MBA 614   Final Project

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Executive Summary

For this project I worked on developing a pricing chart for my father-in-law's gymnastics business. My father-in-law's business is called Randy's Xtreme Tumbling and is located in Pocatello, Idaho. The gym is primarily operated and staffed by family members. My father-in-law is the main instructor and his wife handles most of the finances for the business. Most, but not all, of the supplemental instructors and workers are children of the family or close relatives. The main source of revenue for the business comes from teaching beginning and intermediate tumbling. Other revenues come from hosting birthday parties and renting the gym out for special occasions. Over the past year my in-laws started to wonder if their gym is priced correctly compared to other gyms in the area. After doing research they noticed that their gym was charging substantially less than a few of their competitors. They subsequently raised prices to bring the business into parity with their competitors. When talking to my in-laws about why it took them so long to raise their prices they said they just weren't sure what other gyms were doing. They also stated that it took a decent amount of time to track down the other gyms and find their pricing information. Over time, the task became something that they continued to put off knowing it would take an afternoon to get the information from a host of different web sites.

For this project I picked four gyms located in the general area and wrote VBA code to gather their pricing information and compare it against the pricing information of my father-in-law's gym. I then wrote additional code that makes it possible to save this information and email it to key stakeholders in the business. One of the reasons this project is of value to the business is that the process will have to be done over and over. In reality, this information should be checked at least quarterly. This code will save my in-laws hours of time and make a boring repetitive process a simple task taking less than a minute going forward.

Overview

The first part of the project was designing a simple spreadsheet that would hold the outputs from the VBA code. The spreadsheet was divided into two sections representing the class types offered by Randy's Xtreme Tumbling. The gym's competitors were also located in these sections of the spreadsheet. An example of the spreadsheet can be seen below. The spreadsheet was color coded to make it user friendly and enjoyable to use. As seen, the names of the various gyms were hard coded into the spreadsheet while the location, phone number, class type, and pricing information were brought into the spreadsheet via VBA code commands. This was done so that if there was any change in these elements such as a change in pricing and phone number the correct information would be brought into the spreadsheet.

Another important feature of the spreadsheet is the command keys located on the right side of the spreadsheets. The macros to gather the competitor's information, save the document, and email it to key stakeholders are linked to these buttons. The first button labeled (Get Information) is linked to macros that goes to the web and brings the desired information into the spreadsheet. The second button labeled (Send Information to Contacts) saves the spreadsheet in a new workbook and then sends an email with an attachment containing the spreadsheet to a list of key employees. The attachment emailed out to the various employees only contains the information on the spreadsheet. The VBA code is not included as this will not be used or understood by the staff receiving the attachment. Once again, the buttons were created to be aesthetically pleasing and user friendly. They actually appear to press in and out when clicked on.

Important to making these command keys function was creating master sub procedures. This was necessary because a separate sub procedure was created to extract each company's information from the web. So without a master sub procedure when a user clicked on the Get Information icon only the first company's information would be returned. By creating a master sub procedure each company's information was gathered and placed in the spreadsheet with only one click. Another compelling reason to create separate sub procedures for each company was it made the code much easier to read and manipulate in case changes were made to the web pages in the future. For example, if Randy's Xtreme changed the format of their webpage it would be simple to go into the code and find the one sub procedure that dealt with Randy's gym and correct the changes leaving the remaining code for the other organizations untouched. This also proved important for the Send Information to Contacts icon as the data had to be saved to a new workbook before the attachment could be sent via email. By creating another master sub for this portion of the project the user only has to click one key and the code knows to run all of the programs in the correct order to save the document, create and email, attach a file, and send it to the key contacts.

```
Sub MasterSub()

    RandysXtreme

    IFTrainingCenter

    EpicGymnastics

    FlipsGymnastics

End Sub
Sub MasterSub2()

    saveDoc

    sendOneMessage

End Sub
```

