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My Workspace **FH COIN 071 2280 EH SP07****ASSIGNMENTS****Assignment - In progress**

Complete the form, then choose the appropriate button at the bottom.

Title	Assignment #4 - Part I
Due	May 7, 2007 5:00 pm
Status	Not Started
Grade Scale	Points (max 5.0)
Modified by instructor	Apr 30, 2007 3:25 pm

Instructions

'Geography Quiz'

Your Fourth Homework Assignment for COIN 71

Due: Part I due 5:00 pm, Monday, 7 May

Part II due 5:00 pm, Monday, 14 May

IMPORTANT: Midterm is 14 May also

Objectives: Create a ContentLoader object that queries the World database "world.sc

Run a servlet from your JavaScript program

Practice iterative development

Design a usable user interface

Material From: Chapter 5

Downloadable from our Etudes website in folder marked "Handouts from April 30":

LabTest.html, world.Country, world.City, world.CountryLanguage

~~~~~  
Write a geography quiz where the user chooses from four types of questions, and the program poses the chosen type of question about a random country. The user answers the question and the program tells her if she is correct or not.

For example, if the user chooses to answer a question about capital cities, your program will randomly select a country (e.g. France), pose the question, "What is the capital city of France?" to the user and place an XMLHttpRequest to the world database to get the answer to the question. Your program allows the user to repeatedly guess the answer until she gets it right, or to give up. If the user gives up, your program should of course tell her the correct answer.

In order to find the correct answer to the question, your JavaScript program will create an SQL query and send it (via ContentLoader) to a php servlet, running on Krypton. The servlet will send your query on to the world.sql database, get the response, and hand the response back to your JavaScript callback function in XML format. This servlet is already written (by Newton Chan) and the URL of this servlet is:

<http://krypton.fhda.edu/ajax/worldquery.php>

Please note that an html or js file on your local machine cannot access this remote url

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users present:

Roger Okamoto

order to run this servlet. You must upload your files to krypton in order to access this url and run this servlet. This is because cross-site scripting is not allowed by most browsers.

You will continue to use ContentLoader from page 74 of Crane and Pascarello. Your SQL query will be sent in a string to the ContentLoader constructor as the fifth parameter (params). Below I have given you the correct syntax for calling the ContentLoader constructor:

```
var contentLoader = new net.ContentLoader(URL, mycallback, myerrorFunction, "POST", queryString);
```

I have written 4 different queries in SQL, one for each type of question that the user can choose. In the following 4 queries, you will substitute a randomly selected country name for the XXX. The beginning "q=" is required, and capitalization of table names is important!

1. What is the capital of country XXX?

```
q=SELECT Name FROM world.City where id =  
    (SELECT Capital FROM world.Country WHERE Name = 'XXX');
```

2. What continent contains country XXX?

```
q=SELECT Continent FROM world.Country WHERE Name = 'XXX';
```

3. Name a language that they speak in country XXX

```
q=SELECT Language FROM world.CountryLanguage WHERE CountryCode=  
    (SELECT Code FROM world.Country WHERE Name = 'XXX');
```

4. Name a city in country XXX that has over 1,000,000 people

```
q=SELECT Name FROM world.City WHERE Population >1000000 AND CountryCode =  
    (SELECT Code FROM world.Country WHERE Name = 'XXX');
```

Notes:

- All of the interaction with the user will take place on the browser window. No alert boxes or message boxes are allowed for the geography quiz.
- The question and the answer must appear on the browser window at the same time.
- Lab Requirements: The server side php servlet must have an application server to run it, as well as an accessible database. We have this available for your use on Krypton. If you prefer, you can install an application server (Tomcat), MySql, world.sql, and the php servlet on your home computer and test it there. All of this software is open source so it is freely available. Please notify me if you expect to install your own server environment.
- Many of the countries listed in world.Country are pretty obscure, which would result in questions that no one is ever able to answer. In order to make the quiz doable, choose a subset of approximately 30 countries. Store these in an XML or JSON file that your program can randomly select from when generating a question.
- Store the question types, the question text, and the question SQL in an XML or JSON file. This information is data, so it doesn't belong embedded in your JavaScript code.
- Please submit a link to your completed assignment through Etudes for grading.

Part I - due 5:00 pm, Monday, 7 May

You are required to submit a simpler version of this assignment in one week. This will be a "proof of concept" that shows you can construct a geography question, make and send an equivalent SQL query, and display the response on the browser window.

For this simpler version, the user gets to choose the type of question. This must be done with a radio button. Once the user has chosen the question type, your program

- 1) selects a country to ask the question about,
- 2) displays the question in the browser window,
- 3) displays the XML response in the browser window\*,
- 4) allows the user to choose another type of question, or to choose to get another question of the same type.

\* Note that for Part I, the answer can be displayed in XML. No parsing required yet!

**It will save you a lot of time if you sketch out your user interface before starting Part I.**

### Submission

This assignment allows submissions using the text box below only. Type in your submission. Save frequently while working.



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