Micah Lorenc
ISYS 540, Final Project

Executive Summary

The business for which this project was created is a therapy/counseling company owned and operated by my father, Cameron, whom I will refer to as Cam henceforth. Now, saying that it's a therapy company is an overstatement, since he's the only employee. He started the business about seven years ago and has since acquired enough clients to fill his schedule with up to five appointments in one business day. His appointments are always made at the end of the current appointment, and while Cam does have the phone numbers of his clients, he has never been able to call them for reminders because he lacks the time between sessions and administrative activities. The system I've built has automated the process of extracting calendar items from Cam's Microsoft Outlook calendar and sending a reminder email (with the option to send a reminder text) to each client with an appointment within the window of time determined by Cam every time he runs the program. A system like this will cost him very little time while giving an increased level of professionalism for his business.

Implementation

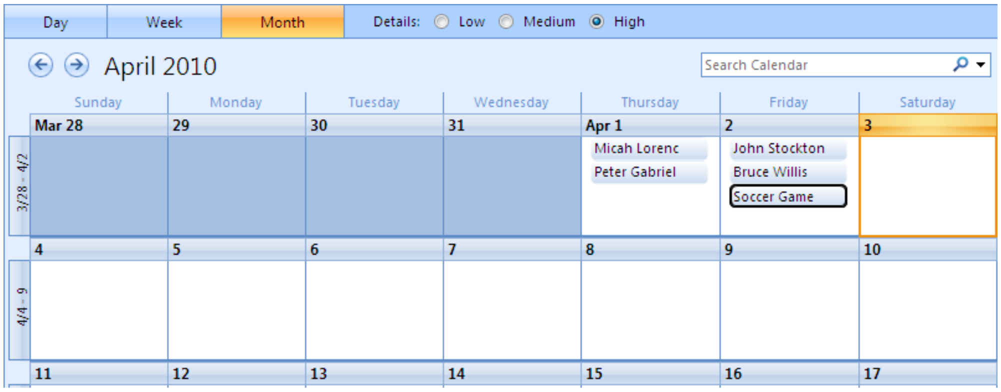
The following list is a compilation of the major components of the system:

- Client Information Storage – a spreadsheet for storing/updating client information
- Outlook Interactivity – automated interaction with Outlook Calendar data
- Date Validation – date selection and validation for appointments in a date range
- Email and Text messaging – capability for sending email and text appointment reminders
- Multiple Email Services Compatibility – support for both Outlook and Gmail
- Carrier Validation – validation for unknown or unsupported phone carriers
- Recent Activity Log – recent history of sent mail logged in a spreadsheet
- Intuitive UI Interaction – user forms that guide the user through steps

The process that Cam will follow to use the system does not reflect the above order, but each component is identified throughout the process description steps.

Step 1- Appointment Setting in Outlook

The whole program is based on the idea that Cam will have appointments with clients set up in his Outlook calendar. For my system to work, Cam will need to ensure that the Subject of the appointment is the full name of the client, as found in his contacts spreadsheet. The following screenshot is an example of five Outlook calendar items spread over two days. Four of the items are client appointments and one is not business related.



