

## Excel Final Project: Product Locator List

### Executive Summary

2.2 Executive summary of the project. This should contain a description of the business along with an overview of the system you built

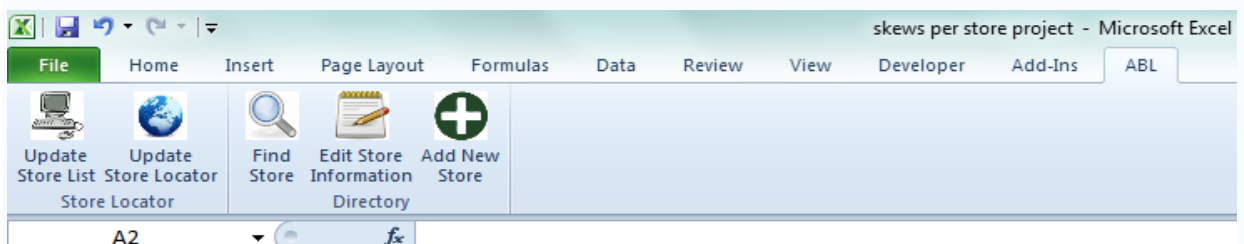
I work for American Biotech Labs in Alpine, Utah. ABL is a silver supplement manufacturer and distributor. Silver supplements are a naturopathic medicine that is supposed to kill bacteria and strengthen one's immune system. The product is sold in both liquid and gel form. ABL has many different brands that it markets in the two different forms of product. Some brands are geared toward natural/organic food retailers and others are geared towards doctors and health practitioners. ABL has just over 2000 stores worldwide that buy and sell their products. However, the current information systems at ABL do not keep track of which stores carry which products. ABL does have a store locator map on their website but it does not say whether that store carries the liquid product, the gel product, or both. Also, when the customer service representatives are asked on the phone about certain stores and their products, the representatives have to go into QuickBooks and look up the store and the last time they purchased something, which takes a long time.

Therefore, my job was to create a macro in Excel that would first find out which stores sell which brands. Then the Excel sheet is to go online and produce an updated map on geobatch.com that shows the current stores and what they sell. The last thing the project does is provide a master sheet of the retailers and doctors that the customer service representatives at ABL can use to look up information on different stores for customers; they can edit the stores' information; and they can add new stores to the list which then can be added to the map automatically.

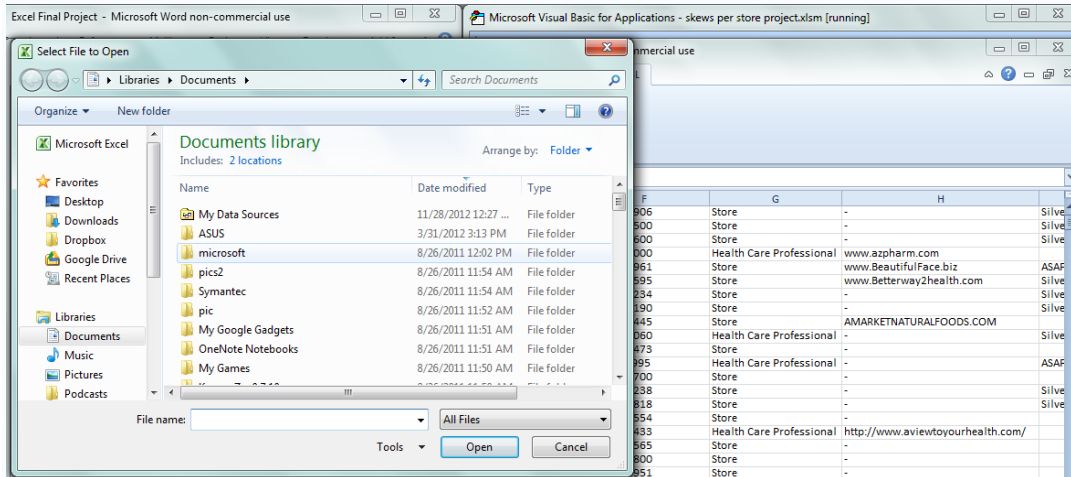
### Implementation Documentation

2.3 Implementation documentation. Provide a concise, well-organized documentation of what you actually did for your solution. You may want to use tables or bulleted lists to describe the components of your solution and their role in the overall task. In any case, you should provide a textual description of the elements so it is clear what you have done, why it was included, how it is intended to be used in the task. Screen captures may be helpful in illustrating what you have done.

