SUBJECT:

Designing data base protection system for resource planning using passwords and access levels

Summary

One of the most important components for a company is its database which has an enormous amount of data concentrated in it. Many of this data are confidential and if disclosed it can cause significant losses to the company. The problem is mostly in storing that kind of information and keeping its integrity which in particular means protecting it from external attacks and unauthorized access, which will damage or destroy the data.

The thesis presented here describes a module, part of a resource planning system, in particular its database, which will be protected from external attacks and unauthorized access. The different stages and requirements for its design are described:

- Structuring the information
- Providing fast access to the database
- Providing good database scalability
- Providing data integrity
- Protecting from unauthorized access

The purpose is to design and create a uniform database for storing/extracting the processed data for clients, orders, reclamations and employees of the company that work with them, to provide creditable, reliable data.

For achieving these goals the following problems were solved:

- Studying the history of production management information systems, describing the goals for developing the system, goals and tasks of document management.
- Creating a conceptual database model, in order to describe its architecture in more detail, connections between the data and its limitations, as well as access level for different elements of the data.
- Creating logical database model
- Selecting DBMS.
- Creating physical model of the database

- Implementation of the database – using different database development tools
- Creating interface for communication with the database
- Data security:
  - o User identification
  - o Categories of users
  - o Integrity limitations:
    - ▪ Limitations for column meaning
    - ▪ Limitations for possible key
    - ▪ Limitations for primary key
    - ▪ Limitations for foreign key