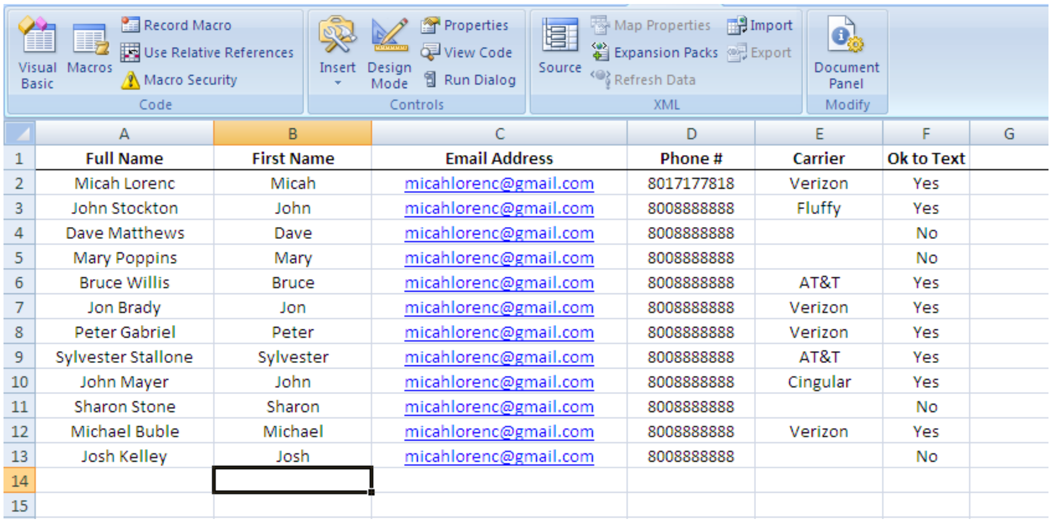
Details: ○ Low ○ Medium ● High

April 2010

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3/28 - 4/2	Mar 28	29	30	31	Apr 1 Micah Lorenc Peter Gabriel	2 John Stockton Bruce Willis Soccer Game	3
4/4 - 9	4	5	6	7	8	9	10
	11	12	13	14	15	16	17

Step 2 – Maintain Client Information Spreadsheet

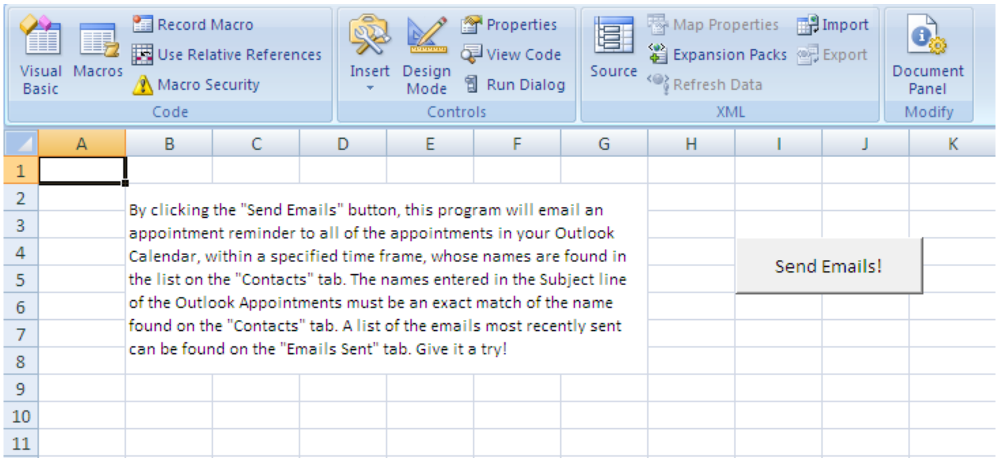
The client information spreadsheet is a very useful way for Cam to track client information as well as allow him to email all of his clients over a long period of time without having to save each client into his Outlook contacts, which would be time consuming and would fill his contact list with a large number of contacts that are only temporary. The following screenshot is an example of the client information document:



	A	B	C	D	E	F	G
1	Full Name	First Name	Email Address	Phone #	Carrier	Ok to Text	
2	Micah Lorenc	Micah	micahlorenc@gmail.com	8017177818	Verizon	Yes	
3	John Stockton	John	micahlorenc@gmail.com	8008888888	Fluffy	Yes	
4	Dave Matthews	Dave	micahlorenc@gmail.com	8008888888		No	
5	Mary Poppins	Mary	micahlorenc@gmail.com	8008888888		No	
6	Bruce Willis	Bruce	micahlorenc@gmail.com	8008888888	AT&T	Yes	
7	Jon Brady	Jon	micahlorenc@gmail.com	8008888888	Verizon	Yes	
8	Peter Gabriel	Peter	micahlorenc@gmail.com	8008888888	Verizon	Yes	
9	Sylvester Stallone	Sylvester	micahlorenc@gmail.com	8008888888	AT&T	Yes	
10	John Mayer	John	micahlorenc@gmail.com	8008888888	Cingular	Yes	
11	Sharon Stone	Sharon	micahlorenc@gmail.com	8008888888		No	
12	Michael Buble	Michael	micahlorenc@gmail.com	8008888888	Verizon	Yes	
13	Josh Kelley	Josh	micahlorenc@gmail.com	8008888888		No	
14							
15							

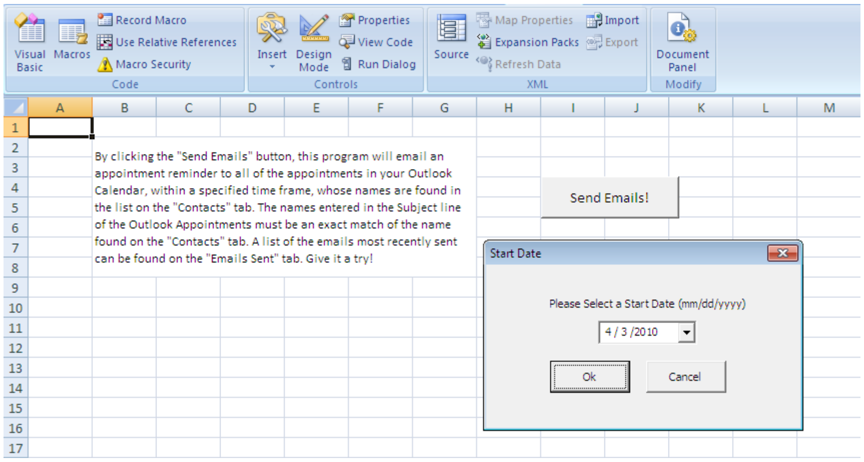
Step 3 – Begin the Program

The program begins with the click of a button on the first workbook sheet. The text to the left of the button is a description of what Cam can expect when he clicks the button:



By clicking the "Send Emails" button, this program will email an appointment reminder to all of the appointments in your Outlook Calendar, within a specified time frame, whose names are found in the list on the "Contacts" tab. The names entered in the Subject line of the Outlook Appointments must be an exact match of the name found on the "Contacts" tab. A list of the emails most recently sent can be found on the "Emails Sent" tab. Give it a try!

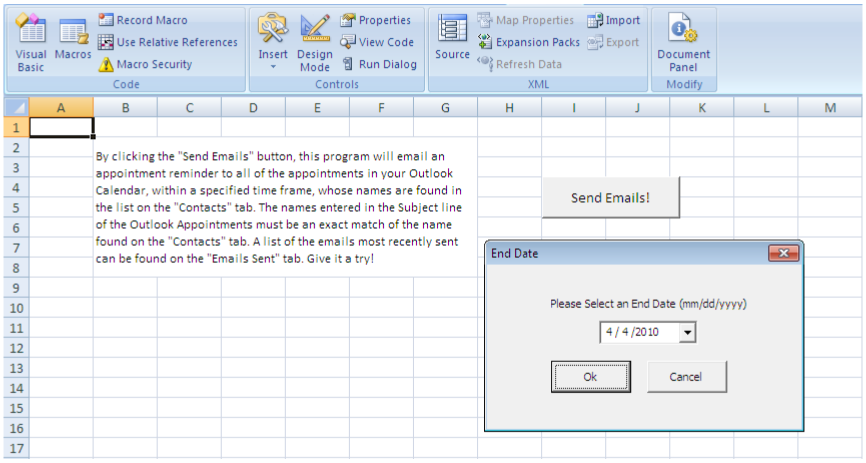
After the button is clicked, a form will be displayed that allows Cam to select a starting date at which to begin looking for Outlook appointments. That form is followed by a form to select an end date. When consulted about his potential use of such a program, Cam expressed a desire to either send appointment reminders every day for the following day or every Sunday for the following week. This start and end date selection feature allows him to choose the most appropriate selection any time the program is run.



By clicking the "Send Emails" button, this program will email an appointment reminder to all of the appointments in your Outlook Calendar, within a specified time frame, whose names are found in the list on the "Contacts" tab. The names entered in the Subject line of the Outlook Appointments must be an exact match of the name found on the "Contacts" tab. A list of the emails most recently sent can be found on the "Emails Sent" tab. Give it a try!

Please Select a Start Date (mm/dd/yyyy)

4 / 3 /2010



By clicking the "Send Emails" button, this program will email an appointment reminder to all of the appointments in your Outlook Calendar, within a specified time frame, whose names are found in the list on the "Contacts" tab. The names entered in the Subject line of the Outlook Appointments must be an exact match of the name found on the "Contacts" tab. A list of the emails most recently sent can be found on the "Emails Sent" tab. Give it a try!