To start off I made five different macro buttons in a new tab called "ABL" on the ribbon that can be used to control this document. The first one I will discuss is the "Update Store List" button.



The purpose of this macro is to form a list that takes the name of all the stores that are currently on our store locator map and assign the products that they carry so they can be displayed on the map as well. Excel will then prompt you to pick the excel file that has the recent QuickBooks data that you want to use to update the list. For this project you should upload the customer Info (5) workbook.



This is done by using the code:

```
openfile = Application.GetOpenFilename(, "Select File to Open")
If openfile = "" Then Exit Sub
End If
Application.Workbooks.Open openfile
```

The file you pick is assigned to the "openfile" string and then that string is called by the "open" method. Once that workbook is open it takes the sheet with the data on it and copies it over to the main workbook onto the sheet named "original" That looks like the one below.

Type	Date	Num	Name Address	Name Street1	Name Street2	Name City	Name State	Zip
Invoice	08/13/2012	45274	390 West 13th Street Idaho Falls, ID 83402	390 West 13th Street		Idaho Falls	ID	83402
Invoice	08/13/2012	45274	390 West 13th Street Idaho Falls, ID 83402	390 West 13th Street		Idaho Falls	ID	83402
Invoice	08/13/2012	45274	390 West 13th Street Idaho Falls, ID 83402	390 West 13th Street		Idaho Falls	ID	83402
Invoice	08/13/2012	45274	390 West 13th Street Idaho Falls, ID 83402	390 West 13th Street		Idaho Falls	ID	83402
Invoice	10/31/2012	46812	390 West 13th Street Idaho Falls, ID 83402	390 West 13th Street		Idaho Falls	ID	83402
Invoice	10/31/2012	46812	390 West 13th Street Idaho Falls, ID 83402	390 West 13th Street		Idaho Falls	ID	83402

This sheet contains a list of all the customers and all the transactions they made with ABL in the previous 9 to 12 months.

Next the macro will add the recent list that is being used for the store locator map and add it to excel only if it is not already on excel. If it is not in the main workbook the macro will call for the workbook named "Store Locator" that should be saved in the same file at the main workbook and copy the data over the main workbook onto a sheet named "ALL".

The next thing that needs to be done is to go back to the sheet "original" and remove all of the transactions that were not the purchasing of product. First I moved the contents of "original" to "TheSheet" to preserve the original contents in case something went wrong. To do this I had to create a legend sheet that specified which items to keep and which items to delete. The legend sheet is displayed below. The items in blue are the ones that were kept while the other ones were deleted off of the sheet.

	A	B
10	14-04C	ASAP Pet Shield Gel 4 oz.
11	22-08C WS	ASAP 22ppm 8 oz.
12	24-USBC R1.5 oz.	ASAP985 Silver Gel 1.5 oz.
13	24-USBCGel R	ASAP985 Silver Gel 1.5 oz.
14	24-USBCGel R:24	ASAP985 Silver Gel 4 oz.
15	30-08 C:30-08CW	ASAP Health Max 30 8 oz.
16	30-08 HM10	ASAP Health Max 30 8 oz.
17	30-16 C:30-16 WS	ASAP Health Max 30 16 oz.
18	30-16 HM 10 WS	ASAP Health Max 30 16 oz.
19	30-HCP MP	ASAP Health Max 30 8 oz., ASAP Health Max 30 16 oz., ASAP Health Max 10 8 oz.,
20	32-AGX	ASAP-AGX-32-Dental
21	32-AGX-D	ASAP-AGX-32-Dental
22	24-HM Gel 1.5 oz.	ASAP Health Max Gel 24 ppm 1.5 oz.
23	24-HM Gel 4 oz.	ASAP Health Max Gel 24 ppm 4 oz.
24	10-16SB:10-16SB	Silver Biotics 16 oz.
25	10-32 SB	Silver Biotics 32 oz.
26	08S	8 oz. - Spray Nozzle MSRP \$1.00
27	10-01 Gal	One Gallon ASAP Solution-10 ppm
28	100390	5 Gallon ASAP Solution 10 ppm
29	10-04ST PL	4 oz. -w/Spray Top Private Label 10 ppm Cobalt Blue Bottle HydroSol Silver Label with
30	10-05 Gal	One 5 Gallon Bucket 10 ppm
31	10-08 Blank	8 oz. Bottle w/Cap 10 ppm
32	10-08 Blank	8 oz. -w/Cao Private Label 10 ppm Boston Round Bottle

