BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF INFORMATION TECHNOLOGY

Master's Thesis Assignment

143706

Institut:	Department of Information Systems (UIFS)
Student:	**Hruška Jozef, Bc.**
Programme:	Information Technology and Artificial Intelligence
Specialization:	Computer Networks
Title:	**Prevention of Passive Browser Fingerprinting**
Category:	Web
Academic year:	2022/23

Assignment:

1. Get familiar with the JShelter project and its API spoofing based on little lies. Get familiar with Manifest v3 of webextension APIs.
2. Review literature on browser fingerprinting. Focus the review on passive browser fingerprinting and the possibility of detecting inconsistencies using JavaScript.
3. Propose a new JShelter shield that can spoof information used for passive fingerprinting. Consider the impact of proposed modifications on the user (for example the impact of modifications of prefered language on the ability of the user to understand the content of the document). Propose modifications of JShelter JavaScript Shield that prevents inconsistencies between information in HTTP messages and JavaScript APIs.
4. Implement the proposal after discussion with the supervisor.
5. Test the implementation. Reveal iconsistencies, discuss why they appear and if they can be removed.
6. Evaluate your work.

Literature:

- Pierre Laperdrix, Nataliia Bielova, Benoit Baudry, and Gildas Avoine. Browser fingerprinting: A survey. no. 14. Association for Computing Machinery, New York, NY, USA, 2020. ISSN 1559-1131.
- Tomáš Vondráček. Získávání informací o uživatelích na webových stránkách. Brno, 2021. Master's Thesis. Brno University of Technology, Faculty of Information Technology.
- Libor Polčák, Marek Saloň, Giorgio Maone a kol. JShelter: Give Me My Browser Back, ArXiV https://arxiv.org/abs/2204.01392, 2022.

Requirements for the semestral defence:
Points 1 to 3.

Detailed formal requirements can be found at https://www.fit.vut.cz/study/theses/

Supervisor:	**Polčák Libor, Ing., Ph.D.**
Head of Department:	Kolář Dušan, doc. Dr. Ing.
Beginning of work:	1.11.2022
Submission deadline:	17.5.2023
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