

Re: Applied math challenge / Possible Project

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- *From:* john_ramsden@xxxxxxxxxxxxxxx
 - *Date:* 8 Mar 2006 12:15:30 -0800
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popsovy@xxxxxxxxxxxx wrote:

I have a math problem that is outside of my comprehension. I would like to get an advice or even hire a math guru to help me.

I am a programmer, and I am trying to create an authorization scheme for a multi-user application. My application will be done in Windows Forms (Microsoft) and will allow users to manipulate data stored in a database.

Each control in the Windows forms application has a unique ID.

A user can have three levels of permission to a control: None, Read, Write.

Each control can display data for one or more business entities. Each business entity has a unique ID. A user can have either None, Read, or Write permissions to the data of each business entity.

I know I can solve this problem by setting up a database where I maintain in a tabular format what users have access to what controls and what users have access to what business entity data, but... rendering of forms will be slow, since I have hundreds of controls, and I was wondering if this problem can be solved mathematically.

I apologize for the following armaturish discussion, but here it is: Would that be possible to assign a number to each user that will embody user rights? For example, if a user has Read access to Control ID 2, the user number will have this information stored in some kind of mathematical way in a single 16-byte number. Then, once it's time to decide what permissions to give to a particular user, some math formula needs to be applied to the user number based on the control ID.

I do not want to use Binary since this solution will not scale. The other option I considered was to use prime numbers, and I am still considering it.

I know this post may be confusing, so please email your questions, if you have any.

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Thanks a lot for your help and please remember that if you think you know of a good mathematical way to solve this, I may hire you for this project.

Realistically, how many "classes" of users are there likely to be? Generally in apps like the one you describe, all the users fall into one of several categories: sys admins (who can do anything), supervisors, and plebs of one form or another. If you can narrow down the classes of the latter two, your best bet is to define an access table with each record as follows:

* User class or type (a number, e.g. 0 for admin, 100+x for supervisors, 200+y for other users, where x and y a