This was done by using two for-to loops:

```
For x = 3 To rowcnt
```

```
    For y = legendCnt To otherrowcnt
```

```
        If InStr(1, TheSheet.Cells(x, 18).Value, Legend.Cells(y, 1).Value, vbTextCompare) > 0 Then
            TheSheet.Cells(x, 18).EntireRow.Clear
```

```
        End If
```

```
        Next
```

```
    Next
```

It took in order each item that was to be deleted from "TheSheet" and went through the entire sheet and cleared their row off the sheet. It then repeated this using the next item to be deleted until it had gone to the end of the data on the legend sheet. I then got rid of all the empty rows by just removing the duplicates since the only rows that were complete duplicates were the completely empty ones.

The next thing to be done was to order all the different products that were left under their respected stores so that I could add them into one cell on the main "All" sheet. To do this I ran a do-until loop that was actually quite complicated for me, but I got it to work:

```
Do Until rowNum = rowcnt
```

```
    If TheSheet.Cells(rowNum, 2).Font.Bold = True Then
```

```
        store = TheSheet.Cells(rowNum, 2).Value
```

```
        TheList.Cells(storeNum, 1).Value = store
```

End If

```

If TheSheet.Cells(rowNum, 2).Value = "" Then '.font.Bold = False And InStr(1,
TheSheet.Cells(rowNum, 2).Value, "Total", vbTextCompare) = 0 Then
    item = TheSheet.Cells(rowNum, 18).Value
    If InStr(1, TheList.Cells(storeNum, 2).Value, item, vbTextCompare) > 0 Or InStr(1,
TheSheet.Cells(rowNum, 7), "sample", vbTextCompare) > 0 Then
        TheList.Cells(storeNum, 2).Value = TheList.Cells(storeNum, 2).Value
    Else
        TheList.Cells(storeNum, 2).Value = TheList.Cells(storeNum, 2).Value & ", " & item

End If
End If

```

This set of instructions first had to list out the store in the first column and then put the products they purchased in the next column. I then took the address and the phone number too for a reason I will explain later. Since on "TheSheet", that had all the companies and their transaction, the name of each company was bolded so if the contents of cell in column one was bold then that value became the store name that was printed on the sheet called "TheList". If it found a store name it would keep the same row on "TheList" until it found another store name and then the variable "storeNum" would increase by one which would start filling out the next row on "TheList". Then if the cells in column one were empty under a store name it knew that they were the names of products and they were put sub sequentially into column two on "TheList". It then did a similar process to put the address and the phone number onto "TheList" before "storeNum" increased to the next row on "TheList". The instructions also made sure not to include any products that were sold as samples because those are not sold in stores. Below is an example of what "TheList" looked like when it was done.

A	B	C	D	E
1				
2	3 Rivers Health Center	Silver Biotics 4 oz., Silver Biotics 16 oz.	390 West 13th Street	208-523-3531
3	A & S Natural Health	Silver Biotics 4 oz., Silver Biotics 16 oz., ASAP365 Silver Gel 4 oz.	1559 Hanes Mall Blvd.	336-774-8600
4	A Beautiful Face	ASAP365 Silver Gel 4 oz.	792 South Main St	865-434-2961
5	A Better Way Massage, LLC	Silver Biotics 16 oz.	PO Box 91	360-389-0062
6	A Clear View To Health	Silver Biotics 16 oz., ASAP365 Silver Gel 1.5 oz.	76 Blake Road	603-679-9595
7	A Design	Silver Biotics 16 oz., Silver Biotics 32 oz., ASAP365 Silver Gel 1.5 oz., ASAP365 Silver Gel 4 oz.	319 Thoroughbred Lane	
8	A Green Financial Group	Silver Biotics 4 oz.	5 West Hazel Drive	801-423-1234
9	A Health Forest	ASAP 10ppm 8 oz., ASAP365 Silver Gel 4 oz., ASAP 10ppm 8 oz.	10 N. Washington Street	734-485-7100
10	A Mother Nature Midwifery Care	Silver Biotics 16 oz., ASAP 22ppm 8 oz.	PO Box 1748	505-326-4190
11	A Natural Health Center	ASAP Health Max Gel 24 ppm 1.5 oz.	802 Fisher Rd	407-699-4207
12	A Nu You Wellness Center	Silver Biotics 16 oz.	1378 US Hwy. 64	252-473-6060
13		ASAP Health Max 10 16 oz., ASAP Health Max 30 16 oz.	8595 Plank Road	440-968-3995

Since many stores had bought the same product more than once in the past 9 months I needed to get rid of all the duplicates on the list so I could then parse the products to their respective stores that were found on the "ALL" sheet. To do this I ran an instr search for each product for each store on "TheList" and if it found the product once it would copy it to column five. I wanted to use arrays here but for some reason I could not get it to work so I settled for using another column since this sheet was going to be hidden from the user anyway. Once the for-to loop had gone through every product name from the legend and copied over the found products to column six it then copied back the products from column six to column 2 using a mid-function to get rid of the commas at the beginning.

