



Date handed out: 1 January 2020, Friday

Date submission due: 15 January 2021, Friday 23:59

Assignment 4: A Simple Web Application for Advertisement

This assignment aims to help you practice the following topics: HTML, CSS, Browser Side Scripting with JavaScript, and Server Side Scripting with Common Gateway Interface (CGI) in Python. Your main task in this assignment is to develop a simple web application for people who want to make an advertisement for different purposes, such as renting a house, selling their electronic devices, etc.

You are expected to use HTML to define the content of web pages, CSS to design the web pages, JavaScript for browser-side scripting, and Python for server-side scripting. There is no specification regarding the design of web pages, and therefore you are expected to design the pages with CSS as you like based on the requirements provided below. You are also expected to use JavaScript for form validation purposes, such as for checking whether the required information is entered.

Overview

In this assignment, you are expected to develop a simple advertisement web application for the northern part of Cyprus to allow people to make their advertisements. People first need to register to make their advertisements. These advertisements will be publicly available which means that there is no need to log in to see and filter the active advertisements.

You are expected to work on your local machine and the web application should be accessible with the following link. Therefore, you need to put all your source files under a folder called **ads-at-northerncyprus**.

<http://localhost/ads-at-northerncyprus/index.py>

Requirements

The web application should have the following functionalities:

- People should be able to access the registration form from the home page.
- People should be able to register with the following details: (1) Username, (2) Password, (3) Full name, (4) Email address, and (5) Telephone number. Each user should have a unique username.
- People should be able to access the login form from the home page where they need to enter their usernames and passwords.
- Once registered people log in to the application, the application should allow them to perform the following operations.

- Create a new advertisement with the following details: (1) Title, (2) Description, and (3) Category. The status of a new advertisement will be active by default.
- List previously posted advertisements and allows to activate/deactivate them as follows:

Title	Description	Category	Activate/Deactivate
...	<input type="button" value="Deactivate"/>
...	<input type="button" value="Activate"/>

- Registered people should also be able to log out from the application. When they log out, the application should redirect them to the home page.

- The application should also allow all people to see and filter the active advertisements.
 - The home page should list the most recent five active advertisements in a tabular form as shown below, grouped based on the categories. If a particular category does not have any active advertisement, then the application will show "No active advertisement" for that category.

Clothes

Title	Description	Contact Full name	Contact Email	Contact Telephone Number
...
...

Technology

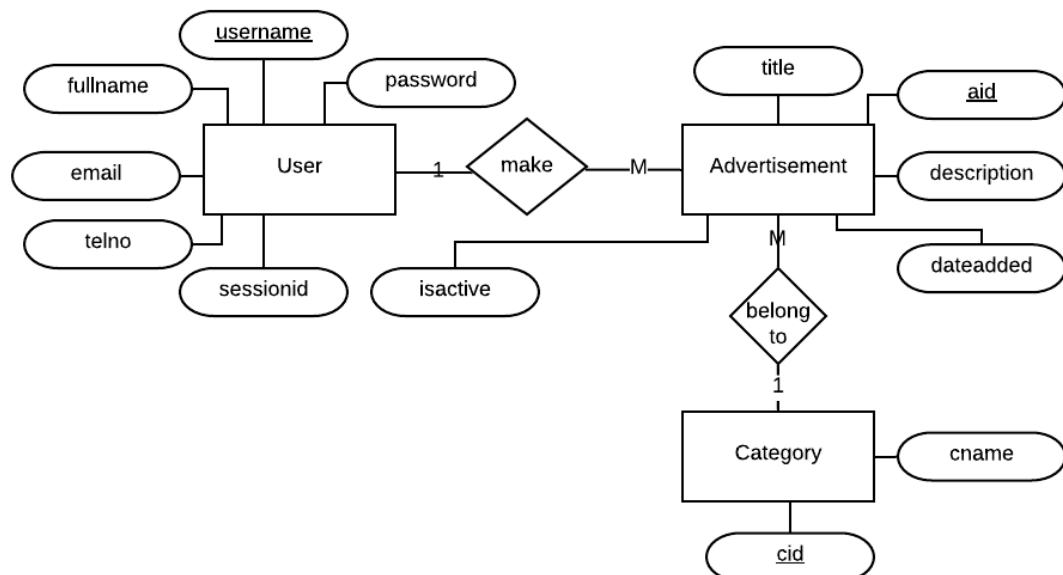
Title	Description	Contact Full name	Contact Email	Contact Telephone Number
...
...

...

- The home page should have a search box with a search button that allows filtering the active advertisements based on keywords. If the title and/or the description includes at least one of the keywords, it should be listed. The resulting advertisements will be also be grouped based on the categories, as shown above. If no advertisement is found for a particular category, "No active advertisement found" should be printed for that category.

Database

You need to create an SQLite database for this application based on the following entity-relationship diagram. You are expected to provide a separate Python script to create necessary tables and insert necessary records into these tables.



You will also need to add the following details to the Category table.

cid	cname
1	Clothes
2	Technology

3	Cars
4	Food
5	Drink

Note: You do not need to create a separate table for sessions. You can use the sessionid attribute of the user table, which is set to -1 by default. When the user logs in to the application, the application should randomly generate a unique session id which is started with a number between 1 and 1000000 and is followed by three random letters, and store it in the database. When the user logs out from the application, then the session id of the user in the database should be set to -1.

Rules

- You need to write your program by using **Python 3.x**.
- You can **only** use all built-in functions and modules.
- You also need to create a file called ReadMe.txt which contains the following items. Please note that **if you do not submit ReadMe.txt, your submission will not be evaluated.**
 - Team members
 - Which version of Python 3.x you have used
 - Which operating system you have used
 - How you have worked as a team, especially how you have divided the tasks among the team members (who was responsible for what?), how you have communicated, how you have tested the program, etc.
- You need to have **external** CSS and JavaScript files.
- You need to use cookies for session management.
- You are not allowed to use any design template and framework.
- You need to put all your files into a folder called **ads-at-northerncyprus** and submit the compressed version of the folder
- **Only one team member** should submit the assignment.
- **Code quality, modularity, efficiency, maintainability, and appropriate comments** will be part of the grading.

Grading Policy

The assignment will be graded as follows:

Grading Item	Mark (out of 100)
Database Creation File	10
User: Registration	10
User: Login, Log out & Session Management	20
User: Add a new advertisement	10
User: List the previously posted advertisements	10
User: Activate/deactivate previous advertisements	10
List the active advertisements for each category	10
Filter the active advertisements based on keywords for each category	20