Assignment of Beauty and Beast browser fingerprinting paper

Song Li(lsong18)

March 25, 2019

Please put your implemented browser_fingerprint.js and your answer into a tar.gz file. And send the file to the my email lsong18@jhu.edu. Due date: suppose to be Tuesday(April 2) mid-night.

1 Programming: Implement your browser fingerprinting tool

(16 points) By the paper, you should already know how browser fingerprinting works. In this task, you are asked to implement the front end of a fingerprinting tool by JavaScript. To make the task simpler, you only need to collect the JAVASCRIPT BASED features mentioned in the Table 1 of the paper and combine them together as a fingerprint. The required feature list is:

- List of plugins
- Cookies enabled
- Use of local/session storage
- Timezone
- Screen resolution and color depth
- Platform
- Do Not Track
- Canvas: the canvas generation code is provided, you just need to call it and get the hashvalue of the generated canvas. (Hint: Use toDataURL to get the base64 encoded value of the canvas)
- WebGL Vendor
- WebGL Render
- Use of an ad blocker

Since the WebGL Vendor and WebGL Render value is masked by Firefox, Chrome is recommended for testing your implementation. I will also test your program on Chrome.

2 Writing: Talk about your opinions on browser fingerprinting

2.1 Browser fingerprinting VS Cookie

(2 points) Do you think browser fingerprint is better than a traditional cookie? What's the pros and cons of browser fingerprint?

2.2 Improve the current browser fingerprint

(2 points) Do you have any suggestions to improve the browser fingerprint? You can list some of the features that can be used but not be mentioned in this paper, or you can talk about your ideas on how to make browser fingerprinting better.