

Budget Vacation Dashboard

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IS 520 Gove Allen

Executive Summary

My fiancé and I love to travel! We have already looked at flights for trips or family get-togethers on multiple occasions. We are budget conscious and try to remain frugal. Because of this, we spend high amounts of time searching for the cheapest flight. I have created a solution using VBA code to shorten the research time required in this process. My solution allows the user to select multiple destinations from a list of favorites, enter other trip data, set a trip budget and pull flight information from kayak.com. Results are shown in a spreadsheet with within-budget flights highlighted in green.

Implementation & Conceptual Difficulties & Assistance

I started from scratch on this project, trying to pull any flight data from Google.com/flights and Orbitz.com. I had a lot of trouble working through the HTML on these websites, so I moved on until I found success with kayak.com. Kayak's HTML was built simpler and more intuitive for me. I planned out what I wanted to accomplish in this project, then I went about creating it, piece by piece. The most time-consuming aspect was getting the right data from Kayak's HTML page. I had to look very closely at how each data point was being transferred to the webpage. An issue that I didn't notice until late was that the HTML would update multiple times before finding the cheapest flight. It was imperative that I fix this issue as the tool would be useless if I wasn't pulling the cheapest flights.

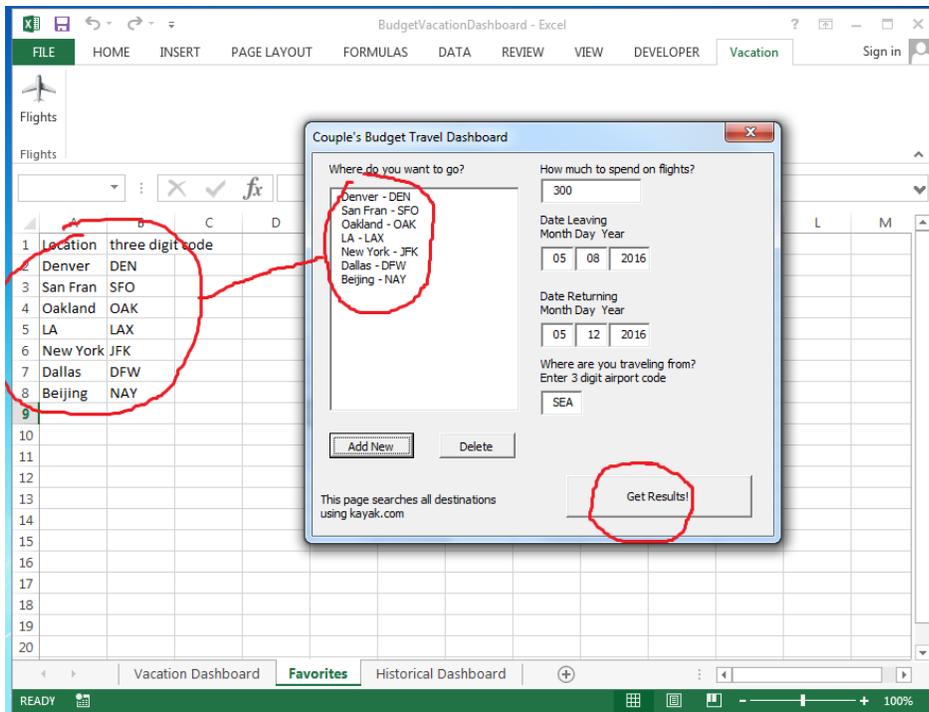
I got help from Dr. Allen and from my friend Brad on this part. I wrote a small piece of code that waited for the page to reach the end of its updating before pulling flight info. Brad showed me the `a.updateHTML` method.

Once I was confident that I was pulling in the cheapest flight data, I built the customized ribbon and the flight info page. This was a fairly straightforward task.

I then ran into trouble with the Historical Data tab

Project description

One who uses my Budget Vacation tool will only need to interact with the userform and the Vacation ribbon button. I built it this way because my family and friends who use it might accidentally alter data on the spreadsheet. The userform is intended for the use of couples and thus always assumes 2 passengers.



