

Datenbanksysteme - Übung 1

Raul Persa, Lukas Vogel

October 18, 2015

Aufgabe 2

Using a DBMS as may have the following **advantages**:

Redundancy DBMS allow for easy data redundancy, which in our case is crucial due to the important nature of the data (votes)

Atomicity All Votes need to be atomic. There is no such things as "half" a vote. A DBMS can guarantee that.

Consistency The overall consistency of the votes can be guaranteed (i.e. the DB is in a valid state at all time)

Isolation simultaneous votes have the same impact as if they were sequential

Durability A once given remains in the database over the duration of the election.

While those advantages may seem not very important for a small dataset, they are wildly important for a system handling millions of votes per second. A system that can guarantee basic attributes like those mentioned above takes much strain off of the developer and allows him to focus on other important tasks.

A few **disadvantages** a DBMS might have are:

Security costs Because of the sensitive nature of the information, additional measures need to be taken to ensure the security of the system

Hardware and Software Costs Although it could be argued that paper voting and analysis is more costly

Possible DB failure infrastructure failure could have dramatic impact, it needs to be mitigated through back-ups and physical redundancy

Aufgabe 3