Cells(x, 2).Value = Mid(Cells(x, 6).Value, 3)

The next thing that needed to be done was to add the products I had now gotten for each store on "TheList" and assign them to the same stores that were on the main list from the store locator map on the sheet "ALL". The one problem I faced here is that the names on the store locator map did not all

match the names that were used when the stores made transactions with the company. Therefore, I was not able to get a match for every store that I had on "TheList". This is why I had the addresses and phone numbers of the companies still so I could use them to find matches for the products I had collected. The first thing I did was run a two stage for-to loop that ran an instr search if it could find a match between the companies on "TheList and the companies on "ALL". I repeated this search trying to find matches with the addresses and the phone numbers. Then I did an additional search by switching the first and last names of the doctors to see if I could find any more matches. If I found a match I highlighted the row in red on "TheList" and copied the products into the ninth column on "ALL" I also had to go through "TheList and delete all the parentheses in the phone numbers so they could match the ones on "All":

```

For x = 2 To rowcnt
    store = TheList.Cells(x, 1).Value
    address = TheList.Cells(x, 3).Value
    phone = TheList.Cells(x, 4).Value
    newer = TheList.Cells(x, 5).Value
    For y = 2 To allrowcnt
        storeName = ALL.Cells(y, 1).Value
        addressName = ALL.Cells(y, 2).Value
        phoneName = ALL.Cells(y, 6).Value

        If InStr(1, addressName, address, vbTextCompare) > 0 And address <> "" Then
            ALL.Cells(y, 9).Value = TheList.Cells(x, 2).Value
            TheList.Cells(x, 2).EntireRow.Interior.ColorIndex = 3
        End If

        If InStr(1, phoneName, phone, vbTextCompare) > 0 And phone <> "" Then
            ALL.Cells(y, 9).Value = TheList.Cells(x, 2).Value
            TheList.Cells(x, 2).EntireRow.Interior.ColorIndex = 3
        End If

        If InStr(1, storeName, store, vbTextCompare) > 0 Or InStr(1, storeName, newer, vbTextCompare) > 0 Then
            ALL.Cells(y, 9).Value = TheList.Cells(x, 2).Value
            TheList.Cells(x, 2).EntireRow.Interior.ColorIndex = 3
        End If
    Next
Next
ALL.Cells(1, 9).Value = "Products"

```

("TheList")

3106 State Hwy. A1A				
A	B	C	D	E
10 A Health Forest	Silver Biotics 16 oz., ASAP 22ppm 8 oz.	PO Box 1748	505-326-4190	A Health Forest
11 A Mother Nature Midwifery Care	ASAP Health Max Gel 24 ppm 1.5 oz.	802 Fisher Rd	407-699-4207	A Mother Nature
12 A Natural Health Center	Silver Biotics 16 oz.	1378 US Hwy. 64	252-473-6060	A Natural Health
13 A Nu You Wellness Center	ASAP Health Max 10 16 oz., ASAP Health Max 30 16 oz.	8595 Plank Road	440-968-3995	A Nu You Welln
14 A to Zinc Nutritional Shop	Silver Biotics 16 oz., Silver Biotics 32 oz.	12130 US Highway 19	727-861-2818	A to Zinc Nutrit
15 A Touch of Relief Massage Therapy	ASAP Health Max 10 16 oz., ASAP Health Max Gel 24 ppm 4 oz.	4747 W Water Ave #4009	352-346-4497	A Touch of Reli
16 A1 Solutions	Silver Biotics 16 oz.	832 Incheilum Hwy.	509-738-6574	A1 Solutions
17 Abell MD, John	ASAP365 Silver Gel 1.5 oz., ASAP365 Silver Gel 4 oz.	521 W. 3rd Ave.	229-888-3044	John Abell MD
18 ABL Asia Pte. Ltd.	ASAP365 Silver Gel 1.5 oz.	#10-126 Tradehub 21	(Tel) 67862039	ABL Asia Pte. Lt
19 ABL Medical, LLC				LLC ABL Medica
20 ABL Stock	Silver Biotics 4 oz., Silver Biotics 16 oz., Silver Biotics 32 oz., ASAP Health Max 10 8 oz., ASAP Health Max 10 16 oz., ASAP Health Max 30 8 oz., ASAP Health Max 30 16 oz., ASAP 22ppm 8 oz.			ABL Stock