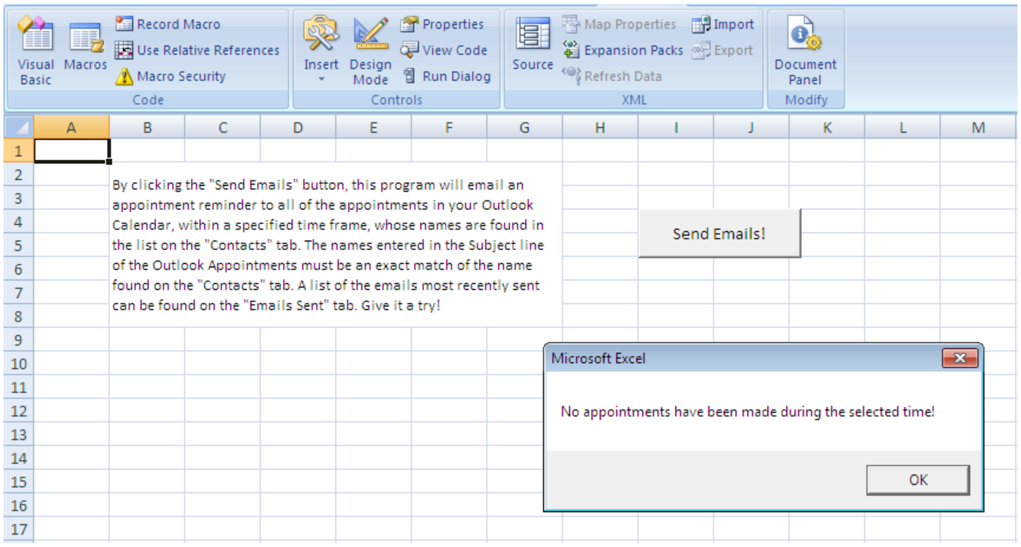
Please Select an End Date (mm/dd/yyyy)

4 / 4 /2010

These date forms also provide date validation by displaying a small calendar from which Cam can select the dates, rather than having a textbox in which to type dates.

Step 4 – Email Service Selection

Once Cam has selected the dates for which he wishes to send appointment reminders, one of two things will happen. If there are no appointments scheduled for the date range he selects, a message will display telling him that no appointments exist:

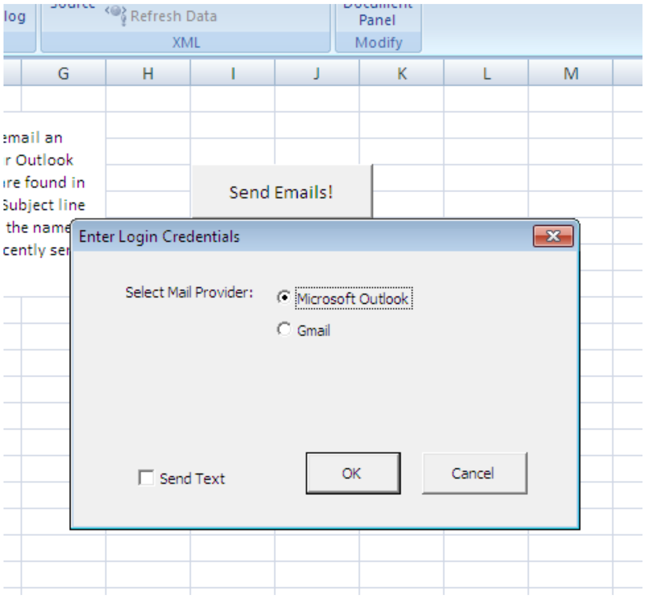


By clicking the "Send Emails" button, this program will email an appointment reminder to all of the appointments in your Outlook Calendar, within a specified time frame, whose names are found in the list on the "Contacts" tab. The names entered in the Subject line of the Outlook Appointments must be an exact match of the name found on the "Contacts" tab. A list of the emails most recently sent can be found on the "Emails Sent" tab. Give it a try!

Microsoft Excel

No appointments have been made during the selected time!

