Master’s Thesis
Hippocratic Databases reloaded

Context
The basic idea of Hippocratic Databases is to protect the privacy of a data subject by establishing enhancements of database systems in the spirit of the Hippocratic Oath known from medical and law professions. The database system should be able to enforce legal requirements like Purpose Specification, Consent and Compliance (besides others like Limited Disclosure and Retention). Thus, a technical system is used to support the enforcement of legal rules and to regulate data processing ex-ante in order to prevent the violation of these legal rules.

Problem
The concept of hippocratic databases was introduced in 2002 and based on the modification of queries and tables in Relational Database Systems. Except for some academic proof-of-concept prototypes, however, it never achieved significant adoption in the information industry.

(1) What are the challenges and requirements in the development of Hippocratic Databases?
(2) Can we adopt the concept for modern (NoSQL) database systems to improve privacy preservation in distributed web-based systems?

Approach
• Research the legal and technical requirements of Hippocratic Databases.
• Develop and implement an extension (maybe a database wrapper) for a modern (NoSQL) database system (chosen together with adviser) to enforce the legal requirements.
• Evaluate your Solution against criterias identified before

Skills: modern database systems, web technologies, programming

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Our Mission:
Our lectures cover fundamental methods and techniques in the areas of service computing, cloud computing, and enterprise computing. We like to engage students in hands-on building of distributed information systems and to take an interdisciplinary approach to evaluating such systems. Through a close mentoring of students, especially in our seminars, we aim to introduce students to our ongoing research and to excite them to do future studies and research with us.