("ALL")

skews per store project - Microsoft Excel non-commercial use

	A	B	C	D	E	F	G	H	I	J	K	L	M
	Customer	Address	City	State	Zip	Phone	Group	Website	Products				
6	A & S Natural Health	7816 Fairview Road	Charlotte	NC	28226	704-366-1906	Store	-	Silver Biotics 4 oz., Silver Biotics 16 oz., ASAP365 Silver Gel 4 oz.				
7	A & S Natural Health	435-C Doleway Madison Road	Greensboro	NC	27410	336-855-6500	Store	-	Silver Biotics 4 oz., Silver Biotics 16 oz., ASAP365 Silver Gel 4 oz.				
8	A & S Natural Health	1559 Hanes Mall Blvd	Winston-Salem	NC	27103	336-774-8000	Store	-	Silver Biotics 4 oz., Silver Biotics 16 oz., ASAP365 Silver Gel 4 oz.				
9	A & Z Pharmaceutical LLC	316 Larch Lane	Pittsburgh	PA	15234	412-279-8000	Health Care Profession	www.azpharm.com					
10	A Beautiful Face	792 South Main St.	Templeton	CA	93465	805-434-2961	Store	www.BeautifulFace.biz	ASAP365 Silver Gel 4 oz.				
11	A BETTER WAY TO HEALTH	76 BLAKE ROAD	Epping	NH	3042	603-679-9595	Store	www.Betterway2health.com	Silver Biotics 16 oz., ASAP365 Silver Gel 1.5 oz.				
12	A DEZIGN	5 West Hazel Drive	Salem	UT	84653	801-423-1234	Store	-	Silver Biotics 4 oz.				
13	A Health Forest	2814 East 20th Street	Farmington	NM	87402	505-326-4190	Store	-	Silver Biotics 16 oz., ASAP 22ppm 8 oz.				
14	A Market	125 Loring St	Manchester	NH	3103	603-668-8445	Store	AMARKETNATURALFOODS.COM					
15	A NATURAL HEALTH CENTER	1378 US Hwy. 64	Manteo	SC	27954	252-473-6060	Health Care Profession	-	Silver Biotics 16 oz.				
16	A NATURAL PATH	5375 FIVE FORKS TRICKUM SC	LILBURN	GA	30047	770-925-8473	Store	-					
17	A NU YOU Wellness Center	8595 Plank	Montville	Ohio	44064	440-968-3995	Health Care Profession	-	ASAP Health Max 10 16 oz., ASAP Health Max 30 16 oz.				
18	A PLACE FOR HEALTH	755 27TH AVENUE SW #1	VERO BEACH	FL	32968	772-567-6700	Store	-					
19	A to Zinc Nutritional Shop	12130 US Highway 19	Hudson	FL	34667	727-861-7238	Store	-	Silver Biotics 16 oz., Silver Biotics 32 oz.				
20	A TO ZINC NUTRITIONAL SHO	12130 US HWY 19	HUDSON	FL	34667	727-861-2818	Store	-	Silver Biotics 16 oz., Silver Biotics 32 oz.				

After all of the companies on the main list on "ALL" were placed with as many matches as I could find then the list was complete and updated. The macro then proceeds to hide all the sheets but "ALL" So that they can be touched or changed. That is the extent of what the first button does.

Original.visible = xlSheetVeryHidden  
TheList.visible = xlSheetVeryHidden  
TheSheet.visible = xlSheetVeryHidden  
Legend.visible = xlSheetVeryHidden

The next button, "Update Store Locator", now goes online to batchgeo.com where the map on the website is made. Two message boxes appear when you push the button. The first one warns you that this macro takes a long time since you are making a map of over 2000 stores and asks you if it is ok to proceed. The second box is an input box that asks for the user's email so the link and html of the finished map can be sent to you. Once the macro opens up the site on Internet Explorer it needs to place all the data from "ALL" inside a text box that must be clicked on to change. The box is shown below.

batchgeo.com

make maps features pro pricing mobile support blog

Copy and then paste your location data below:

Example Address	Name	Phone	Group	URL
1 Crossgates Mall Road, Albany, NY 12203	Cross Gates	(518) 869-3192	Example Group 1	apple.com/retail/crossgates/
Duke Rd & Walden Ave, Buffalo, NY 14225	Walden Galleria	(716) 685-2762	Example Group 2	apple.com/retail/walden/
630 Old Country Rd., Garden City, NY 11...	Roosevelt Field	(516) 248-3347	Example Group 3	apple.com/retail/rooseveltfield/
160 Walt Whitman Rd., Huntington Station	Walt Whitman	(631) 425-1563	Example Group 3	apple.com/retail/waltwhitman/

( Don't forget to include some header columns - You can also try our [Spreadsheet Template](#), or hit "Map Now" and try it out with our example data. )

Validate & Set Options or Map Now

Feedback

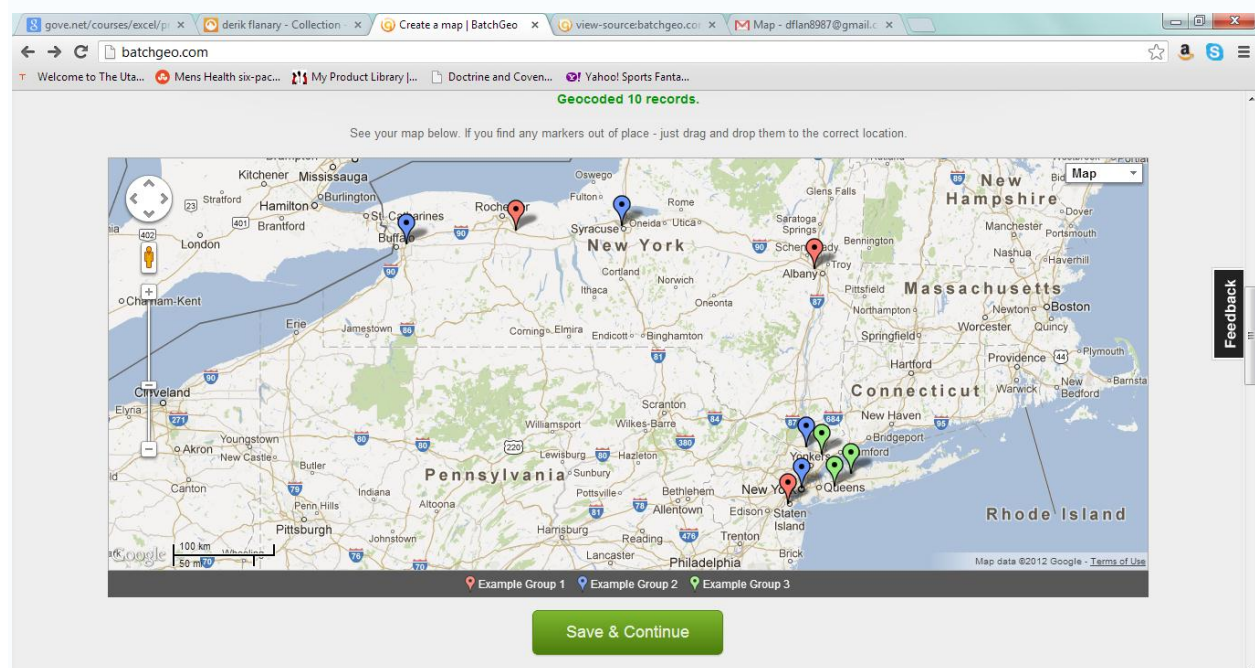


This part was extremely tricky and I had to go for help from Prof. Gove to figure it out. We figured out that we had to change the "innerHTML" to what we wanted it to say for it to work. And the macro needed to insert a chr(9) after each column and a chr(10) after each row. Therefore, I wrote a for-to code that would put all of the data with chr(9) and chr(10) inside of a single string variable called "list". And then I set list equal to the "innerHTML" of the text box.

