

INTRODUCTION TO DATABASES

TEAM 6

ZhangBank - The place for notes Part 2

Author:

Ian LOGAN

Cameron LOPEZ

Anton MOCZYGEMBA

Isaac NOOJIN

Professor:

Weining ZHANG

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Description

Our application seeks to fill the needs of students everywhere. ZhangBank's goal is to organize class material study guides; basically anything that can help the class rise up and meet the expectations of their Professors. Identifiable entities include user accounts, Roles, Documents (in many formats), Courses, Professors, and semesters. An organized way to find and view Documents will be implemented, as well as add content. A user's profile will keep track of which Courses students are taking or are interested in. An interesting problem would be correctly displaying each arbitrary Document. Data for our application can be generated from our own Courses and other free online Courses.

Design

Users

Each User creates a username a password during account creation, a security salt is also generated with each account. User can be identified uniquely by an assigned id.

All Users have one Role associated with it to allow authorization of application management. All Users can take many Courses which will allow Users to keep track of the Documents of the Courses they're taking. Each User can upload many Documents. The Documents they own can be managed by them.

Roles

A list of Roles is maintained, each with different capabilities in our application. Normal Users can add and manage their own Documents. An admin can manage all Documents, Courses, and Professors. It's identified by a generated id and a provided name.

Each Role can have many Users to allow roll based authorization.

Documents

Each Document has a type associated with it to allow the application to display Documents appropriately. It stores the date submitted to help with organization in the application and can be uniquely identified by a generated id.

All Documents are owned by one User each, the original uploader. All Documents belong to one Course each. This allows for the indexing of Documents by Course.

Professors

The Professor entity has two primary attributes, a provided name and a generated id.

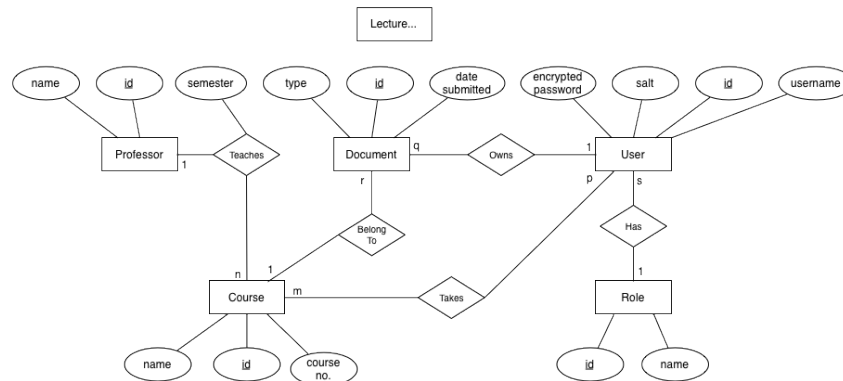
Each Professor entity Teaches many Courses. This will allow Users to run a search on a specific Professor to view Documentation for any Course that he may have previously taught.

Courses

The Course entity has three primary attributes; a provided name, a generated id and a provided course number.

All Courses are Taught by one Professor each to allow the indexing of Documents based on Professor. Each Course has many Documents to provide indexing of Documents based on each Course. All Courses are Taken by many Users each. This allows for Users to save which classes they're taking.

Schema



Users

Functional Dependencies

Keys

Normal Form

Roles

Functional Dependencies

Keys

Normal Form

Keys

Normal Form

Documents

Functional Dependencies

Keys

Normal Form

Professors

Functional Dependencies

Keys

Normal Form

Courses

Functional Dependencies

Keys

Normal Form