Also included is a look at a major piece of the code written to gather the necessary information from one of the company websites.

```
Sub IFTrainingCenter()

    Sheets("Sheet3").Select
    With ActiveSheet.QueryTables.Add(Connection:= _
        "URL;http://ifgym.com/index.php?option=com_content&view=article&id=55&Itemid=64" _
        , Destination:=Range("Sheet3!$A$1"))
        .Name = "ExternalData_1"
        .FieldNames = True
        .RowNumbers = False
        .FillAdjacentFormulas = False
        .PreserveFormatting = True
        .RefreshOnFileOpen = False
        .BackgroundQuery = True
        .RefreshStyle = xlInsertDeleteCells
        .SavePassword = False
        .SaveData = True
        .AdjustColumnWidth = True
        .RefreshPeriod = 0
        .WebSelectionType = xlEntirePage
        .WebFormatting = xlWebFormattingNone
        .WebPreFormattedTextToColumns = True
        .WebConsecutiveDelimitersAsOne = True
        .WebSingleBlockTextImport = False
        .WebDisableDateRecognition = False
        .WebDisableRedirections = False
        .Refresh BackgroundQuery:=False
    End With
```

A look at the spreadsheet after it has been populated is also insightful. As seen below the information is clearly outlined by class type and pricing. As seen in the spreadsheet the data covers classes of 1 and 1.5 hours in length. These are the main class types offered at Randy's and thus the class types evaluated against competitors. As seen in the spreadsheet, not all of the data pulled from the web was in the same format. A possible enhancement to the spreadsheet could be to only pull certain portions of the text into the spreadsheet. For example, in the pricing column it would be nice only to have the pricing data instead of the additional information such as the (1day per week comments). The only problem with this is that if the text is changed on the web site you may not pull the correct information into the spreadsheet. Whereas if you pull the entire line you are assured to get all of the information you need. Despite this drawback, the spreadsheet does a good job at meeting its objective of allowing the owners of Randy's to compare their main class type against the competition.

Competition Information

	Gym Name	Location	Phone	Class Type	Price	
1	Randy's Xtreme	Pocatello, ID 83202-1756	Phone Number: 208-478-1818	*1 Hour Class		$185.00
2	I.F. Center	Idaho Falls	524-3334	45 minute to 1 Hour classes	1 day per week - $42	$139
3	Epic Gymnastics	Murry, Utah	(801) 716-2978	1 hour		$174
4	Flips Gymnastics	Bountiful, UT 84010	(801) 298-2323	1 hour	Girls Level 4 = $113.00/cycle	

	Gym Name	Location	Phone	Class Type	Price	
1	Randy's Xtreme	Pocatello, ID 83202-1756	Phone Number: 208-478-1818	*1 1/2 Hour Class		$280.00
2	I.F. Center	Idaho Falls	524-3334	1 1/2 hour classes	1 day per week - $52	$183
3	Epic Gymnastics	Murry, Utah	(801) 716-2978	1.5 hours		$228
4	Flips Gymnastics	Bountiful, UT 84010	(801) 298-2323	1 ½ hours	Girls Level 7 & 8 = $188.00/cycle	

Get Information

Send Information to Contacts

Moving to the next stage of the project I used and manipulated the VBA code we learned in class to send the information gathered to the key players in the business. One of the important parts of the code here is creating a user form t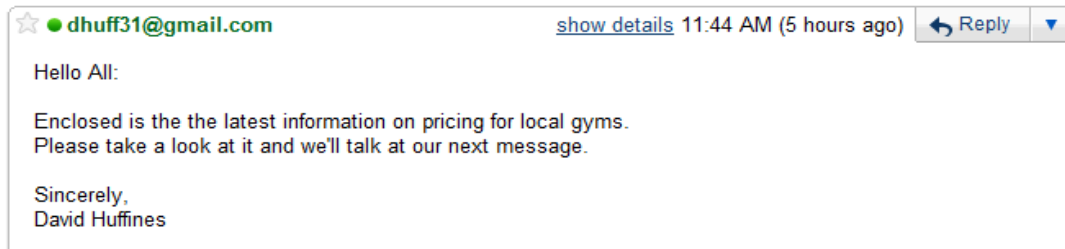o handle the password required to access ones email account. When the user clicks the (Send Information Tab) on the spreadsheet the first form seen to the left appears. The form has two text boxes where the user can enter their username and password as well as a command box labeled (OK) to submit the information to Gmail.

