DESIGNING A ROLE BASED ACCESS CONTROL SYSTEM USING DESIGN PATTERNS

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ABSTRACT

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The Object oriented paradigm approaches the software development by representing real world entities into classes of software objects. Interaction between classes can be captured by patterns. A pattern language is a collection of patterns composed to solve a complex and recurring design problem. Object oriented design patterns are reusable program codes written in an object oriented programming language like Smalltalk, C++ or Java. One of the main reasons that computer science researchers began to recognize design patterns was to satisfy this need for good, simple, modifiable and reusable solutions.

The design patterns require neither unusual language features nor amazing programming tricks with which to astound your friends and managers. All can be implemented in standard object-oriented languages, though they might take a little more work than *ad hoc* solutions. But the extra effort invariably pays dividends in increased flexibility and reusability.

In this research we are trying to use these patterns to get their benefits like reusability and maintainability into a practical application. Therefore here we investigate the applicability of Object Oriented Design Patterns in designing and implementing Role Based Access Control (RBAC) system.

Also here we investigate the applicability of object-oriented design patterns in designing and implementing a RBAC system. We present a prototype system developed using three design patterns. The results obtained from the system are also discussed.