The Userform has a listbox that contain the list of favorite destinations. Below this box there is an “add new” button and a “delete” button. These buttons allow the user to add a new favorite destination and delete any that they have selected. The next button is for entering the flights budget. Flights that cost less than double the flight price are highlighted in green on the Vacation Dashboard spreadsheet. The next boxes are for trip dates and the destination from which the user is leaving.

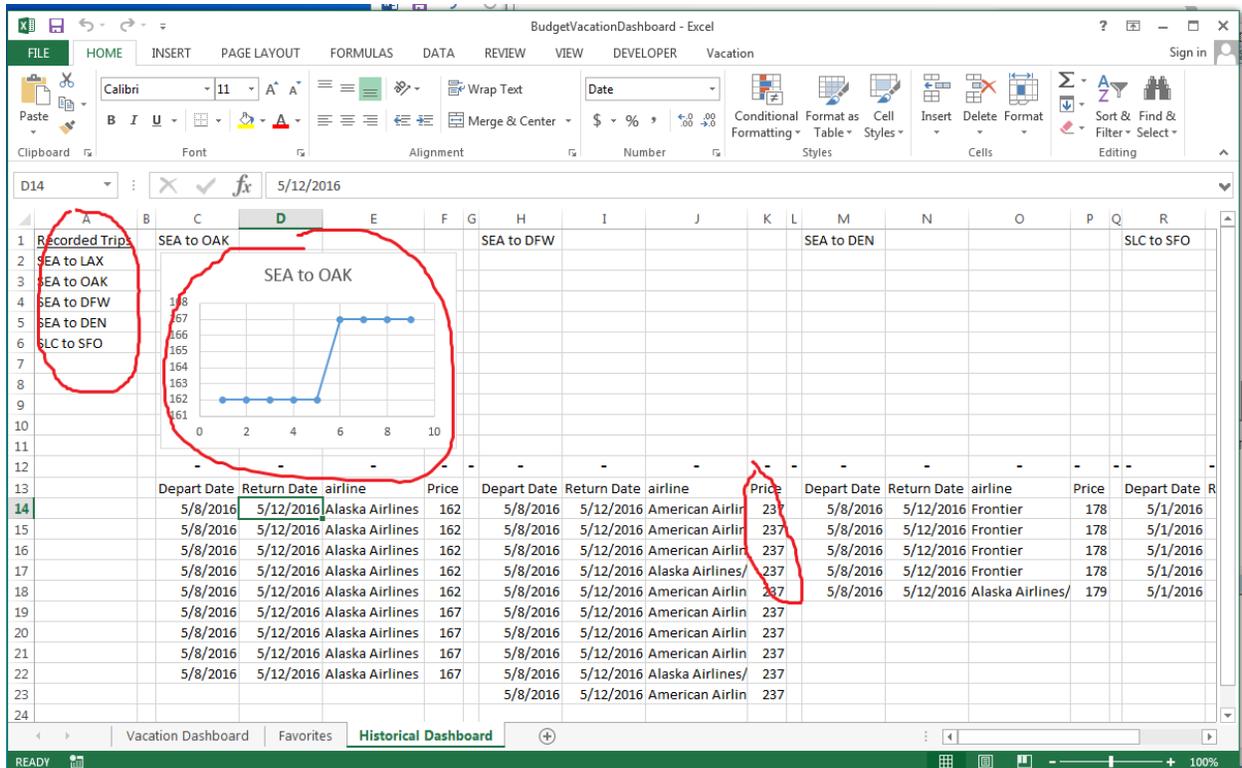
The “Get Data” button is what makes this whole thing work. First, it records any changes that have been made to the list of favorites, then it clears and repasts the headings on the vacation dashboard page and adds buttons next to each printed destination. The buttons hold links to get more information about the flights using the url and the user’s preferred browser.

The “Get Data” button then runs a sub that uses the “Agent” provided to us students so graciously by Dr. Allen to open Internet Explorer and connect to Kayak.com. It uses a url concatenated from the destination, origin, departure data, return date, and numbers of passengers provided by the user on the userform. The sub waits for kayak.com to fully load, then it pulls the flight data by using multiple a.moveto() and a.gettext() statements.

Once it has the fully updated page, it will pull the top five cheapest flights, print them on the vacation dashboard page and then check if the user has selected any more destinations. The sub then prints the same data on the historical data page for use in viewing flight price trends.

Book	Airline	Price	Origin	Time	Stops	Returning	Departing City	Time	Arriving City	Time	Stops
(Denver)											
	Frontier		DEN	10:54p	nonstop	DEN	4:35p	SEA	6:24p	nonstop	
	Frontier		DEN	10:54p	nonstop	DEN	8:55a	SEA	10:47a	nonstop	
	Frontier		DEN	3:15p	nonstop	DEN	4:35p	SEA	6:24p	nonstop	
	Frontier	\$178.00	SEA	11:30a	DEN	3:15p	nonstop	DEN	8:55a	SEA	10:47a
	Alaska Airlines/Delta	\$179.00	SEA	8:30p	DEN	11:59p	nonstop	DEN	8:00a	SEA	9:54a
(San Fran)											
	Alaska Airlines	\$165.00	SEA	6:10a	SFO	8:13a	nonstop	SFO	6:00a	SEA	7:59a
	Alaska Airlines	\$165.00	SEA	6:10a	SFO	8:13a	nonstop	SFO	6:00a	SEA	7:59a
	Alaska Airlines	\$165.00	SEA	6:10a	SFO	8:13a	nonstop	SFO	8:30a	SEA	10:30a
	Alaska Airlines	\$165.00	SEA	9:55p	SFO	11:59p	nonstop	SFO	6:00a	SEA	7:59a
	Alaska Airlines/Virgin America	\$165.00	SEA	6:10a	SFO	8:13a	nonstop	SFO	8:55p	SEA	10:55p
(Oakland)											
	Alaska Airlines	\$162.00	SEA	10:25a	OAK	12:25p	nonstop	OAK	6:00a	SEA	7:55a
	Alaska Airlines	\$162.00	SEA	6:00a	OAK	8:00a	nonstop	OAK	6:00a	SEA	7:55a
	Alaska Airlines	\$162.00	SEA	10:25a	OAK	12:25p	nonstop	OAK	6:00a	SEA	7:55a
	Alaska Airlines	\$167.00	SEA	6:00a	OAK	8:00a	nonstop	OAK	1:25p	SEA	3:14p
	Alaska Airlines	\$167.00	SEA	10:25a	OAK	12:25p	nonstop	OAK	1:25p	SEA	3:14p
(LA)											
	Spirit Airlines	\$147.00	SEA	9:30a	LAX	12:05p	nonstop	LAX	6:10p	SEA	8:50p
	Spirit Airlines	\$147.00	SEA	9:33p	LAX	12:08a	nonstop	LAX	6:10p	SEA	8:50p
	Spirit Airlines	\$147.00	SEA	9:33p	LAX	12:08a	nonstop	LAX	6:00a	SEA	8:42a
	Spirit Airlines	\$147.00	SEA	9:30a	LAX	12:05p	nonstop	LAX	6:00a	SEA	8:42a
	Virgin America/Spirit Airlines	\$158.00	SEA	10:00a	LAX	12:30p	nonstop	LAX	6:10p	SEA	8:50p

This screen shot shows the Vacation Dashboard page after searching flights from Seattle to 4 different destinations. On the left of each destination are buttons that allow the user to follow a link to kayak.com to book the flight. At the bottom of the screen there is green text, this means that the flight price fits within the user's budget.



This picture shows the historical data tab. On the left is the table of contents of all flights the user has tracked in the past. The chart is an optional feature that the user can create to view

trends over time. I couldn't get the charts working properly before turning in the project! I missed out on this opportunity, but if I had more time to do it, it would have been awesome! The chart will pull from the price data below. The sub is smart enough that if you are viewing a flight you have never viewed before, it will create a new set of columns to track flight prices. If that flight already exists, it will place the data you have gathered right below the most recent data.