Once the password information is sent to Gmail a message box appears letting you know the email was sent through successfully. An example of the message box can be seen above. A

limitation to this code is that it is only compatible with Gmail so if you wanted to use this through a company email service such as outlook or another email service the code would have to be modified. Also seen below is a screen shot of the code and message sent to my account via the VBA code.

```
☆ ● dhuff31@gmail.com                    show details 11:44 AM (5 hours ago)  ↩ Reply  ▼

Hello All:

Enclosed is the the latest information on pricing for local gyms.
Please take a look at it and we'll talk at our next message.

Sincerely,
David Huffines
```

```vba
Sub sendOneMessage()

Dim subject As String
Dim message As String

frmPassword.Show

subject = "Competition Information"

message = "Hello All:" & vbNewLine & _
          "" & vbNewLine & _
          "Enclosed is the the latest information on pricing for local gyms." & vbNewLine & _
          "Please take a look at it and we'll talk at our next message." & vbNewLine & _
          "" & vbNewLine & _
          "Sincerely," & vbNewLine & _
          "David Huffines" & vbNewLine

If sendGMail(frmPassword.txtUsername, frmPassword.txtPassword, _
            message, "DHuff31@Gmail.com", subject) Then
  MsgBox "Success"
Else
  MsgBox "Failure"
End If


End Sub
```

Lessons Learned

     I learned a great deal through creating this spreadsheet. First, it reinforced skills we learned in class on how to gather information from the web into an excel document. Second, it gave me the change to practice coding and gain a better understanding of VBA's syntax. Finally, it strengthened my knowledge of how VBA can be used to automate and improve business processes. One of the struggles associated with the project was that the coding was similar but different for each company included in the spreadsheet. I had to deal with the intricacies of each website in finding and creating code to bring the desired information into my spreadsheet. I found that my code also became more efficient as I moved along. The first group of code I wrote to bring Randy's Xtreme Tumbling information into the spreadsheet works but has a bit

more code than other sections as I found more efficient ways to manipulate the various web pages and gathered the needed information.

Other lessons learned were how to use VBA to send an email message. While I followed the example from class it was interesting and instructive to go back and format the code to work with my email address and send a message customized for my needs. As seen above, I also was able to use some user forms knowledge to create the password inputs allowing my email account to be accessed by excel. Another challenge in this area was learning how to add an attachment to the spreadsheet to the email. This turned out to be much simpler than I anticipated. I tried several things before getting help. It turned out all I had to do was add a file location name to a line of code.

Another adaptation that needed to be made to this portion of the spreadsheet was creating a save function. This required creating a save command that would save the document and then attach the saved document to the email. Without saving the document first all of the information brought into the spreadsheet would be lost. Included in this part of the code is a command to suppress and a warning excel gives when using VBA to save a document and then turning the warning control back on once the procedure finishes running so it could catch other errors in later portions of the code.

One aspect of the project that surprised me was the time it took to create the code needed to manipulate the spreadsheet. I consider myself a true novice when it comes to writing and understanding code. It is definitely a language that I have to work to understand. Yet, over the semester I have gained a greater knowledge and appreciation for what goes on behind the programs I use on a daily basis. It has been a great experience to move out of my comfort zone in this regard. I've also come to appreciate the power of VBA and what it can do for an organization. I hope to continue to increase my knowledge and understanding so I can use these applications more efficiently in my employment and personal life going forward. Tied to this idea is the power of going online for help. Over the course of the semester I learned predominantly through consulting with the TA and other students. On this project I tried to use other resources and trial and error to complete my project. While this definitely increased the amount of time I put into the project it increased my comfort with searching out online VBA solutions online.

Omitted Sections/Future Projects

One element I would have like to include in this project was information on birthday parties and special events. I had originally desired to add these elements to the spreadsheet but many of the competitor's websites didn't list their pricing information for this portion of their business. It appeared that they wanted the customer to call as more detailed planning was required to book the gym for parties. In the future I'd like to add more information in this area as competitor's websites are updated. Another challenge / future project will include being able to gather information from PDF's that are imbedded in competitor's websites. This was simply too difficult to accomplish at my current skill level. In addition, it will require additional software to manipulate the PDF's into a workable form.