackers such as Advertising are banned under the tab Detailed View. Ghostery offers selective and algorithm-based anti-tracking services.

3) Verify that Ad-Blocking is turned on and that advertisements are being prevented.

Open a website with adverts. Ad-blocking is enabled by default on GHOSTERY. Confirm that adverts are no longer displayed after installing the extension. Ad-blocking improves surfing speeds because many advertising components are not loaded at all, automatically improving page performance as you go.

4) Check that Smart-Browsing is turned on and page load times are faster.

Open a website with several trackers. Smart-Browsing is enabled by default in Ghostery. As tracker blocking is tuned to boost performance, confirm that page load speed improves following installation of the extension. Smart browsing is simply tracker blocking that uses Ghostery database to enhance page load efficiency, making it one of the extension's three core capabilities.

5) Select Restrict Site to check that all trackers have been disabled.

GHOSTERY provides anti-tracking and shields users from web-tracking by using blocklist-based and heuristic techniques when the user selects "Restrict Site." Ensure that anti-tracking is activated, and that personal data is secure. When a website is restricted, no trackers are loaded for the Restricted domain.

6) Browse the domains that have been disabled.

The user needs to know exactly what is prohibited for the specified domain. Is it cookies, a third-party website, or JavaScript code, and if so, for which domain. Details about what is particularly prohibited for the domain is occasionally requested by the user.

7) Stop Ghostery to ensure that all features are turned off.

- Ghostery functionalities can be paused. On confirmation "Pause Ghostery" disables all extension features and functionalities. If a user is having problems with the website, he or she can Pause Ghostery to disable all Ghostery functionalities until the page is refreshed, and the website will load normally, making it one of the vital fundamental responsibilities.

Question 2 (33 marks)

Choose three (of the seven) core tasks from Question 1 to use for your evaluation. You may use the same guidelines given in class for the walkthrough of Tor. If you'd like to augment them with new guidelines, specify these in this section. Briefly justify the reason for the task(s) you are choosing (maximum one sentence for each task).

For each of the three core tasks you chose, perform the evaluation, and write up an evaluation for Ghostery/Privacy Badger for each, listing the ways it matches or does not match the guidelines. Limit yourself to one page per each core task, however you can include one extra page of screenshots or pictures if you want as an appendix.

Answer:

The following are three core tasks selected to perform security evaluation

1) Install Ghostery extension from the Chrome Store – It is the primary task which must be performed. Ghostery extension is installed to a browser to enable using its privacy features.

2) Verify that Ad-Blocking is turned on and that advertisements are being prevented – It is one of the crucial tasks which increases the browsing speeds by removing advertisements.

3) Stop GHOSTERY to ensure that all features are turned off and webpages load smoothly – Ghostery blocks even the advertisements from the major companies which are required. To prevent this user can pause the Ghostery extension to view all the adds.

1) Install Ghostery extension from the Chrome Store

- G1 was not followed since the extension does not inform the user on how to install the extension. Once the addon is installed, the user may utilise the tutorial at the start or click on "Set up Ghostery" under the Help menu to obtain a thorough instruction.
- G2 was successfully followed due to the user-friendly interface of the GHOSTERY plugin and Chrome Web Store. To install, the user only must read the simple instructions on the screen.
- G3 was successfully followed, since the GHOSTERY Extension displays a notice next to its logo after installation, confirming the extension's complete installation. Users may also see the logo next to the address bar, which indicates the extension's active state.
- G4 and G5, click through is not available because there are prompt windows during the installation. This keeps users from making non-critical mistakes.
- G6 is utilised because the language used in extension installation is jargon-free, simple, and easy to grasp even for users with no technical expertise of ad-blocking/privacy addons.
- G7 is used because the installation procedure is simple, and the interface is highly intuitive - all essential installation steps are easy to comprehend and necessary buttons are clearly shown on the screen.
- G8 is after adding chrome extension, the user sees installation progress on the screen after which a downloading symbol appears next to the address bar. After installation, GHOSTERY displays a visible notice.

