

Basic Crud Application: College Professors

Write a web application to manage professors and the subjects they teach. A database schema for such a system might consist of three tables:

professors

<i>id</i>	<i>name</i>
1	Jillian Morrison
2	Peter Erdos
3	Arthi Gupta
4	William Yin

subjects

<i>id</i>	<i>name</i>
1	Physics
2	English Literature
3	American History
4	Computer Science
5	Economics

professors_subjects

<i>professor_id</i>	<i>subject_id</i>
1	4
2	1
2	2
3	3
3	4

Functionality

- The user should be able to view, through a web browser, a table comprising the names of *all* professors and the *number of* subjects they teach.
- When the user hovers over professor's name, a bounded box containing a list of the subjects that professor teaches appears.

- The user can add or remove a professor.
- The user can add a subject to the list of subjects the professor teaches.

Requirements

- Code should run without error.
- Implement all of the functionality above using Ruby on Rails.
- Make the application respond immediately to changes so that whenever the user makes any change, the UI updates immediately to reflect it.

Extra credit

- Allow updating a professor
- Allow deleting and updating subjects for a professor
- Allow ability to add subjects to the global list of subjects.
- Place a textbox above the table of professors that allows the user to filter by professor name as s/he types.
- Allow the user to sort the table of professors by number of subjects they teach.

The application must work on IE10+ and the latest versions of Chrome and Firefox. Use of jQuery is permitted but optional.

Please send us the complete code (front-end, back-end and any assets) and information on the configuration (gems required) so we can install here.