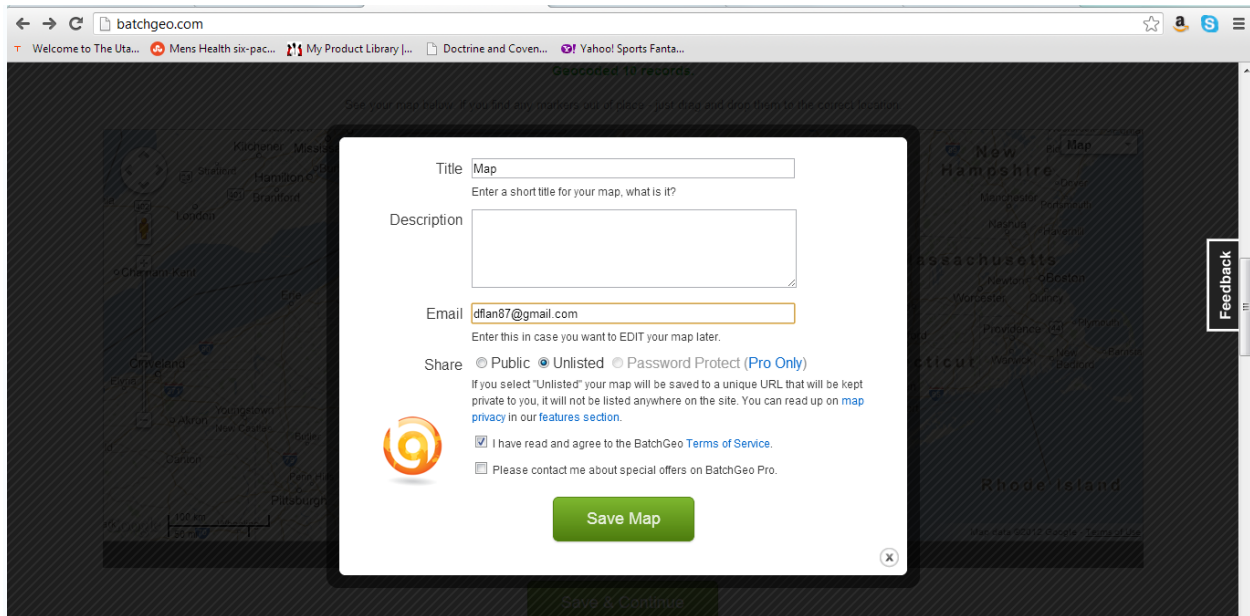
```
For x = 1 To rowcnt
  For y = 1 To colcnt
    If y = 9 Then
      list = list & Cells(x, y).Value & Chr(10)
    Else
      list = list & Cells(x, y).Value & Chr(9)
    End If
  Next
Next
```

```
agent1.document.ALL("sourceData").innerHTML = list
```

Once the data was inserted the macro then creates a map like the one below.

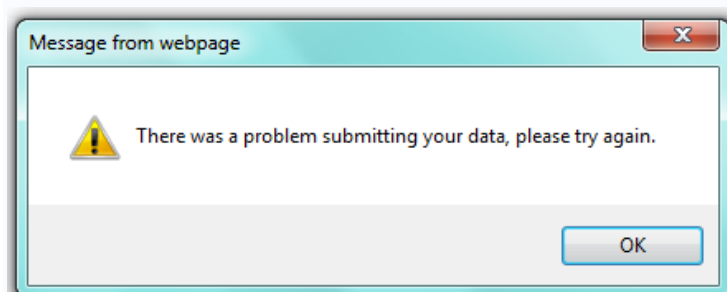


After the map is created the macro clicks on the "Save & Continue" button which brings up a new form. In this form the name of the map "ABL Product Locator" is placed in the title and the email given earlier is put in the email box.



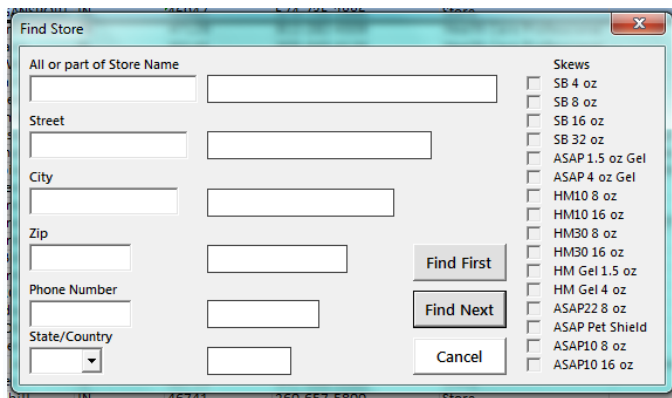
When it comes with saving the map and submitting the form there was no id tag for the "Save Map" button above. I got the form to submit by using the submit method, but for some reason the message box below appears and I could not figure out why. With more time and help I could probably get that box to go away. The following is the code I used to submit the form.

```
agent1.document.ALL("jsonSubmitForm").submit
```



The next three buttons are for the customer service representatives. The first of the three allows the user to bring up the user form below and is able to search for a certain store by store name, street, city, zip, phone number, or state. It will find each one and even show what products that store carries in the check boxes on the right. There are a lot of products so the code here is quite long.





