

**CSci 5131: Advanced Internet Programming, Spring 2009**  
**Assignment 4: Database Connectivity through Perl CGI**  
**Due Date: April 5, 2009**

**This assignment is to be done either individually OR in groups of up to three students.**

**Goals:**

In this assignment you will learn how to connect to a MySQL database server from a Perl/CGI program. Your program will be able to make database queries and updates using SQL.

To obtain your MySQL account please check the announcements page on the class web page.

**Problem Statement:**

In this assignment you will extend the photo sharing system which you have already developed in Assignment 3. You will perform some of the functionalities using the database server. You will also add some new functionality, as described below.

**Functionality:**

The database server will maintain the following information:

- The password file will be maintained on the MySQL server.
- Maintain a database table named “PasswordTable” with the following fields <User Name, Role, Password>.
- Each photo will be assigned one of the five categories listed below.
  - You will maintain a database table named “PhotoFileList” which will record the following information for each photo file:
    1. Name of the photo file (or path name) (unique key)
    2. Name of the corresponding description file
    3. Photo category: < *nature, landscape, personal, campus, work* >.
    4. Name of the person who uploaded the photo

At the time of uploading a photo, the category of the photo would be selected by the person uploading the photo. This will be stored in the database table.

A viewer would be able to specify the following preferences at the time of viewing photos:

- Category: one of the above, or “ALL” (by default)

Name of a person; to see the photos uploaded by that person only, or specify “ALL” (by default)

You are required to support the following functionality.

- All the functionalities implemented in Assignment 2 and Assignment 3 (including thumbnail display) **except that you are not required to implement the slide-show functionality.**
- You will need to add the following additional functions:
  - As part of the file upload menu for a photo, you will need to provide a “select” menu for the user to choose the photo category.
  - The “View Photo” menu should provide two “select” menus:
    - One for selecting photo category or “ALL”.

- Second for selecting a user name or “ALL”.
  - Hint: Your XHTML will need to include the names of all the users who appear in the PhotoFileList table of the database.

## Design Guidelines:

1. Please name the directory where you will upload the photos as “MyPhotos”.
  - a. You should create this directory in the current working directory.
  - b. In Perl, you can obtain the current working directory through the “getcwd” command.
2. Use JavaScript to ensure that only image files are selected for upload.
  - a. You should at least support the following file types: BMP/bmp, jpeg/JPEG, jpg/JPG, gif
3. For multiple photo upload:
  - a. Create this by adding required elements to the current DOM.
4. Use dummy users to simulate multiple users.
  - a. We suggest that you **\*\* DO NOT \*\*** use your ITLabs/CS/X.500 User Name and Password.
5. COOKIES: You will need to use HTTP Cookies to track the currently logged in user.
  - a. Cookies will enable you to provide user specific information without requiring the user to enter User Name and Password for each interaction.
  - b. You can use random numbers as cookies.

## Menu:

The menus for this assignment are same as those for Assignment 3. **The items in the orange color are the new items to be added to the menu.**

### Login Menu:

- Input User Name and Password
  - If the user is passes authentication test, then you will display one of the following: Owner menu, Editor menu, Visitor menu.
- You can use any User Name and Password for the Owner.

### Visitor Menu:

- View Photo: Display Photo Thumbnails.
  - **Provide two “select” menus:**
    - 1. One for selecting photo category or “ALL”.**
    - 2. Second for selecting a user name or “ALL”.**
      - 1. Hint: Your XHTML will need to include the names of all the users who appear in the PhotoFileList table of the database.**

### Editor Menu:

- Should support all the functionality of the Visitor. Additional it should support the following menu option:
- **Add one or more Photos: Input -> Photo name, Photo description, Photo to upload (selected through File browsing menu).**
  - 1. Add a “select” menu to select one category from the following categories: < nature, landscape, personal, campus, work >**
- Delete Photo: Select a Photo.
- Edit Photo: Input -> Photo name

### Owner Menu:

- Should support all the functionality of the Editor role. Additional it should support the following menu option:

- Add User: Take the following items as input: User Name, Password, Role (Select from Editor/Visitor)
- Delete User: Input -> User Name

**Grading Criteria:**

- Group submissions need to implement all the above functionality
- Individual submissions can:
  - o Use only two roles: Owner, and Visitor

**Resources:**

- [CGI Tutorial on CS Web Page](#)
- [CGI PM](#)

**Submission Instructions:**

Include the following files in your submission: CGI files and HTML files, and a README file.

In the README indicate the following things:

- Your Student Name and ID
- How to run your code.

Submit the tarred directory containing all these files.