## 2) Verify that Ad-Blocking is turned on and that advertisements are being prevented

- G1 was followed by a tutorial on how to enable/disable ad-blocking in the "Set Up GHOSTERY."
- G2 is not followed because the user does not receive any documentation on how to utilise or operate the feature.
- G3 is followed by the Ghostery dashboard displaying Ad-Blocking "ON" and highlighted in blue when the status is "ON" which is turned on by default.
- G4 and G5 are followed since leaving the Ad-Blocking option unchecked leads in non-recoverable faults. Websites that are prevented from loading by an ad-blocker can be loaded by simply pressing the "ON" button, which turns off the Ad-Blocking function, and refreshing the page, which causes it to load normally.

- G6 is followed because no terminology is used, which would be unclear to anyone without technical understanding. Simple and straightforward phrases such as ON, Ad-Blocking, Simple View, and Detailed View.
- G7 is followed since ON is easily visible and highlighted in blue colour and does not require navigation.
- G8 is followed because ad-blocking is easy to enable by just simply clicking the Ghostery logo which can be confirmed by the user by seeing the status of the ad-blocker icon to ON and highlighted in blue.

3) Stop Ghostery to ensure that all features are turned off and webpages load smoothly

- G1 is followed by the "Set up Ghostery" option under HELP, Pause Ghostery is already demonstrated in the beginning.
- G2 is followed by users being able to determine how to stop Ghostery functions, thus deactivating it for a short period of time, by simply clicking on the Pause Ghostery button positioned on top of the smart-browsing feature button. It is easy to identify.
- G3 is followed when the user selects "Pause Ghostery" the extension notifies the user on the website that the Ghostery extension has been stopped. Refresh to see the Changes.
- G4 and G5 are followed because failure to select during "Pause Ghostery" leads in unrecoverable faults. Websites that load incorrectly with Ghostery, function improperly/unexpectedly, or Ghostery interferes with necessary trackers - This can be resolved by simply selecting "Pause Ghostery," which will disable all Ghostery functions such as ad blocking, tracker blocking, and other user confidentiality algorithms, allowing the website to load normally.
- G6 is followed because no jargon is used, which would be unclear to anyone without technical understanding. Terms like Pause Ghostery, Simple View and Detailed View are simple and straightforward.
- G7 is followed because the interface is very intuitive, "Pause Ghostery" is easy to spot, highlighted in blue. Other features like Anti-Tracking and Restrict-Site turn grey and cannot be selected. This does not require navigation. It sits right on the dashboard and is very easy to spot.
- G8 is followed by the fact that the state of the Pause Ghostery may be easily checked by just clicking on the Ghostery emblem. The user can confirm by highlighting and selecting the words "Pause Ghostery." The user may verify the status of Ghostery by clicking on its emblem next to the address bar.

