

University of Nebraska Omaha

ISQA 4380 Distributed Technologies and Systems

Assignment 2 Building an Integrated Web Application Using Web Services

Part 1 Milestone - Due Date: February 28th

Part 2 Milestone - Due Date: March 28th

Objectives for Part 1

- To demonstrate basic HTML, PHP skills in building a web application integrated with both a database and an external web service.
- Make sure you are comfortable in working in the LINUX and PHP environment to develop applications from systems on campus or at home.
- Develop a web/database application for the Eagle Financial Services customer service project.
- You will enhance the stock portfolio feature by connecting with a web service and calculating the current value of the stock portfolio. This will demonstrate your ability to consume a Web Service using PHP and a class called NuSOAP.
- You will also add a new feature to your web site which allows for you to display the locations of the branch locations of eagle financial services and also allows users to get directions to that location. This will demonstrate you ability to use REST/POX applications.

General Web Site Tasks

In this activity you will build several tables in MySQL and then develop a small web application which reads and writes to these tables and provides the customers information about their accounts. .

- Build all tables for the assignment in MySQL and enter the data.
- Create a welcome page similar to the one below which requests a customer ID. (Yes, in a full application you would use passwords and would have special tables to manage the authentication of users. I am trying to control scope and focus on integration in this assignment).



Welcome to Eagle Financial Services

Please enter Customer ID Number:

- From there you will be able to bring up relevant customer data including:
 - Customer demographic data found in the customer file
 - Bank account information like checking and savings information
 - Customer stock portfolio data and current stock prices and portfolio value.

- Customer has an opportunity to recommend a new customer contact. They provide the name, phone number and address of a friend that bank might contact. Based on this lead information the customer is entered into a contest to win a fabulous, all expenses paid vacation.
- Bank Branch Location Finder.
- This constitutes up to several different web pages. As a customer navigates from one web page to the next, they should not be required to re-enter the customer ID.
- Information should be displayed in an easy to read table similar to the one below.
- Be sure you can easily navigate to all pages in the site to display customer info, insurance information, and stock portfolio.

A Web Page

http://vulcan.ist.unomaha.edu/~studentid/assign2/main.php

Welcome to Eagle Financial Services

Review Your Information

ID Number:	12056	First Name:	Katherine	Middle Name:	Ann
Last Name:	McClusky	Street:	6781 Miles Street	City:	Ames
State:	IA	ZIP:	69129	Home Number	515-554-3461
Work Phone:	515-554-1023	Checking:	8201224	Savings Acct:	1077812

OPTIONS:

- ☒ Checking Account Information
- ☐ Stock Portfolio
- ☐ Provide a Lead - and You Could Win a Car!

Customer recommends a friend to be contacted to join Eagle Financial Services. Every time a new lead is added to the table you create, the customer is entered into a contest to win a fabulous vacation in (you decide where the vacation trip should be). You will need to create a lead table yourself and decide what kind of values you should have in the table. At a minimum, you should ask for the name, address, city, state, zip, email address, and phone number. What other fields would be valuable as a new lead for a financial services company? You decide and add them to the table you have created.

Portfolio Task (Web Services)

First, you will create a table of stock portfolio information for your customers and display it similar to the illustration below.

Welcome to Eagle Financial Services

Ticker Symbol	Company	Shares	Price	Total	Purchase Date
goog	Google	200	\$210.00	\$42000.00	2005-02-03
msft	Microsoft	300	\$31.78	\$9534.00	2005-02-03
sbux	Starbucks	200	\$40.08	\$8016.00	2004-01-15
Portfolio Value:				\$59550.00	

Portfolio Task (Web Services)

- You will connect to an external web service on another server to determine the current price of the stock and then generate an updated stock table which includes the current stock prices for the portfolio and total current value of the portfolio similar to the page below. You will do this with the NuSOAP PHP class which will be demonstrated in class.

Stock Informations:

