MBA ASIA STUDY ABROAD

ITINERARY PROJECT

MELANIE GOULDING

APRIL 17,2014

EXECUTIVE SUMMARY

Background

The BYU MBA Program offers at least two opportunities each year for its students to travel abroad. These international experiences provide access and exposure to global businesses and cultures, which maximize education for all participants. The MBA Program hopes these trips motivate students to focus on a global career and earn the BYU sponsored Global Management Certificate. One of the requirements to obtain this certificate is an international experience; therefore, a plethora of BYU MBA students have gone on an MBA Study Abroad trip to earn the certificate as a step towards a global career.

Project Purpose

After traveling on the MBA Europe Study Abroad trip in January 2014, information, including travel (including flights), daily tourist excursions, business visits and names of business contacts was not distributed to those traveling on the trip. This lack of information put the students at a distinct disadvantage, specifically when meeting with businesses and contacts. We were not able to research the companies/individuals prior to meeting with them; therefore, questions posed during meetings were haphazard and showed a lack of research and knowledge. This project was developed to combat this lack of knowledge.

The ultimate goal was to build a project that can be adapted for use on future MBA Study Abroad trips so the participants obtain critical information about business visits and activities. This project could potentially be a small part to an MBA student making a favorable impression on a business leader, while on a Study Abroad, that leads to a job offer in a foreign country.

Project Overview

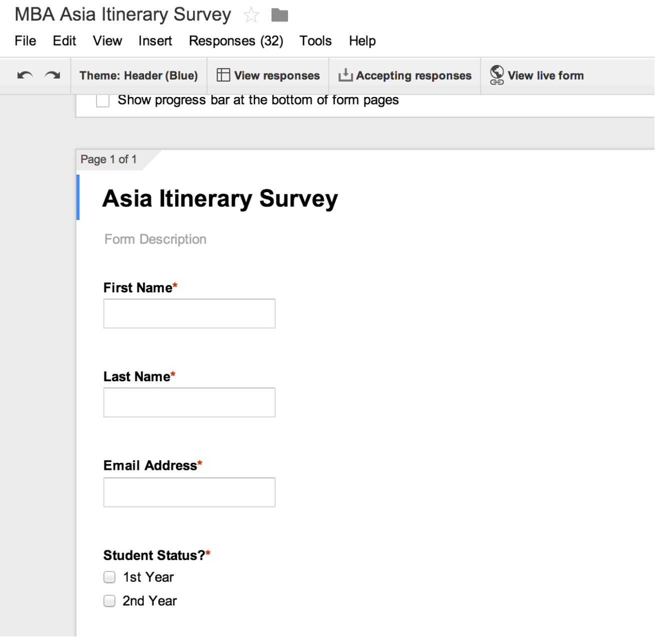
The project builds individual itineraries for each participant on the MBA Asia Trip, which takes place in April and May 2014 and includes visits to five countries over 21 days. The itineraries contain daily, and sometimes hourly, details for each country that will be visited. All names of companies, business leaders, networking contacts as well as logistics like flights, hotel information, transportation from airport to hotel, when meals are provided. These components are built into one itinerary that is saved as a spreadsheet and eventually shared with the participant.

Project Solution

The key to the success of the project was obtaining the correct information. It was imperative to work directly with the BYU Professor leading the Study Abroad Program, Lee Daniels as well as Nancy Bean in the BYU Travel department. In addition, each trip participant completed an online survey with contact information and other details. The collection of all of the necessary information allowed the itinerary to be built using an automated system. The automated system feeds details, specifically flight numbers and departure/arrival times, into the specific country itinerary and then produces and saves an individual spreadsheet into a desktop folder for easy organization and dissemination. Now each participant has all of the information necessary to research companies, a better understanding of what to pack, when free time is available and when they have a scheduled flight.

Information Collection

The first step for the project was the collection of information from my fellow Study Abroad travelers, Professor Lee Daniels and BYU Travel agent Nancy Bean. I began my information collection by writing a Google survey for the participants to complete. The survey collected contact information as well as details about the businesses they were most interested in visiting, prior international travel and any languages spoken. Due to the timing of this project I was unable to ask for flight details from the participants; therefore, I built a Google survey that would at minimum provide the names and contact details for each participant.



□ Show progress bar at the bottom of form pages

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Asia Itinerary Survey

Form Description

First Name*

Last Name*

Email Address*

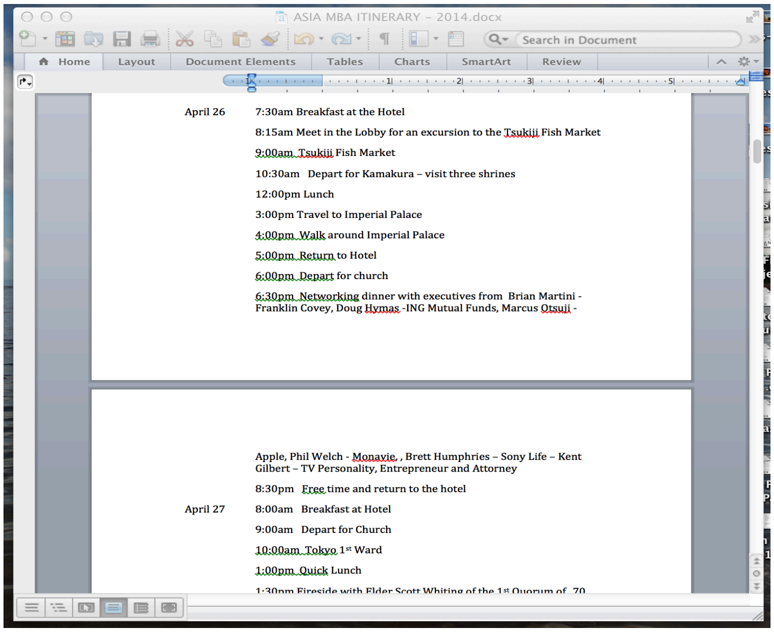
Student Status?*

□ 1st Year

□ 2nd Year

Professor Daniels was responsible for working with Nancy directly to find the best path between the countries. After all of the trip components were built, Professor Daniels wrote the trip details into a Word document. He willingly shared this document for the project. However, this Word document did not contain any flight details for the participants.

