

ORgSys **(Organization Recognition System)** **Database Design**

Submitted to:

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In partial fulfillment of Academic Requirements
Department of Computer Science
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Revision Control

History Revision:

<i>Revision Date</i>	<i>Person Responsible</i>	<i>Version Number</i>	<i>Modification</i>
11/15/2013	Emir Mercado Sharmaine Yap	1.0	Initial Document

Database Design

ROLE

roleid	name
SMALLINT	VARCHAR(20)
9	x(20)
PK	NN
0	Associate Dean
1	Reviewer
2	Unit Head

See Referential Integrity Rule #1 for details.

USER

userid	username	name	password	roleid
SMALLINT	VARCHAR(20)	VARCHAR(50)	VARCHAR(20)	SMALLINT
99	x(20)	x(50)	x(20)	9
PK	NN	NN	NN	FK, NN
0	sirji	Ji Reyes	*****	0
1	dcshead	Cedric Festin	*****	2
2	eeeihead	Someone Cool	*****	2
3	iehead	Someone Awesome	*****	2
4	reviewer1	Sir Mark	*****	1

See Referential Integrity Rule #2 for details.

DEPARTMENT

deptid	name	userid
SMALLINT	VARCHAR(50)	SMALLINT
19	x(50)	99
PK	NN	FK, NN, ND
0	Department of Computer Science	1
1	EEE Institute	2
2	Chemical Engineering Department	5
3	Industrial Engineering Department	3
4	Mechanical Engineering Department	6

See Referential Integrity Rule #3 for details

REQUIREMENT

reqid	name	description	userid
SMALLINT	VARCHAR(50)	TEXT	SMALLINT
19	x(50)		9
PK	NN	NN	FK, NN
0	List of Members	Text here	0
1	Report of Activities	Text here	0
2	Adviser Form	Text here	0
3	Schedule of Activities	Text here	0
4	List of Officers	Text here	0

See Referential Integrity Rule #4 for details

ORGANIZATION

orgid	name	status	viewkey	userid
INT	VARCHAR(50)	SMALLINT	VARCHAR(20)	SMALLINT
99	x(50)	9	9	99
PK	NN	NN	FK, NN	FK, NN
0	cursor	0	*****	1
1	acm	1	*****	1
2	circuit	0	*****	2
3	erg	2	*****	2
4	ieclub	1	*****	3

See Referencial Integrity Rule #5 for details

DOCUMENT

docid	orgid	reqid	link	date	notes
INT	INT	SMALLINT	VARCHAR(100)	TIMESTAMP	TEXT
499	99	19	x(100)	MM-DD-YYYY	
PK	FK, NN	FK, NN	NN	NN	
0	0	0	asdf1ja1skdjf1	03-03-2014	Text here
1	0	1	asdfjkawejk1bj	12-08-2014	Text here
2	0	2	a1wjeg1kjasae	04-14-2014	Text here
3	1	1	awjkasjdf1awes	10-31-2014	Text here
4	2	3	egwjf1kfuwejfa	09-07-2014	Text here

STUDENT

sid	name	enrolled	degree
VARCHAR(10)	VARCHAR(50)	BOOLEAN	VARCHAR(100)
x(10)	x(50)	TRUE, FALSE	x(100)
PK	NN	NN	NN
2011-04383	Mercado, Emir	TRUE	BS Computer Science
2011-05400	Yap, Sharmaine	FALSE	BS Computer Science
2011-31037	Granada, Patrick	TRUE	BS Computer Science

MEMBER

sid	orgid	Enrolled
VARCHAR(10)	VARCHAR(50)	BOOLEAN
x(10)	x(50)	TRUE, FALSE
PK, FK	PK, FK	NN
2011-04383	0	TRUE
2011-05400	0	FALSE
2011-01583	0	TRUE
2011-27228	0	TRUE
2011-45695	0	TRUE

<i>Table Name</i>	<i>Description</i>
Role	This table contains all roles of users.
User	This table contains all user accounts
Department	This table contains all departments
Requirement	This table contains all requirements for renewal
Organization	This table contains all organizations applying for renewal
Document	This table contains all documents submitted by the organizations.
Student	This table contains all students enrolled.
Member	This table contains all members of the organizations.

Referential Integrity Rules

1. Each element in the *Role* table has a set of privileges that are given to the users. The functionalities that the users will see in the system depend on their role.

Associate Dean (must have only one instance)

- **create** requirements
- **check** submissions
- **manage** organizations that are college-wide

Reviewer

- **check** submissions

Unit Head

- **manage** organizations that are department-based
- **head** departments

2. It is assumed that each individual involved in the system can only have one role. For example, the associate dean of the college cannot be the unit head of a department at the same time. Also, the members of the review committee are assumed to be not unit heads. From #1, the Associate Dean role can do the tasks of the Reviewer and Unit Head. In this way, the table for the users and their roles can be combined. Otherwise, a separate table must be created saying that the associate dean will have all three roles in the system, as seen in the table below.

USER_ROLE

userid	roleid
SMALLINT	SMALLINT
9	9
PK, FK	PK, FK
0	0
0	1
0	2
1	2
2	2
3	2
4	1

3. **NN** is put under the userid column of the Department relation to make sure that there is exactly one head per department. **ND** is put under the userid column to make sure that a user (a unit head in particular) cannot head more than 1 department.
4. To preserve the total participation constraint on the 'creates' relationship set, the userid column is placed in the Requirement relation instead of creating another relation for the relationship set. However the ERD and the relations cannot maintain the constraint that only one user (the associate dean) can create the requirements.
5. Only unit head users or the associate dean may manage organizations.
6. The following are observed using the *Document* relation:
 - Only one document may be submitted per requirement
 - One file

Triggering Operations [If any]

User Rule	Event: Entity Name: Condition: Action: