

**CSCI 599 Information Integration on the Web**  
**Homework 1 Information Integration Using .Net Framework**  
**Due date: January 24 2002.**

In this homework you will build a windows application that takes latitude and longitude from user and displays satellite imagery of the area with corresponding restaurant points superimposed on it. You should use .Net framework to complete this assignment. The homework is divided in two different parts.

First, create a web service that provides at least five restaurant names and their latitude and longitude. You can pick any restaurants that you wish (Please pick real restaurants, if you don't know any you can find some at <http://www.zagat.com>). You should know the addresses for the restaurants. You can use etak geocoder to find latitude and longitude for the restaurants using directions given below. You can also use Mapblast or any other geocoder on the web.

- (1). Go to <http://www.etak.com>
- (2). Click on Geocoding link.
- (3). Type in the address in proper fields.
- (4). Click the request button.
- (5). You will get page with lot of address information, locate latitude and longitude in decimal degrees

To create the web service, use VS.NET to create a simple Hello world web service as shown in the class. In the web service create a simple class called restaurants, which has three attributes name, lat and lon. Inside the Hello World webmethod instantiate new array of restaurants and initialize the members of the array with restaurant information you collected in previous step. You can use code segment provided below as an example.

```
//class declaration
class restaurants
{
    String name;
    Double lat;
    Double lon;
}

restaurant[] rest = new restaurant[5];
for (int i=0;i<5;i++)
{
    rest[i] = new restaurant();
}
rest[0].name = "Rest1";
rest[0].lat = 34.56576;
rest[0].lon = -118.79;
...
...
...
[webmethod]
```

```

public restaurant[] HelloWorld()
{
    return rest;
}

```

Second, create a windows application that integrates imagery from terraservice with restaurants webservice that you just created.

We suggest that you start out by using the application that we created in class. To get the application, go to the class web page, click on materials link and download the .Net zip file. When you unzip the files make sure to check "Use Folder Names" checkbox. Once you have unzipped the files, go to the directory that you unzipped files in and find file called 599class.sln. Double click on the file to open the visual studio project. Follow directions to get to partial solution.

- (1). Change form1's Text property, set it to your full name.
- (2). Use add web reference to add web reference to the restaurant web service(See class presentation for example)
- (3). Double click on submit button to get to the code segment for submit button.
- (4). Declare a new object of restaurant web service (See class presentation for example)
- (5). Invoke the HelloWorld method on the web service object to get array of restaurants.
- (6). Change the drawPoint method in to draw restaurants in the area as well as the point given by the user. (As of now, the drawPoint method draws a yellow point at the location given by the user). (Hint: You should add array of restaurants as parameter for drawPoint method. You only need to change one line in onPanelPaint method(the line which calls drawPoint) and add some code in drawPoint method.).

When you are done, your application should look similar to following picture.



## **What to turn in**

You should print out following and hand it in to TA during class on January 24<sup>th</sup>.

- A screenshot of your application in action, similar to one shown above with form title displaying your full name.
- Code for your C# web service