Word document provided by Lee Daniels



April 26 7:30am Breakfast at the Hotel

8:15am Meet in the Lobby for an excursion to the Tsukiji Fish Market

9:00am Tsukiji Fish Market

10:30am Depart for Kamakura – visit three shrines

12:00pm Lunch

3:00pm Travel to Imperial Palace

4:00pm Walk around Imperial Palace

5:00pm Return to Hotel

6:00pm Depart for church

6:30pm Networking dinner with executives from Brian Martini - Franklin Covey, Doug Hymas -ING Mutual Funds, Marcus Otsuji - Apple, Phil Welch - Monavie, , Brett Humphries – Sony Life – Kent Gilbert – TV Personality, Entrepreneur and Attorney

8:30pm Free time and return to the hotel

April 27 8:00am Breakfast at Hotel

9:00am Depart for Church

10:00am Tokyo 1st Ward

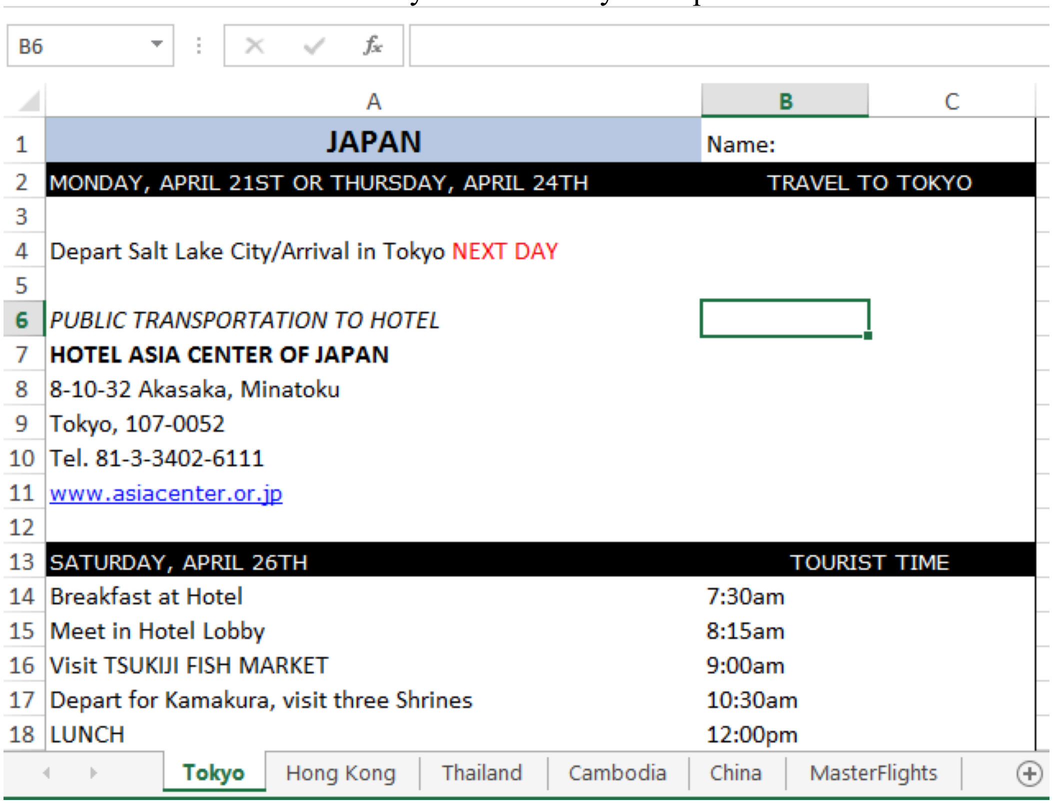
1:00pm Quick Lunch

1:30pm Fireside with Elder Scott Whiting of the 1st Quorum of 70

The flights had to be obtained directly from Nancy Bean. Due to legal restrictions, Nancy could provide flight details that I was booked on and would give me the information only if I came to her office, not over the phone. I met with Nancy twice to obtain the flight details as well as asked Professor Daniels to share the trip packets with everyone's flight details that he received from Nancy. After receiving those packets I uploaded the flight details for three flights that had multiple groups of participants flying on different flights. Those flights included from the USA to Tokyo, between Tokyo and Hong Kong and the flight back to the USA from Beijing. I accessed the Google Survey responses and added columns so I could type in the flight details for each person.

At this point, the necessary information was collected so I began to write the information from the Word document provided by Professor Daniels into a Macro enabled Excel file. I made the choice to build the itineraries by separating each country on its own sheet within the file. It took me close to 5 hours to transfer all of the details from the Word document into Excel.

Country sheet itinerary example



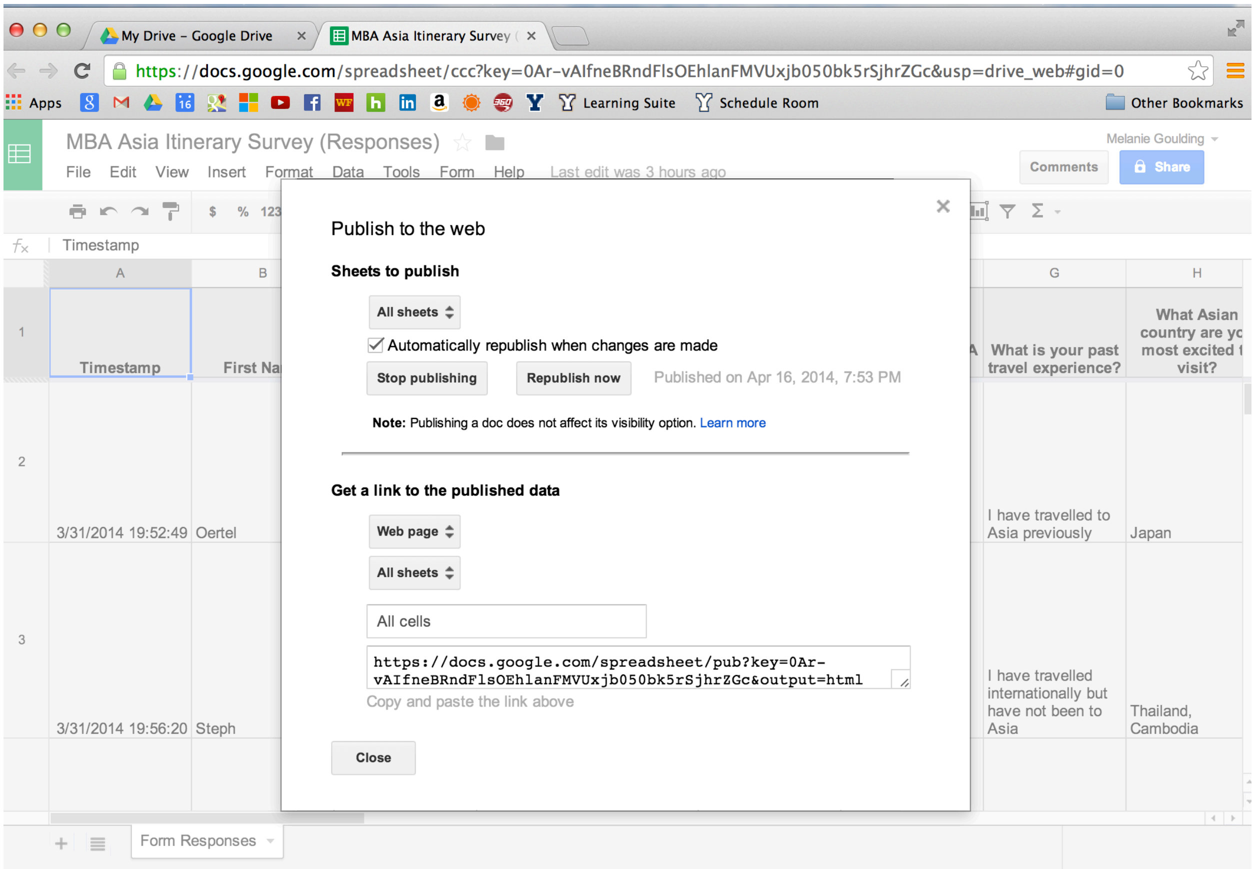
	A	B	C
1	JAPAN	Name:	
2	MONDAY, APRIL 21ST OR THURSDAY, APRIL 24TH	TRAVEL TO TOKYO	
3			
4	Depart Salt Lake City/Arrival in Tokyo NEXT DAY		
5			
6	*PUBLIC TRANSPORTATION TO HOTEL*		
7	**HOTEL ASIA CENTER OF JAPAN**		
8	8-10-32 Akasaka, Minatoku		
9	Tokyo, 107-0052		
10	Tel. 81-3-3402-6111		
11	www.asiacenter.or.jp		
12			
13	SATURDAY, APRIL 26TH	TOURIST TIME	
14	Breakfast at Hotel	7:30am	
15	Meet in Hotel Lobby	8:15am	
16	Visit TSUKIJI FISH MARKET	9:00am	
17	Depart for Kamakura, visit three Shrines	10:30am	
18	LUNCH	12:00pm	

Once all of the details on the country sheets were completed I began to build my automated code to pull specific information from each participant's travel details on the Google survey results into the Excel file and then produce a personalized file that could be emailed or printed for the MBA Asia Study Abroad participant.

Building Itinerary Process

The immediate step to the process for automating the itineraries was to first add a sheet in the master file called "Participants". This new sheet in the file was imperative to hold the information that would be fed into the specified cells on the country sheets. Also, this sheet would be the destination for the web query that was required to obtain the data to fill the sheet.

In order to run an automated web query the Google sheet holding the online survey data had to be published to the web. Professor Gove Allen explained the process to complete this initial step to building the web query. On the Google Drive site, open the survey responses sheet, go to File and click “Publish to Web”. A dialogue box will appear and provide the website containing your data. It is vital to obtain the website address to build the web query.


My Drive – Google Drive
MBA Asia Itinerary Survey
https://docs.google.com/spreadsheet/ccc?key=0Ar-vAIfneBRndFlsOEhlanFMVUxjb050bk5rSjhrZGc&usp=drive_web#gid=0
Apps
Learning Suite
Schedule Room
Other Bookmarks
MBA Asia Itinerary Survey (Responses)
File Edit View Insert Format Data Tools Form Help
Last edit was 3 hours ago
Melanie Goulding
Comments
Share
Timestamp
Form Responses

	A	B	G	H
1	Timestamp	First Na	What is your past travel experience?	What Asian country are yo most excited t visit?
2	3/31/2014 19:52:49	Oertel	I have travelled to Asia previously	Japan
3	3/31/2014 19:56:20	Steph	I have travelled internationally but have not been to Asia	Thailand, Cambodia

Publish to the web

Sheets to publish

All sheets

☑ Automatically republish when changes are made

Stop publishing   Republish now   Published on Apr 16, 2014, 7:53 PM

Note: Publishing a doc does not affect its visibility option. Learn more

Get a link to the published data

Web page

All sheets

All cells

```
https://docs.google.com/spreadsheet/pub?key=0Ar-
vAIfneBRndFlsOEhlanFMVUxjb050bk5rSjhrZGc&output=html
```

Copy and paste the link above

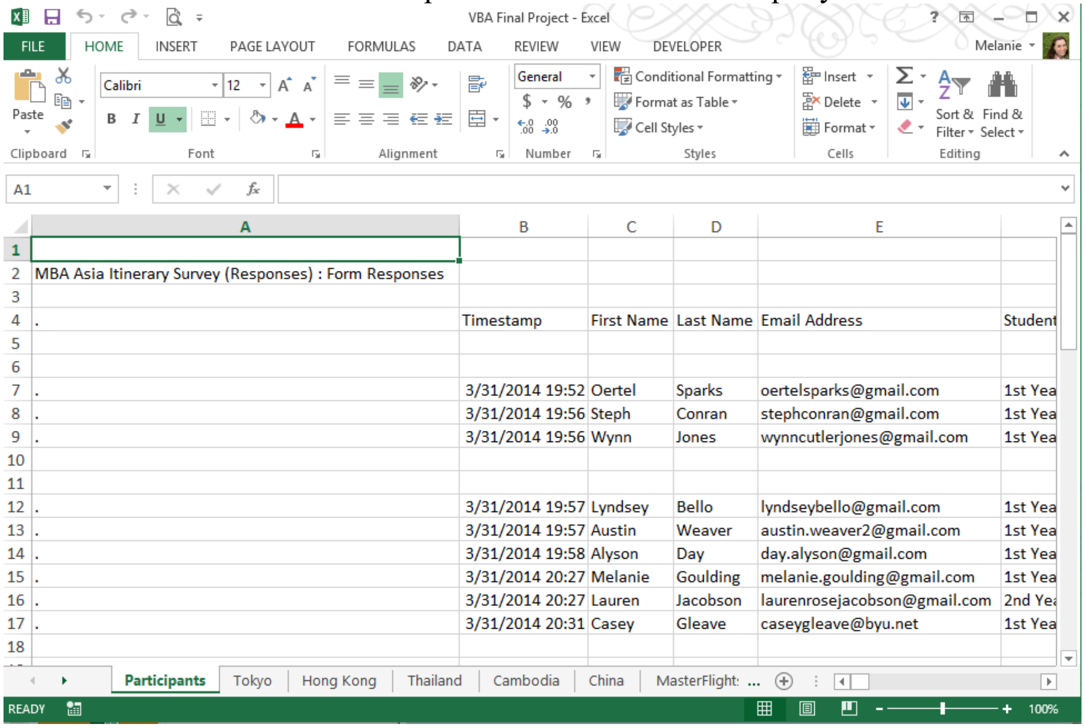
Close

Once the survey responses were on the web, it was time to begin building Sub procedures in the Visual Basics window. I decided at the beginning to have one main Sub procedure that would call of the secondary Sub procedures. The name of my master procedure was “itineraryBuild”.

The first Sub procedure to build was the web query, called “surveyData”. This was the first of many times where I chose to record a Macro to build the code necessary to obtain the desired automated functionality. I used the “Get External Data, From Web” button under the “Data” ribbon to choose the website where the survey results were published. The information was then dumped into the “Participants” sheet in the file.

The results came into the “Participants” sheet in an unformatted manner. It became apparent that I needed to automate code that would clean up the contents, including removing excess information not needed for project. I also wanted to sort the data by participant last name so that I could verify that each participant was in the file.

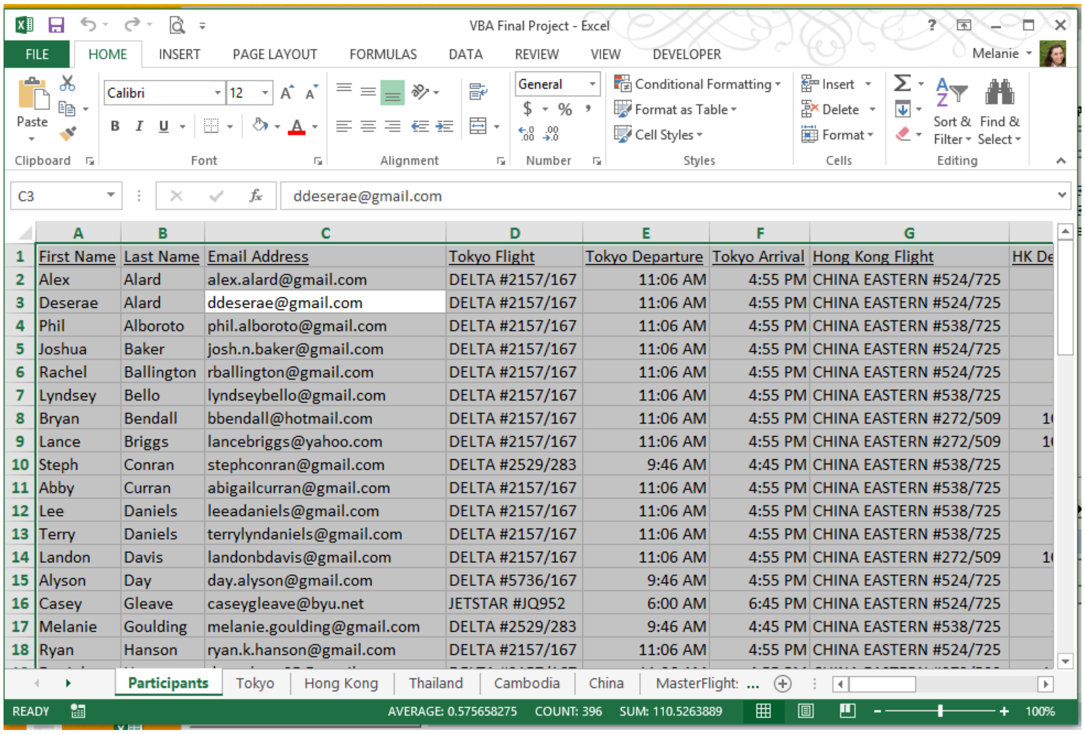
The data in the “Participants” sheet after the web query executed



	A	B	C	D	E	
1						
2	MBA Asia Itinerary Survey (Responses) : Form Responses					
3						
4	.	Timestamp	First Name	Last Name	Email Address	Student
5						
6						
7	.	3/31/2014 19:52	Oertel	Sparks	oertelsparks@gmail.com	1st Yea
8	.	3/31/2014 19:56	Steph	Conran	stephconran@gmail.com	1st Yea
9	.	3/31/2014 19:56	Wynn	Jones	wynncutlerjones@gmail.com	1st Yea
10						
11						
12	.	3/31/2014 19:57	Lyndsey	Bello	lyndseybello@gmail.com	1st Yea
13	.	3/31/2014 19:57	Austin	Weaver	austin.weaver2@gmail.com	1st Yea
14	.	3/31/2014 19:58	Alyson	Day	day.alyson@gmail.com	1st Yea
15	.	3/31/2014 20:27	Melanie	Goulding	melanie.goulding@gmail.com	1st Yea
16	.	3/31/2014 20:27	Lauren	Jacobson	laurenrosejacobson@gmail.com	2nd Yea
17	.	3/31/2014 20:31	Casey	Gleave	caseygleave@byu.net	1st Yea
18						

Based on this messy formatting and the difficulty in writing code that I felt comfortable with, the next Sub procedure in the project was entitled “cleanData.” After execution of the “cleanData” code, all extraneous data columns and empty rows were removed making the data very clear and concise.

The data after “cleanData” code was executed



C3 ddeserae@gmail.com

	A	B	C	D	E	F	G	
1	First Name	Last Name	Email Address	Tokyo Flight	Tokyo Departure	Tokyo Arrival	Hong Kong Flight	HK De
2	Alex	Alard	alex.alard@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #524/725	
3	Deserae	Alard	ddeserae@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #524/725	
4	Phil	Alboroto	phil.alboroto@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #538/725	
5	Joshua	Baker	josh.n.baker@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #524/725	
6	Rachel	Ballington	rballington@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #524/725	
7	Lyndsey	Bello	lyndseybello@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #538/725	
8	Bryan	Bendall	bbendall@hotmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #272/509	1
9	Lance	Briggs	lancebriggs@yahoo.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #272/509	1
10	Steph	Conran	stephconran@gmail.com	DELTA #2529/283	9:46 AM	4:45 PM	CHINA EASTERN #538/725	
11	Abby	Curran	abigailcurran@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #538/725	
12	Lee	Daniels	leeadaniels@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #538/725	
13	Terry	Daniels	terrylyndaniels@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #538/725	
14	Landon	Davis	landonbdavis@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #272/509	1
15	Alyson	Day	day.alyson@gmail.com	DELTA #5736/167	9:46 AM	4:55 PM	CHINA EASTERN #524/725	
16	Casey	Gleave	caseygleave@byu.net	JETSTAR #JQ952	6:00 AM	6:45 PM	CHINA EASTERN #524/725	
17	Melanie	Goulding	melanie.goulding@gmail.com	DELTA #2529/283	9:46 AM	4:45 PM	CHINA EASTERN #538/725	
18	Ryan	Hanson	ryan.k.hanson@gmail.com	DELTA #2157/167	11:06 AM	4:55 PM	CHINA EASTERN #524/725	

The “cleanData” code primarily used an If Statement that looked at each row to determine if there was any content in the cells. If it was empty, then the loop deleted the row.

I ran into an issue with building this loop because when a row is deleted it affects the row number of all subsequent rows; therefore, empty rows were remaining after the If loop completed because they were part of multiple consecutive rows that needed to be deleted. Once the first one was deleted, for example row 5, then row 6 would now become row 5; but the loop had already examined row 5 so did not register that an empty row remained. As I struggled to fix this issue, a classmate, Steven Collier, offered a suggestion of starting the loop at the bottom of the data rows rather than the top. The problem of skipping empty rows still remained until a discussion with Steven reminded me of the Step, row count and end.xlup options. The final code started from the bottom and worked to the top by always remaining on the last row that it read containing text until it got to the top of the data. The result was no empty rows and no loss of rows with content.

Before writing code for the next Sub procedure named “flightData”, I made a new folder on my desktop called “Itineraries”. This is where I would hold each individual itinerary.

It was now time to grab data from the “Participants” tab and place it in the appropriate cells in the country sheets to build the itineraries. As before, I chose to record a Macro to find the code to complete this step. I physically wrote out each Macro step necessary to build a personal itinerary. Those steps were the following:

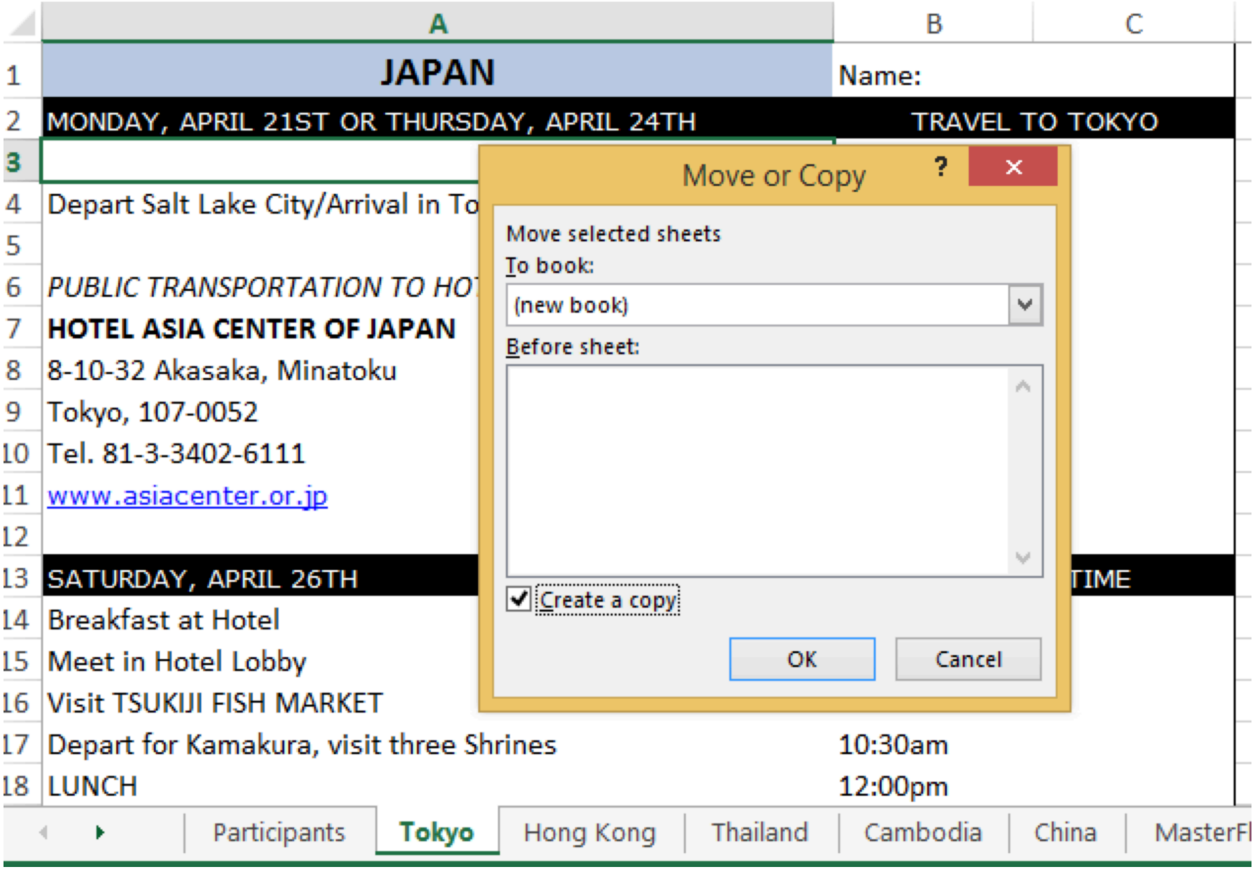
- Copy Participant last name from Participants sheet
- Paste name in top row of each country tab
- Copy Tokyo flight carrier and number(s)
- Paste in Tokyo flight cell on Tokyo sheet
- Copy Tokyo departure flight time
- Paste in Tokyo departure cell on Tokyo sheet
- Copy Tokyo arrival flight time
- Paste in Tokyo arrival cell on Tokyo sheet **Repeat for to Hong Kong & USA flights**
- Copy sheets (Tokyo, Hong Kong, Thailand, Cambodia & China) and use the “Move or Copy” function to a new workbook
- Name the new workbook with Participant name
- Close the new workbook
- Save as a PDF file using the Export option in Excel
- Close the PDF file

The resulting recorded Macro contained what seemed like a short story amount of content. It became clear that I would need to summarize and simplify the code with variables that could hold information. I was able to simplify the masses of recorded Macro code to find the golden nuggets of code where the variables could be applied. These golden nuggets were participant names, flight carriers and numbers and arrival/departure times; therefore, the majority of the declared variables were used as strings. These variables would change once I built the For loop but would always be pulled from the same column on the "Participants" sheet and applied to the same cells on each country sheet. It was definitely an "Ah-ha" moment to realize the power of the variable to simplify code. It taught me that recording a Macro is an okay first step to get the code started but it is about determining how that code works together to implement variables for simplification and clarity.

Overall, the assigning of values from the "Participants" sheet to specific locations on the country sheets proved to be the easiest part of the For loop. A For loop was necessary to complete all of the steps I had written above because each participant needed the same automation to build the itinerary. There would be no Cases, If loops or Do Until loops because no variations existed in building one person's itinerary from another's itinerary.

By far, the most difficult part of building the For loop was adding a new workbook for the country sheets to be placed after being copied with the participant's itinerary data. When I reviewed the recorded Macro code I realized that it referred to the new workbook as "Book3". I immediately realized this would be a major issue because each time the code ran a new workbook would be named something else, i.e. Book4, Book5, Book6, etc.

Moving a copy of the country sheet for each Participant



	A	B	C
1	JAPAN	Name:	
2	MONDAY, APRIL 21ST OR THURSDAY, APRIL 24TH	TRAVEL TO TOKYO	
3			
4	Depart Salt Lake City/Arrival in To		
5			
6	*PUBLIC TRANSPORTATION TO HO*		
7	**HOTEL ASIA CENTER OF JAPAN**		
8	8-10-32 Akasaka, Minatoku		
9	Tokyo, 107-0052		
10	Tel. 81-3-3402-6111		
11	www.asiacenter.or.jp		
12			
13	SATURDAY, APRIL 26TH	TIME	
14	Breakfast at Hotel		
15	Meet in Hotel Lobby		
16	Visit TSUKIJI FISH MARKET		
17	Depart for Kamakura, visit three Shrines	10:30am	
18	LUNCH	12:00pm	

Move selected sheets

To book: (new book)

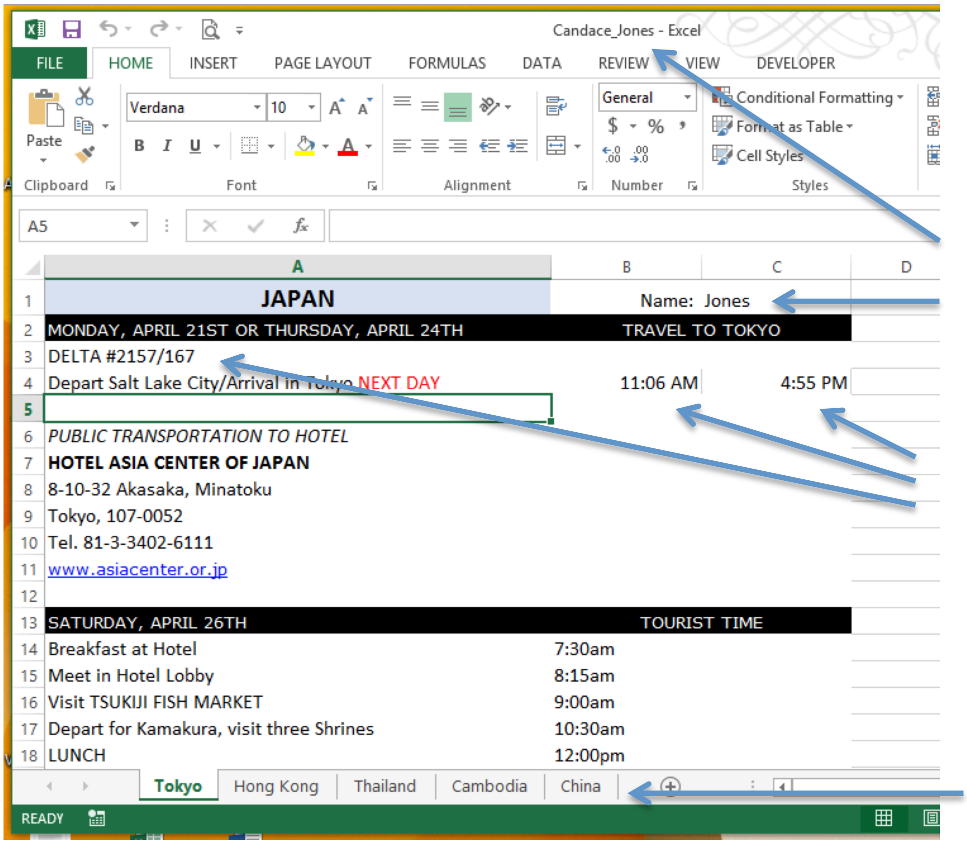
Before sheet:

☑ Create a copy

To combat this problem I decided to add the workbook and save it with a name before copying the country sheets from the main Excel file. The name I chose to give this workbook was "temporary." I then placed the new name "temporary" in the code to copy and move the country sheets to the new workbook. The new problem of "do you want to replace an existing workbook" reared its ugly head after I tried to run the For loop. This problem of adding and naming the workbook was still an issue. I attempted multiple ways to fix the problem to no avail. Ultimately I realized through a conversation with a friend that it was necessary to add the workbook and immediately save it with the participant's first and last name, by incantinating the value in the file path so it would save in the Itineraries folder on the Desktop. Originally I named the workbook after the country sheets were copied. By saving it with the participant name first, I effectively eliminated the issue with the workbook name. A declared string variable could be used to hold the workbook name, which could be part of the code of copying and moving the sheets. I made sure to place the "Tokyo" sheet first and then used the necessary code to place each subsequent sheet after the previous by counting how many sheets were currently in the workbook and adding the new one after that last number.

The next problem with moving the country sheets to a new workbook was that the workbook contained a "Sheet 1" that would affect the itinerary if a participant chose to print it. That sheet needed to be deleted. I went back to my method of recording a Macro to find the code. Shockingly, the code from the Macro was quite simple and worked to delete the extra sheet.

Individual itinerary excel file



	A	B	C	D
1	JAPAN	Name: Jones		
2	MONDAY, APRIL 21ST OR THURSDAY, APRIL 24TH	TRAVEL TO TOKYO		
3	DELTA #2157/167			
4	Depart Salt Lake City/Arrival in Tokyo NEXT DAY	11:06 AM	4:55 PM	
5				
6	PUBLIC TRANSPORTATION TO HOTEL			
7	HOTEL ASIA CENTER OF JAPAN			
8	8-10-32 Akasaka, Minatoku			
9	Tokyo, 107-0052			
10	Tel. 81-3-3402-6111			
11	www.asiacenter.or.jp			
12				
13	SATURDAY, APRIL 26TH	TOURIST TIME		
14	Breakfast at Hotel	7:30am		
15	Meet in Hotel Lobby	8:15am		
16	Visit TSUKIJI FISH MARKET	9:00am		
17	Depart for Kamakura, visit three Shrines	10:30am		
18	LUNCH	12:00pm		

Individual's name used on each sheet and to name Excel file

Individual's specific flight details (carrier, number, arrival & departure times)

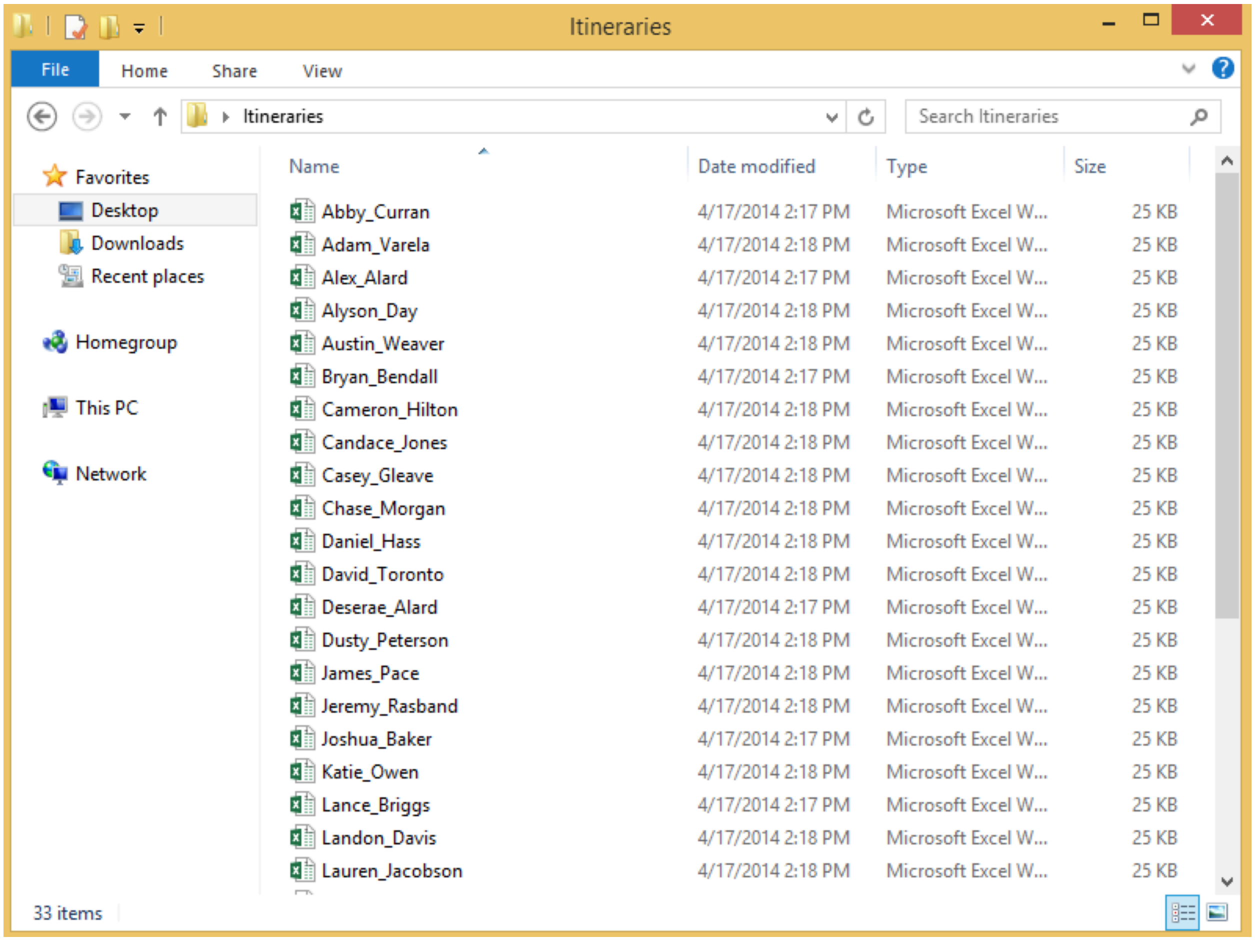
Only 5 Country Sheets in file – "Sheet1" deleted

In my original project build I wanted to both produce an Excel file and a PDF file of the personal itinerary. My recorded Macro code worked perfectly when I included an incantination of the filename and file path. The file name was the participant first and last name from the "Participants" sheet while the file path was the desktop folder "Itineraries". After running the full "flightData" code an issue with this PDF saving function became evident. I had over 30 PDF files open at the conclusion of the automation process. This was an issue. I decided to try to find a solution to closing the PDF files after each loop ran via Google. I was unable to find a solution. After considerable thought, I determined that providing each participant a personal itinerary in "xlsx" format was sufficient. Also, it would allow the participant the opportunity to highlight things they were excited about, free time, church time, etc. Each person now could increase personalization of their itinerary; therefore, I fully eliminated the create a PDF file step.

After eliminating the PDF portion, the For loop was completed and, thankfully, fully functioning. I opted to turn off screen updating and make all display alerts "false" also, just in case they took up functionality and speed of the code running.

At the conclusion of all the Sub procedures in my master "itineraryBuild" Sub procedure I had an Itineraries folder on my desktop full of over 30 personal MBA Asia Study Abroad itineraries.

End Result = folder full of individual itineraries



Name	Date modified	Type	Size
Abby_Curran	4/17/2014 2:17 PM	Microsoft Excel W...	25 KB
Adam_Varela	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Alex_Alard	4/17/2014 2:17 PM	Microsoft Excel W...	25 KB
Alyson_Day	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Austin_Weaver	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Bryan_Bendall	4/17/2014 2:17 PM	Microsoft Excel W...	25 KB
Cameron_Hilton	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Candace_Jones	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Casey_Gleave	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Chase_Morgan	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Daniel_Hass	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
David_Toronto	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Deserae_Alard	4/17/2014 2:17 PM	Microsoft Excel W...	25 KB
Dusty_Peterson	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
James_Pace	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Jeremy_Rasband	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Joshua_Baker	4/17/2014 2:17 PM	Microsoft Excel W...	25 KB
Katie_Owen	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Lance_Briggs	4/17/2014 2:17 PM	Microsoft Excel W...	25 KB
Landon_Davis	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB
Lauren_Jacobson	4/17/2014 2:18 PM	Microsoft Excel W...	25 KB

Key Takeaways

- A good start to writing code is recording a macro
- Always necessary to simplify and "clean" code from a recorded macro
- Variables are essential when code is uniform for multiple steps
- If the code's result is not happening as desired, consider starting from the bottom of the data rather than the top in the loop
- Best to immediately save a workbook that has been added to combat the "Book3, Book4, Book5…" issue
- Google surveys are a great vehicle to collect data because information can be transitioned to the web for a query
- If something is not working as planned, determine if it is absolutely necessary, if it isn't then eliminate it
- Speaking to intelligent and experience programmers often provides new insights to solving an issue

Assistance

Professor Gove Allen provided assistance in publishing survey results to the web. Steven Collier helped explain how variables could be used to simplify recorded macro code – especially because it was a standard step for each row of data. Also, Josh Skelton assisted in determining the best way to save the added workbook so each individual's country sheets could be copied and moved.