**Find Store**

All or part of Store Name:

Street:

City:

Zip:

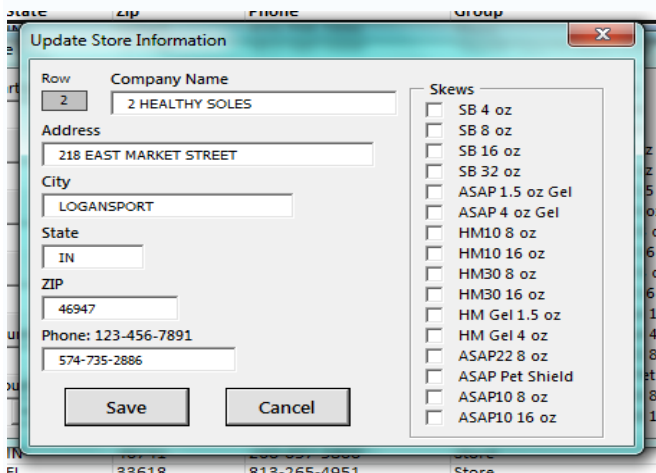
Phone Number:

State/Country:

**Skews**

- ☐ SB 4 oz
- ☐ SB 8 oz
- ☐ SB 16 oz
- ☐ SB 32 oz
- ☐ ASAP 1.5 oz Gel
- ☐ ASAP 4 oz Gel
- ☐ HM10 8 oz
- ☐ HM10 16 oz
- ☐ HM30 8 oz
- ☐ HM30 16 oz
- ☐ HM Gel 1.5 oz
- ☐ HM Gel 4 oz
- ☐ ASAP22 8 oz
- ☐ ASAP Pet Shield
- ☐ ASAP10 8 oz
- ☐ ASAP10 16 oz

The next button will allow you to edit the information of the store that is highlighted or you just found. It brings up a user form where you can change any information, including the products that they carry and it will all be added to the list once you push save.



**Update Store Information**

Row:  Company Name:

Address:

City:

State:

ZIP:

Phone:

**Skews**

- ☐ SB 4 oz
- ☐ SB 8 oz
- ☐ SB 16 oz
- ☐ SB 32 oz
- ☐ ASAP 1.5 oz Gel
- ☐ ASAP 4 oz Gel
- ☐ HM10 8 oz
- ☐ HM10 16 oz
- ☐ HM30 8 oz
- ☐ HM30 16 oz
- ☐ HM Gel 1.5 oz
- ☐ HM Gel 4 oz
- ☐ ASAP22 8 oz
- ☐ ASAP Pet Shield
- ☐ ASAP10 8 oz
- ☐ ASAP10 16 oz

The last button allows you to add a new store with the macro taking you to the last row of data and then bringing up the edit user form so you can add all the information for that store manually. The code for the user forms uses for-to loops that do instr searches for the information in the search text boxes.

With all of these macros to automate the process it allows the employees of ABL to be more efficient in their information and in helping customers find the products they want.

## Discussion of Learning

There were a few problems that I faced along the way. The main problem was that the information systems in ABL are outdated and unorganized. This made it extremely difficult for me to find the products that each of the stores located on the map carry. This is because the one who made the map used different names than the names that the company inserts when a transaction is made. I tried the best I could with the data given to me to find as many matches as I could. I learned a lot from this as I tried many different methods (no pun intended) to make it work like addresses, find methods, phone numbers, and switching the names around to match the doctor's names on the list. Another problem I faced is the one I stated earlier about the submission form on the batchgeo website. We were not taught how to deal with a source code without an id tag, Prof. Gove gave me some last minute advise and I was able to

almost get it to work, but in the end he said it was okay if I could not get it to work quickly. Also with the website I learned about the characters used in a text box and how I had to use those to get the text I wanted into the box so I could make the map correctly. Just working with that one website taught me a lot on how to manipulate Internet Explorer through excel which I will definitely be able to use in the future. The greatest thing I learned by working through this project was problem solving. This project was just one problem and one error message after another. I had to learn quickly how to dissect the issues so I could get to the root of the problem and fix it. This was difficult, but a great learning experience in the end.

The only assistance I received on this project was a little help from the professor when dealing with the online information. Besides that I figured it all out on my own, of which I am proud.