Appendix
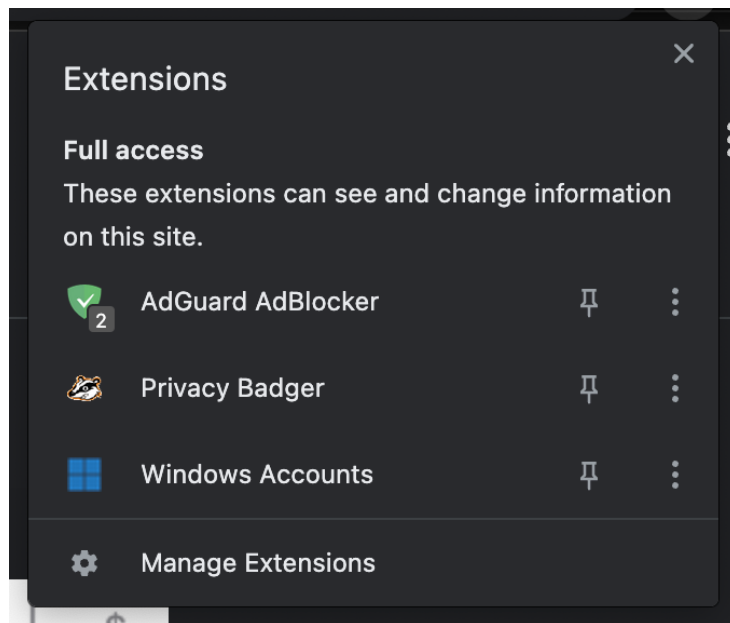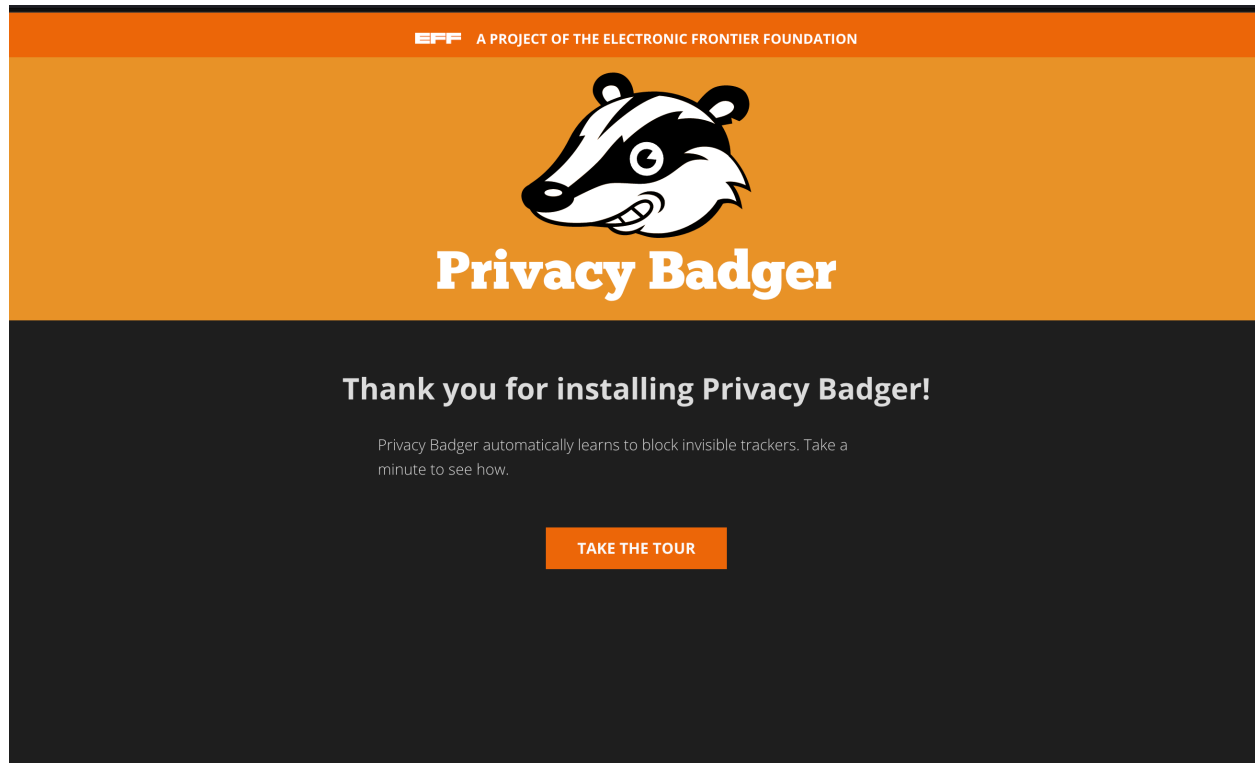
Privacy Badger Options

General Settings   Disabled Sites   Widget Replacement   **Tracking Domains**   Manage Data

Privacy Badger has decided to block 1161 potential <u>tracking domains</u> so far

Search domains: ⓘ

Filter by type: all ⌄

Filter by status: all ⌄

0914.global.ssl.fastly.net	✖
126.net	✖
163.com	✖
bnet.163.com	✖
1dmp.io	✖
1rx.io	✖
2020mustang.com	✖
2o7.net	✖

References:

1. https://www.eff.org/about
2. https://www.eff.org/about/history
3. https://www.eff.org/pages/corporate-documents

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