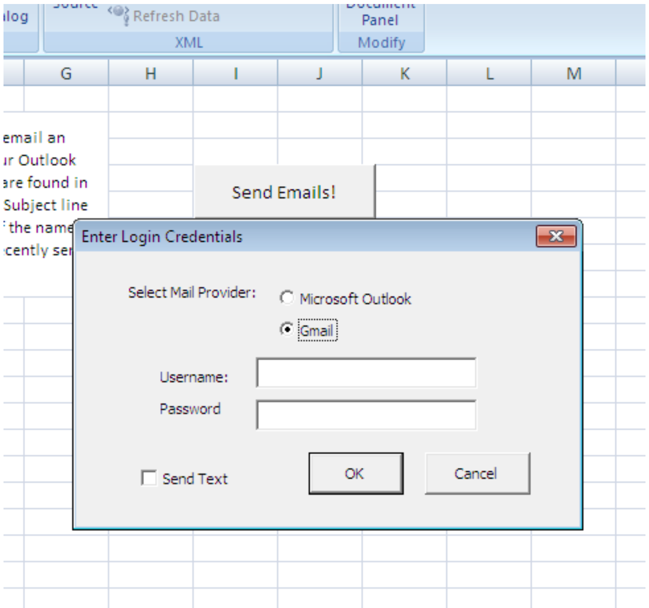
As long as there is at least one appointment, a new form will display that allows Cam to choose to send his emails either through Outlook or Gmail.



Enter Login Credentials

Select Mail Provider: ● Microsoft Outlook ○ Gmail

□ Send Text



Enter Login Credentials

Select Mail Provider: ○ Microsoft Outlook ● Gmail

Username:

Password

□ Send Text

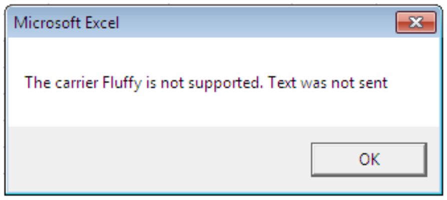
OK Cancel

This form also allows him to choose whether to send a text message reminder as well. You may have noticed on the client information spreadsheet that there is a column that allows the client to state whether or not they approve of text message appointment reminders. If Cam chooses this option on the form, text messages will be sent only to the clients who have approved text messaging.

Step 5 – Confirmations

After Cam selects "Ok" on this last form, the program then takes care of the rest and sends emails and texts to the appropriate clients. The program works by extracting the appointments from the Outlook calendar and listing them on the log spreadsheet by Subject, including things like "Soccer Game" that aren't business appointments with clients. It then compares the subjects of each appointment with the client names on the client information spreadsheet. Wherever the subject matches the name of a client, the program then stores the appointment information, including name, phone number, and email address, for that client in an array. The array is then referred to in order to send each client the appropriate reminder. The text of the reminder is determined in the code.
Once the messages are all sent, there are a number of confirmation messages that let Cam know what was accomplished according to planned and what may have gone differently.

- If there are any clients that have approved text messaging but the carrier entered into the spreadsheet for them is not supported or does not exist, the following message will appear:

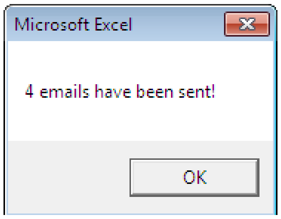


Microsoft Excel

The carrier Fluffy is not supported. Text was not sent

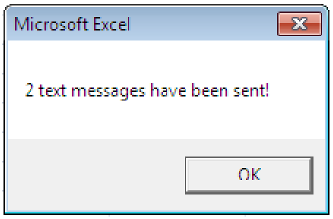
OK

- If the emails were sent successfully, the following message will tell how many emails were sent:



4 emails have been sent!

- If the texts were sent successfully, the following message will tell how many texts were sent:

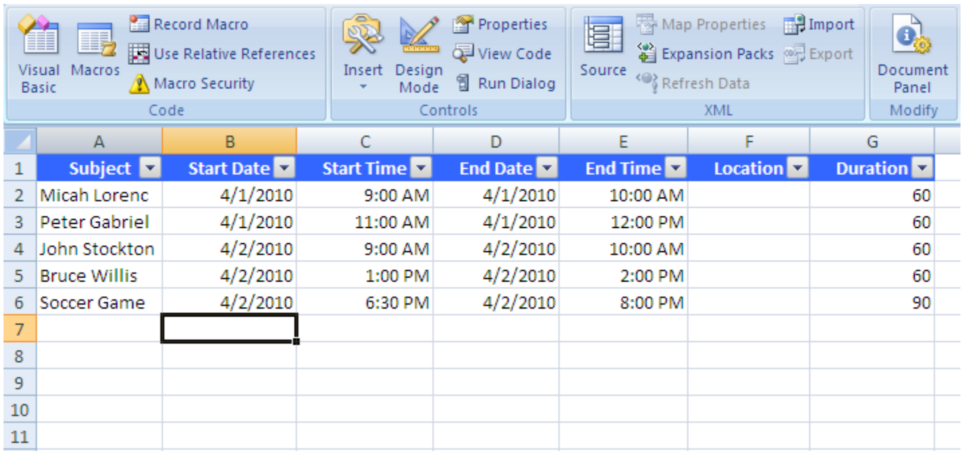


2 text messages have been sent!

