

Review of Ph.D. thesis

Author: **Ing. Lukáš Aron**
Faculty of Information Technology, Brno University of Technology
Title: **Privacy protection on mobile devices**
Supervisor: **Assoc. Prof. Dr. Ing. Petr Hanáček**
Faculty of Information Technology, Brno University of Technology
Reviewer: **Prof. Ing. Martin Drahanský, Ph.D.**
Faculty of Information Technology, Brno University of Technology

The submitted Ph.D. thesis describes research activities of the author in the area of privacy protection on mobile devices in every detail. The structure of the thesis consists from 10 chapters, where the first five chapters give an introduction and explain privacy protection issues, operating system protection, mobile platform architecture and definition of access rights model. These chapters include partially, especially the chapter 5, the author's own theoretical approaches to a given topic. This is a necessary fundamental theory for the following practical part and experiments. The sixth chapter introduces the implementation of prototype and its model, followed by formal verification, verification experiments and implementation experiments. The final chapter summarizes all achieved results. The main text is followed by bibliography and appendices.

The theoretical part describing the actual state of art is summarized on an appropriate level. All necessary basic information could be found here. The proposal of privacy protection solution, its implementation, formal verification and evaluation of achieved results fulfill very high standards for a Ph.D. thesis. The complete work is readable and understandable for the reader. The author leads the reader from the theoretical beginning till the detailed introduction of his solution. The main original parts are definition of access rights model and implementation of the prototype, including the formal verification. The experiments are just only confirmative tool for evaluation of the theoretical and practical approach, being the main content of this dissertation thesis.

The topic of this Ph.D. thesis is very actual and needed for privacy protection of everyone's mobile device. The work reflects the actual state of art on the market and in the research domain. The title and the own work correspond to the dissertation profile and Ph.D. study program at the Faculty of Information Technology, Brno University of Technology.

Mr. Aron is author of 9 publications. The dissertation core was published in 7 of them. The overall quality of journals and conferences, incl. one book chapter, is average. However it could be confirmed that the main research parts of this thesis

were published in an appropriate extent and therefore accepted by the scientific community in the security area.

Questions

1. How can be your solution introduced in your Ph.D. thesis offered to manufacturers of mobile devices that this will be a standard equipment of each device?
2. What is your opinion to the Samsung Knox solution?
3. Which kind of artificial intelligence could help to categorize data in a mobile (smart) device? What happens if the device supports directly from the manufacturer a direct connection to social networks, especially sharing the actual status and position of the user?

Summarization

Mr. Lukáš Aron has clearly shown his scientific erudition. The complete work can be evaluated as excellent. Just only the published results might be more extensive and in better journals or proceedings. The dissertation thesis fulfills the generally accepted requirements for granting the Ph.D. degree at the Faculty of Information Technology, Brno University of Technology. Therefore I recommend this work (thesis) for a defense with the aim to grant the Ph.D. degree to Mr. Lukáš Aron.

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VYSOKÉ UČENÍ TECHNICKÉ V BRNĚ
Fakulta informačních technologií
Ústav inteligentních systémů
612 66 Brno, Božetěchova 2

Martin Dražanský