Evaluierung eines Algorithmus zur Absicherung von Datenbanken

Evaluation of an Algorithm for Securing Databases

Bachelorarbeit

verfasst am
Institut für Informationssysteme

im Rahmen des Studiengangs
IT-Sicherheit
der Universität zu Lübeck

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Eidesstattliche Erklärung

Ich erkläre hiermit an Eides statt, dass ich diese Arbeit selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt habe.

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Kevin Schmelzer

Zusammenfassung

Datenbanken mit sensiblen Daten sollten einen hohen Sicherheitsstrandard erfüllen. Dabei geht es in dieser Arbeit besonders um die Zugangsrechte auf einer Datenbank ohne einen großen Informationsverlust zu verursachen und dabei trotzdem die sensiblen Daten zu schützen und auf den Datenschutz zu achten.

In dieser Arbeit wird dabei der provably secure enforcement mechanisms Angerona evaluiert, that prevents information leakage in the presence of probabilistic dependencie. Es wird gezeigt welche Vor- und Nachteile dieser Algorithmus aufweist und welche Performance dieser liefert, wenn man diesen auf echte Patientendaten anwendet.

Abstract

It is not easy to write a thesis that does not only advance science, but that is also a pleasure to read. While the scientific contribution of a thesis is undoubtedly of greater importance, the impact of *writing well* should not be underestimated: If the person who grades a thesis finds no pleasure in the reading, that person are also unlikely to find pleasure in giving outstanding grades. A well-written text uses good German or English phrasing with a clear and correct sentence structure and language rhythm, there are no spelling mistakes and the author's arguments are presented in a clear, logical and understandable manner using well-chosen examples and explanations. In addition, a nice-to-read font and a pleasing layout are also helpful. The LaTeX class presented in this document helps with the latter: It contains a number of ready-to-use designs and takes care of many small typographical chores.

Inhaltsverzeichnis

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Einleitung

Der Schutz von sensiblen Daten ist in vielen Bereichen wichtig, damit unbefugte nicht Daten wie Herkunft, Religion, Ethnizität usw. erhalten. Das Thema hat zur Zeit eine wichtige Rolle, da im Jahre 2016 die Datenschutz-Grundverordnung (DSGVO) abgeschlossen wurde.

Bisher wurde Motivation : Gängige Vorgehensweise zur priavy jetzt ("hipaa compliance"), Lösung : DBIC und warum und unterschied, Konflikt zwischen gute relevante daten und anonymisierung, Warum angreifer modeliert? (Vorwissen) warum ich gerade medizinische DB verwendet habe? Beiträge dieser Arbeit : evaluiert und ausgeführt Ergebnis dieser Arbeit

1.1 Contributions of this Thesis

This document is both intended as a template that students can easily and conveniently adapt to their own needs and as a trove of tips and tricks on how to write a good thesis. The template as well as the UZL-THESIS class have been written by Till Tantau and they reflect – to a certain degree – my personal choices and many of the recommendations may differ from those by other people. However, one recommendation of mine trumps those made by anyone else: *Always listen to your adviser!*

1.2 Verwandte Arbeiten

Verwandte arbeiten : angerona marco guanaireini und andere related works aber warum genau marcos? s.

Concerning the first aspect of this text, namely the fact that it serves as a template for bachelor's and master's theses written at the University of Lübeck, let me remark that there are several older templates and styles. However, this class is the official (new) one and should be used rather than any other one.

Concerning the set of recommendations I make on how to write a thesis, first note that there are *many* books on, well, "how to write a thesis". You are *very* cordially invited to go to the library and actually read one of them (reading books *is* part of being a scientist,

by the way). My personal favorite is **Alley1996** (**Alley1996**). Second, note that the hints and observations I make are *my* observations and may not be shared by everyone. Of course, I can make a very good case on why you really should follow the recommendations *I* make – but remember that you should *always listen to your adviser!*

1.3   Structure of this Thesis

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Conclusion

This template document got much longer than I had initially intended with more and more hints and comments becoming part of the text. The reason is, of course, that writing a thesis is not easy since there are a *lot* of things to consider. However, you have six months to write your thesis, so you stand a decent chance to get most things right.

Do some great scientific research now and report on it in a thesis that is a pleasure to read.