

Executive Summary

Business

The Marriott School Women in Business Club (Undergraduate) currently has 270 club members and is a two-time winner of the Bateman Outstanding Marriott School Club Award. The Women in Business (WIB) Club provides opportunities for women to connect with fellow classmates and professionals, learn about opportunities for women in the Marriott School, and gain skills that are valuable in the workplace as well as in other aspects of life.

I served as the Club's president last school year (2012-13) and in various in years prior. As such, I have a vested interest in the Club's progression and image. Those driving factors are what led me to the idea for this project.

Problem

Every year the Marriott School and Women in Business Club co-host the Major Shopping Event. The event typically has over 400 registrants. The event's purpose is to attract freshmen and sophomore women to consider earning a Marriott School degree. Thus, registration is structured to screen out those who are not seriously considering a business degree. Those who are already in the Marriott School can attend by bringing a friend who might seriously consider earning a Marriott School degree or by volunteering to market before the event and help during the event. The registration process verifies that these requirements are met.

In the past, the Club has used both Qualtrics and Eventbrite systems for registration. Qualtrics because of its ability to display different questions based on responses. Eventbrite has been used to enhance the users experience by sending a confirmation email right after registration and a reminder email the day before the event. Another major reason for using Eventbrite is because of its great check-in list and process on mobile devices. As you can image, this makes checking in 400 plus people very easy on the day of the event.

However, the Club has found that sometimes people only get registered on one system, not both. The Qualtrics link is publicized for registration. Two different methods for completing registration through Eventbrite have been implemented. One, after answering the last question the system redirects them to Eventbrite. Two, a link to Eventbrite is provided and the user is asked to register through Eventbrite and then say that they did on Qualtrics before the Qualtrics survey will submit.

However, sometimes the redirect takes too long or people forget to come back and registrants don't realize that they didn't complete their registration. Also, since some registrants bring a friend, the friend must too fit the attendance criteria. Sometimes a friend will get registered on Eventbrite even though they haven't been entered into and verified through Qualtrics.

Solution

I built a program that receives user feedback for credentials and survey or event titles, downloads a table of those who have registered on Qualtrics and finds that data necessary to register on Eventbrite. The program also downloads a table of those who have been registered on Eventbrite. In the future I will add the functionality that registers attendees from Qualtrics to Eventbrite.

This solution will eliminate confusion for registrations while still providing an enjoyable experience for registrants in receiving the confirmation and reminder emails from Eventbrite. Furthermore, check-in will continue to be quick and easy on the day of the event. The Club and Marriott School will no longer need to worry about students being registered on one system and not the other.

Implementation

My project really has two parts because it changed partway through the project. Since the WIB club had already opened registration for the “Major” Shopping Event I began building a program that would read in data from both Eventbrite and Qualtrics and then compare the lists to find people that were registered on one system but not the other.

However, after the event, I switched my focus to automatically registering users on Eventbrite who complete the Qualtrics registration form to eliminate confusion for registrations while still providing a great registration for them and check-in process for both attendees and leadership in charge of the event.

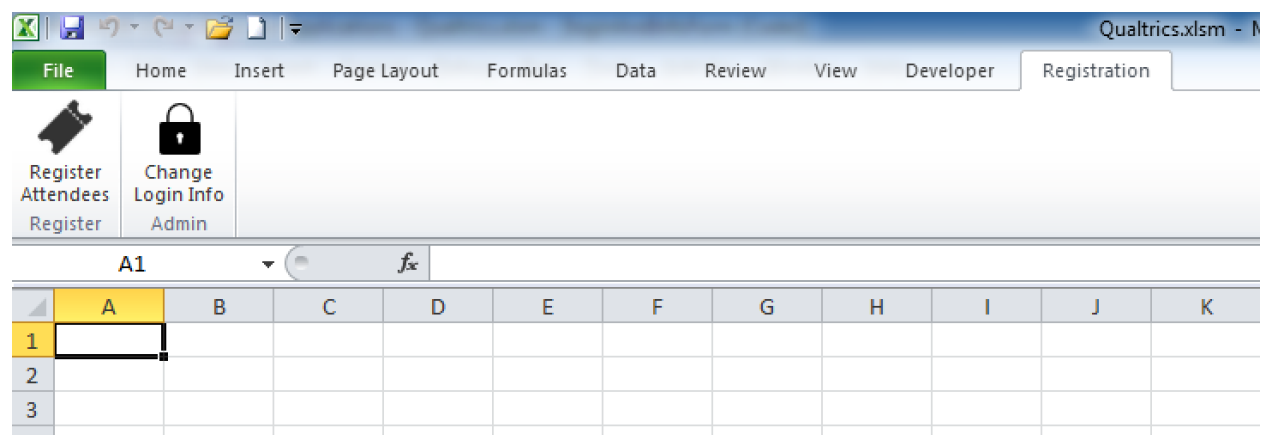
Ribbon Customization

In order to collect credential information for both Qualtrics and Eventbrite as well as the titles of the survey or event respectively, I decided it would be best to user a form.

Although modifying the ribbon was not an item that was initially a part of my plan, I found that a custom tab and buttons for actions would be appropriate and could greatly improve the user’s (Club leadership) experience.

I found that it would be best to customize the Ribbon with a Registration tab. I started thinking that would have two or three buttons depending on how many actions I would give to the user. I wanted the user to be able to take a look at the ribbon and know how to accomplish what they ended to. However, I still wanted to give users freedom in so much as I could allow it. Initially I thought that the first button might say Login and Register Attendees, but I didn’t want the user to think that they would need to worry about logging in every time they clicked this button.

In regards to the buttons, I spent some time searching for the best images for these buttons. In the end I decide on a ticket for registering attendees and a padlock with a key for changing login information.



Form Creation and Customization

I then began working on the user form. Below is an image of it. You can see that I have created placeholder text. On enter, if the tag value is zero, the placeholder text is stored in the tag value and the value is set to 0, removing the placeholder text. The text (fore) color is set to black. On exit, if the value of the field is zero, the field's placeholder text which was stored in the tag value becomes the field's value and the text color is set to a medium gray to indicate that the field is not filled with user content.

I also made the cursor go back to the beginning of the textfield when the user leaves and clicks into the field. I set the tab order to go from top to bottom and left to right. Thus, the user can enter the Club's Qualtrics username and then tab through to enter the rest of the fields without having to click. Below is an image of what the form looks like upon being initialized and once information is filled in.

The image shows a Windows-style dialog box titled "Login and Survey Information". It contains two columns of text input fields. The left column is associated with Qualtrics and includes fields for "Username", "Password", and "Title of Survey". The right column is associated with Eventbrite and includes fields for "Username", "Password", and "Title of Event". Below the input fields is a checkbox labeled "Save Login Information" which is checked. At the bottom of the dialog are two buttons: "Login and Register Attendees" and "Cancel".

The screenshot shows a window titled "Login and Survey Information". It contains two columns of input fields. The left column is for Qualtrics, with the logo at the top. It has a username field containing "wib@byu.edu", a password field with masked characters "*****", and a survey title field containing "Third Annual 'Major' Shoppir". The right column is for Eventbrite, with the logo at the top. It has a username field containing "katherineapoulter@marriottsc", a password field with masked characters "*****", and a survey title field containing "Major Shopping Event 2014 V". Below these fields is a checkbox labeled "Save Login Information" which is checked. At the bottom are two buttons: "Login and Register Attendees" and "Cancel".

I also implemented some validation. If the user does not have every box filled in they are asked to complete the entire form and the focus is set on the first object with missing data. I implement this quite efficiently. Rather than implementing six if statements, I set the fields into an array and loop through it to see if the field's text color

This screenshot shows the same "Login and Survey Information" window, but with placeholder text "Username", "Password", and "Title" in the input fields. A modal dialog box titled "Whoops!" is overlaid on the window. The dialog contains the message "Please provide a valid username and password for both Qualtrics and Eventbrite." and an "OK" button. The "Login and Register Attendees" and "Cancel" buttons are still visible at the bottom of the main window.

is the dark gray of the placeholder text. If it is, they are met with kind message box that doesn't allow them to submit the form until it is complete.

“Very Hidden” Worksheet to Store Credentials

As you can see, I've implemented a checkbox for saving the login information. If the user has this checked a very hidden worksheet is created and hidden from users. As I'm sure you're familiar, the very hidden type allows hidden sheets to only be opened with VBA.

I wanted to implement this so that users could save or send the file to another leadership member who may not have the account information but can still run the program.



This is also set up so that after filling out the form for the first time, if the “Save Login Information” box is checked the user is never asked for credentials again, unless the passwords don't provide access to their corresponding account.

That is why I implemented the “Change Login Information” button in the ribbon.

Change Login Information Button

If the user would like to change her credentials or the title of the Qualtrics survey or Eventbrite event, they can do so by clicking this button. The same form pops up with the values previously entered with the password masked by a password character. The “Login and Register Attendees” button text is changed to “Save” as seen below.

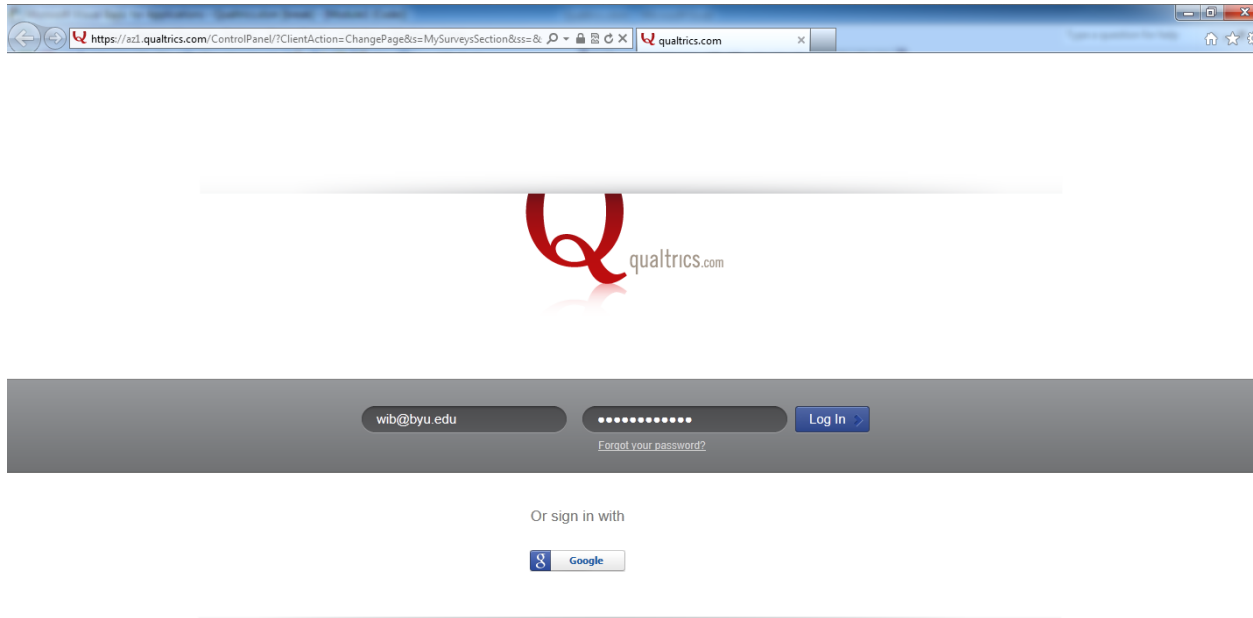
Login and Survey Information

	
<input type="text" value="wib@byu.edu"/>	<input type="text" value="katherineapoulter@marriottsc"/>
<input type="password" value="*****"/>	<input type="password" value="*****"/>
<input major"="" shoppir"="" type="text" value="Third Annual "/>	<input type="text" value="Major Shopping Event 2014 V"/>

☒ Save Login Information

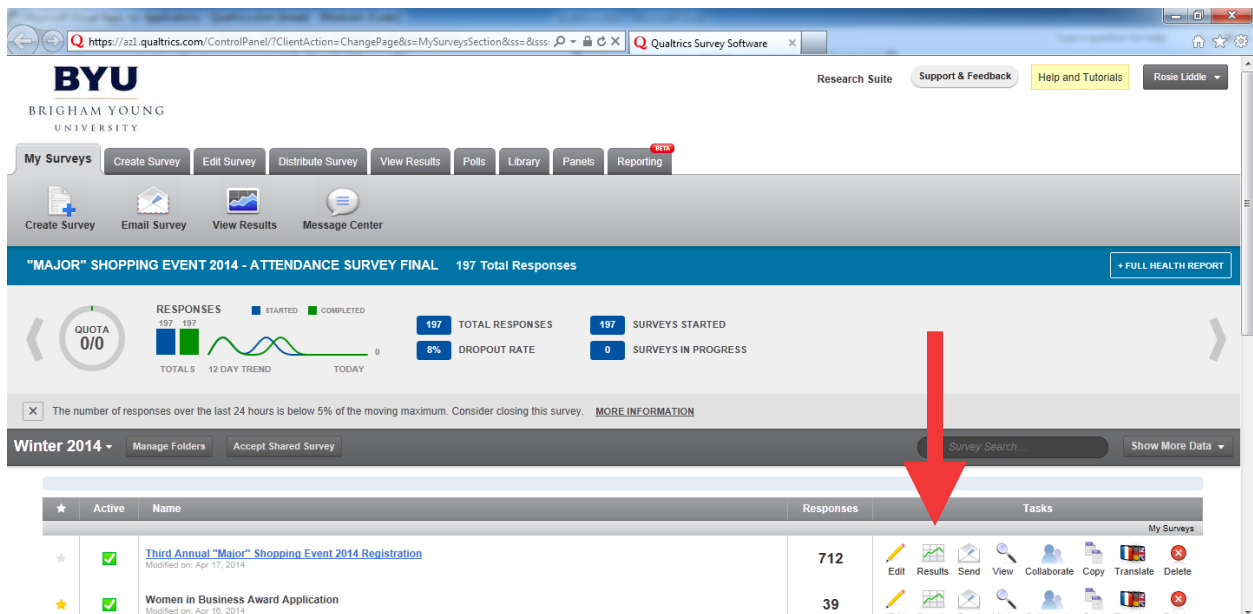
Logging into Qualtrics

Upon selecting the “Login and Register Attendees” button, an agent is set up to log into Qualtrics.

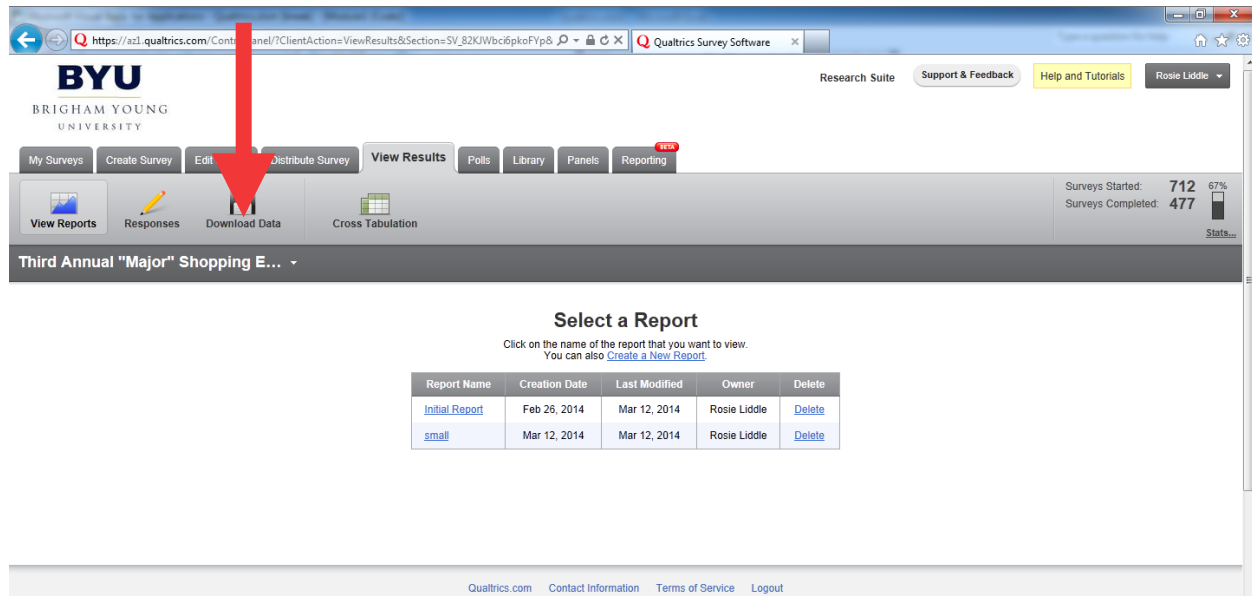


Once logged in, I parse through the lines of html looking for innerHTML that matches the Qualtrics survey title provided by the user. Unfortunately, the survey row doesn't have an id property, so I couldn't search that way.

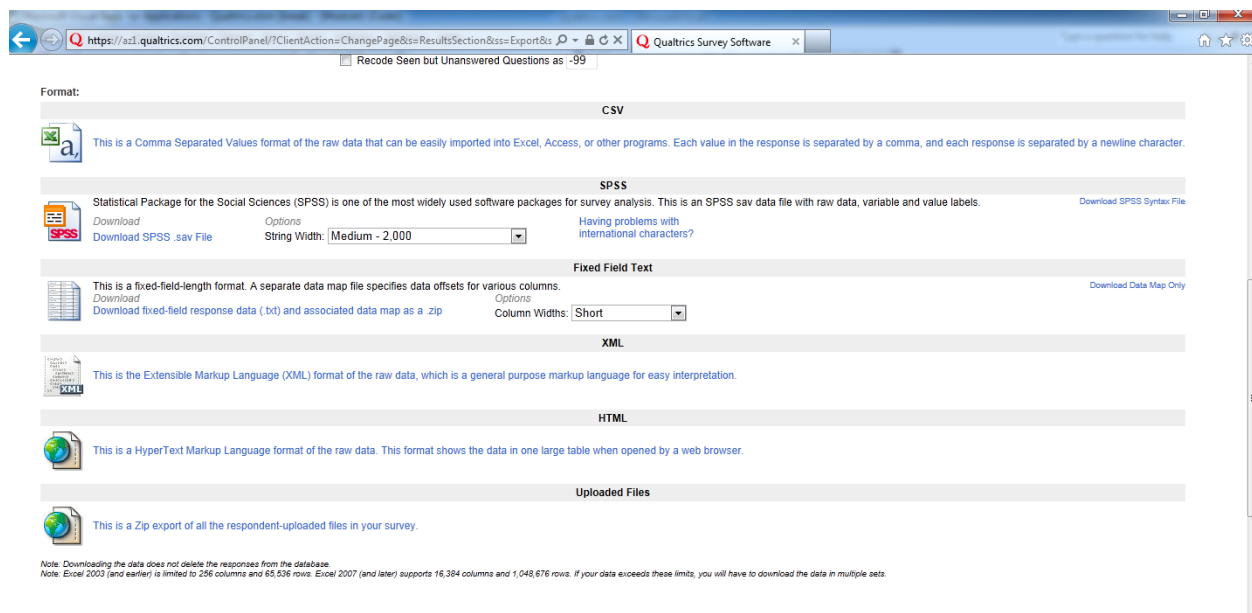
Upon finding the table row for the survey we are looking for the program, I parse the html tag and pull out the survey's unique id. I then use this unique id to parse through the survey's row to find the Results button listed in the Tasks column. I append the unique id with “_Tasks” and use it to search for the Tasks table cell id which contains the Results button. To find the Results button, I search for the “Results” classname and then find the a tag after that and click on it.



The macro then searches for a selects the “Download Data” button and clicks on it.



From this page, the macro selects the HTML format button in order to have a new tab with the table data displayed. This part I spent a lot of time on and had quite a few issues with. When the button was selected it created a new tab but would not switch to the new tab. I tried sending the tab key as well as using the Internet Controls. However, unfortunately nothing worked. After a while of working through this problem I decided to download the file manually and go from there.



After opening up the Qualtrics data CSV, my program converts the file to XLS and searches for specific question titles and extracts the data from there.

Eventbrite

As mentioned above, the Eventbrite portion of my project logs into Eventbrite, and initially searches through each of the tables you see below, which are on several pages. When the program gets to the end of the table, it checks to see if there is a new page. If so it, it keeps copying data and importing it into excel. If not, it stops and is done.

The screenshot shows the Eventbrite 'Attendee Summary' page for a 'Major Shopping Event 2014' held on Thursday, March 13, 2014, from 5:15 PM to 7:45 PM (MDT). The page displays a summary of sales and a list of attendees. The summary shows a total of 450 orders and 488 attendees. The attendees list includes columns for Last Name, First Name, Email, Quantity, Ticket Type, Date Attending, Discount, Order #, Order Type, Total Paid, Eventbrite Fees, Eventbrite Payment Processing, Attendee Status, and Quick Actions.

Last Name	First Name	Email	Quantity	Ticket Type	Date Attending	Discount	Order #	Order Type	Total Paid	Eventbrite Fees	Eventbrite Payment Processing	Attendee Status	Quick Actions
Jlton	Cynthia	jllmcyntina@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268474729	Paid with Check	0.00	0.00	0.00	Checked in	Quick Action
turrisa	sarah	sarahmaysa@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268471648	Paid with Check	0.00	0.00	0.00	Checked in	Quick Action
Reil	Rebecca	rebecca.l.reil@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268435409	Paid with Check	0.00	0.00	0.00	Checked in	Quick Action

The screenshot shows the Eventbrite 'Attendee Summary' page for the same event, displaying a list of attendees. The attendees list includes columns for Last Name, First Name, Email, Quantity, Ticket Type, Date Attending, Discount, Order #, Order Type, Total Paid, Eventbrite Fees, Eventbrite Payment Processing, Attendee Status, and Quick Actions.

Last Name	First Name	Email	Quantity	Ticket Type	Date Attending	Discount	Order #	Order Type	Total Paid	Eventbrite Fees	Eventbrite Payment Processing	Attendee Status	Quick Actions
Meek	Lauren	lalameek@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268422295	Paid with Check	0.00	0.00	0.00		
Smith	Kendra	kendra.smith.byu@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268421985	Paid with Check	0.00	0.00	0.00		
kah	kelsey	kelseykah@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268421813	Paid with Check	0.00	0.00	0.00		
Pearce	Judith	judithkpearce@yahoo.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268421543	Paid with Check	0.00	0.00	0.00		
Thomas	Lauren	LaurenNThomas18@gmail.com	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268421283	Paid with Check	0.00	0.00	0.00		
Smith	Susanna	sassafras22@comcast.net	1	Guest (attending event)	Mar 13, 2014 at 5:15 PM		268420927	Paid with Check	0.00	0.00	0.00		

The second portion of the Eventbrite macro is that after being run initially, it searches up until the last person it retrieved. Thus, it creates a list of everyone registered on Eventbrite to that point.

Learning

I learned how to more quickly implement a custom ribbon group and tabs as well as custom buttons for them. I learned a lot more about creating robust user forms and became a lot more comfortable with using the agent to extract web data. Because usability and pleasing aesthetics are important to me, I spent time figuring out how to achieve this with Excel's form builder. Little things like the tab index, placeholder text, pleasing borders, etc. were a major part of what I learned.

In regards to extracting data from the web, I learned a lot more about important web elements that make parsing through a page a lot easier. When developing websites in the future, I will plan to implement these elements. I also learned how to more efficiently use do loops and functions, since I often times would find a block of code and need to iterate line by line to find what I was looking for.

Difficulties

Initially, it was hard to find the buttons I needed to click on because the tags did not have ids and names. However, the more I worked at it, the easier this got.

Much more of my time than I had anticipated needed to be spent trying to figure out how to switch tabs to copy the Qualtrics table into Excel. As I mentioned above, I tried sending keys to the browser, iterating through tabs with referencing MS Internet Controls but none of this worked. Because of this, I wasn't able to connect the register from Qualtrics to Eventbrite part. However, I mentioned above, I do retrieve an entire list of those currently registered on Eventbrite for my users to see after the entire process.

Overall, I'm pleased with what I was able to accomplish and what I learned from working through these difficulties.

Assistance

In March, prior to our class session about the agent, I spent a few hours of Dr. Allen to learn about it. Together we worked on logging into Eventbrite, navigating to the proper event, fortunately Eventbrite uses unique URLs for each of your events, and downloading the table of registrants from each page the table continued onto.

Meeting with Dr. Allen was very helpful in learning where to start and how the agent worked.