- Finally, if an email or text message failed to send, a “message failed” notice will appear.

Step 6 – Log Results

I anticipated that Cam might forget at times whether he has sent an appointment reminder for certain dates. So, the third sheet in the workbook is a log that displays the most recent appointments for which reminders were sent:



	A	B	C	D	E	F	G
1	Subject	Start Date	Start Time	End Date	End Time	Location	Duration
2	Micah Lorenc	4/1/2010	9:00 AM	4/1/2010	10:00 AM		60
3	Peter Gabriel	4/1/2010	11:00 AM	4/1/2010	12:00 PM		60
4	John Stockton	4/2/2010	9:00 AM	4/2/2010	10:00 AM		60
5	Bruce Willis	4/2/2010	1:00 PM	4/2/2010	2:00 PM		60
6	Soccer Game	4/2/2010	6:30 PM	4/2/2010	8:00 PM		90
7							
8							
9							
10							
11							

Difficulties & Takeaways

Interestingly enough, the things that were the most difficult were the things that were the most valuable learning experiences. There were three things in particular that were most difficult to implement.

1. Outlook Interactivity – This was the first thing I was concerned about because I wasn’t even sure that it was possible to extract appointment information from the Outlook calendar using vba in Excel. In researching forums online, I soon found that there were many references about interaction between Excel and Outlook using vba. Unfortunately, most of those were about

sending emails through Outlook using the Outlook contacts, which I wasn't interested in doing. After I spent a great deal of time in forums, I finally found an example of code that would simply extract calendar information from Outlook into a spreadsheet in Excel. The hardest part of the whole thing was first understanding what the author of the code intended and how I could make it work for my purposes. I eventually got it to extract the information correctly and organize it in a useful way on one of my spreadsheets. The code that I used from another author is mostly found in the fillCalData, Quote, and Cool_Colors functions.

2. Date Validation – The validation that's done on the dates selected by the user was the most frustrating and time consuming part of the whole thing. I originally had programmed the form to have a text box that would allow the user to enter a date. With the input from the user, I looked for multiple ways, include the isDate function, to determine whether the date entered was a valid date or not. The big problem with the isDate function and other methods was that they were not strict enough about what could be considered a date. I would test the validation with a variety of date inputs and almost all of the invalid dates I entered were not caught by the validation I wrote. After many hours working on this, I finally asked Gove what he would do, and he showed me the Microsoft Date Picker I could reference. This was an extremely quick and easy fix to my problem, as this allows the user to select a date from a pop-up calendar. It was frustrating how simple the solution was, but it was also a great relief.

3. Phone Carrier Validation – While it wasn't as difficult and quite as time consuming as the other two, getting the carrier validation to work was a challenging activity. I had to figure out a way to allow clients to have a phone carrier associated with their phone number. The difficult thing was figuring out a way to make sure that carriers associated with clients in the spreadsheet are valid carriers that have an address for sending texts via email. I developed a way to take the carrier name, make sure I had an address for that carrier, and display the appropriate error messages if the carrier is either not supported or not on my list.

Besides these three difficulties, I felt like the greatest take-away from this project was that I was able to use the resources available to me to get answers to questions and apply them in ways that work for my situation. There may have been one occasion during the process of programming this project when I looked for an answer to a question online, and I found quickly exactly what I was looking for. Most of the time I had to search for solutions to similar questions and apply them to my situation, or I had to reconsider what I thought was the best way to do something and change my method altogether.

Conclusion

I think what I liked most about this project was that I was able to accomplish it almost entirely on my own. I am not a strong programmer, but it became very apparent to me that there will be situations in my work in the future when I can use what I've learned in this course to find simple automated solutions that will benefit my work and my reputation.