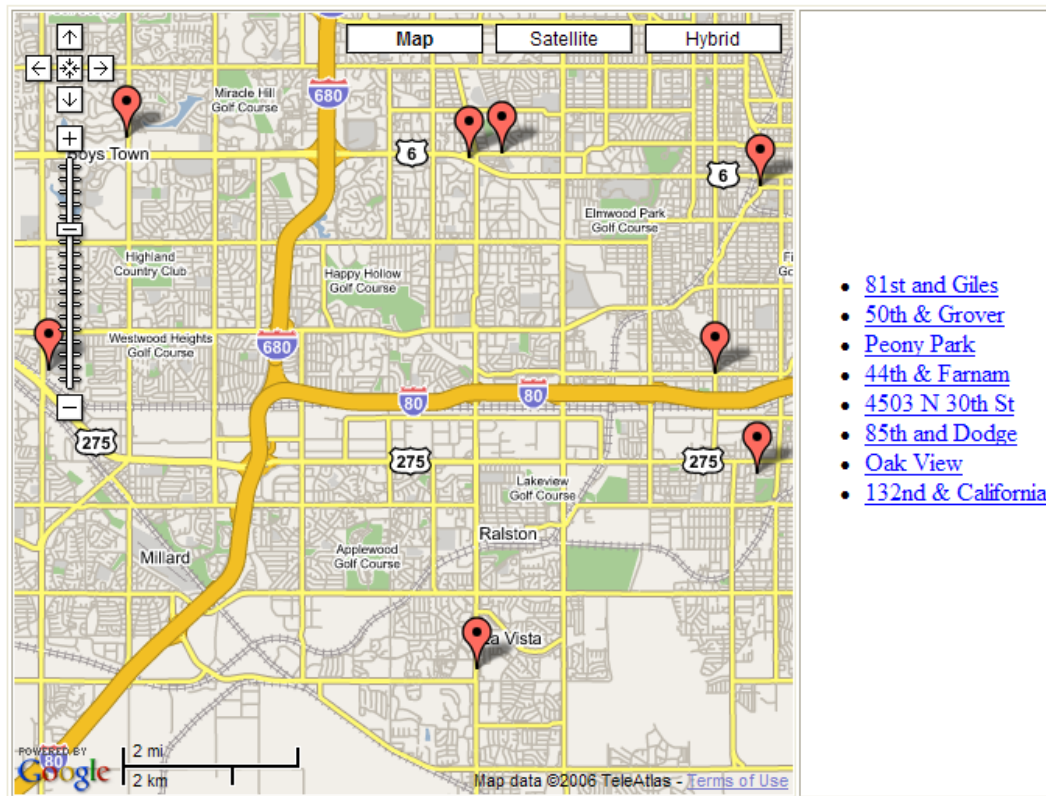
Stock Name	Stock Symbol	No of Shares	Purchase Price (X)	Original Total	Current Price (Y)	Current Total	Price Difference (Y-X)	Purchase Date
Google	goog	200	\$210.00	\$42000	\$460.48	\$92096	\$250.48	2005-02-03
Microsoft	msft	300	\$31.78	\$9534	\$29.86	\$8958	\$-1.92	2005-02-03
Starbucks	sbux	200	\$40.08	\$8016	\$35.42	\$7084	\$-4.66	2004-01-15

Original Portfolio Value: \$59550

Current Portfolio Value: \$108138

Location Finder Tasks (REST/POX)

- In this activity you add a locations table to the existing tables in MySQL.
- You will then use the GoogleMapAPI class and a key from Google maps to develop the mashup similar to the one shown below. This will use a database of locations which are included in a MYSQL table. The new feature you will build will display the locations on a Google map and then provide directions from any address typed in to that location using the Google Map API. You will be provided a key required to use Google maps on the web server site at UNO.



Deliverables

You will develop a small Eagle Financial Web site. The home page should request the customer to provide their ID for the following services you will provide on subsequent pages.

1. Display the customer data so the customer can verify the data. Also offer options for access to additional information such as account information and stock portfolio.
2. Display account information and the current balance for each account.
3. Display the current stocks in the stocks table and the initial value of the purchase for each stock and the initial total value of the stock. When you add the web service, display the current value of each stock and the current portfolio value.
4. Add an additional table to collect new customer references (leads) of friends that Eagle can contact. Every time a lead is successfully entered, be sure to thank the customer and show them a picture of the great vacation they might win by being entered into the contest.
5. Add an additional table to reference this table of locations to display the locations with Google Maps.

Make sure to:

- Submit your assignment as a zip file in the Blackboard assignment feature. This should include all components of your web site including html, php, jpg, gif, etc... Also when you attach the zip file in the assignment feature of Blackboard, there is also a box for comments. Provide a URL in the assignment you submit to the drop box. If you want me to look at this ahead of time you will need to send me an email of this link. I would be glad to review it ahead of time but remember to send it to my gmail account since that is what I look at daily. It is george.royce@gmail.com.
- Be sure that the pages have a title and sufficient directions for the user. Make it user friendly to a fourth grader to use.

Part 2 Milestone - Due Date: March 28th

Objectives for Part 2

1. Demonstrate your ability to develop and administer a Microsoft Windows SharePoint Portal Site which includes: database access, integrated search, wrapping external websites within a portal and consuming a web service you create in PHP on your Linux server.
2. In the project you will also develop a web service in PHP on a Linux system which will be consumed by the Microsoft SharePoint Portal.

Tasks

1. You will design a customer service portal for employees of Eagle Financial Services that answer customer service calls. This will include:
 - A web part that provides customer service information in the form of a call log that uses tables it automatically builds in SharePoint using a custom list. See the spreadsheet of call log data.

- Access to the customer website information by accessing this site through a web part which allows a customer service agent to stay within the portal but access external sites. One external site you will reference is your PHP site.
- Access to embedded financial news using RSS feeds.
- A document database which would include a modification to add the customer number to each letter sent to customers or added to the database.
- A web service web part that provides the current value of the portfolio for a customer. This web part is actually connected to your PHP web site and is communicating using SOAP to run a transaction on your PHP server.
- The web service on the PHP site.
- I demonstrate all of these during our virtual class session on Microsoft SharePoint Portal and you can follow along during that session.

Deliverables

Please turn in the following items:

1. When you submit your assignment, be sure to submit a link to the portal site in the note section of blackboard assignments.
2. Also submit a link to your web service WSDL also in the blackboard assignment (note section). This is the WSDL for the web service you developed using PHP.
3. Be sure to zip up your code and send it to me along with the PowerPoint presentation noted below.

Grading

Criteria	Points
PHP Web Site	100
PHP based Web Service	40
SharePoint Portal Site	40
TOTAL	180