

Flexible information storage in MUDR^{II} HER

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An important research task of the EuroMISE Centre is the applied research in the field of electronic health record (EHR) design including electronic medical guidelines and intelligent systems for data mining and decision support. The research in this field was inspired by several European projects. We have proposed a mathematical meta-description of a flexible information storage model based on the experience gathered in cooperation in those projects. In this model, we use two basic structures called a knowledge base and data files. We describe those two structures using the graph theory concepts. Furthermore, we use logical formulas to express conditions that should be valid. Additionally, we present a description of a global system architecture of a 3-tier EHR application with interfaces based on the latest technologies; predominately on Web Services, SOAP, XML, HTTP, CORBA, etc. According to our experience and test results gained from the MUDR EHR usage, we describe an open universal solution, which can be applied as the EHR kernel of hospital information systems. To realize this approach in a daily practice for health professionals we have started a co-operative project with clinical information systems developers. Within that project we are developing a new system for continual shared health care.

PMID: 16253546 [PubMed - indexed for MEDLINE]