Memo

To: Professor Gove Allen
From: Brent Jacobsen
Date: Wednesday, April 13, 2011
RE: VBA Final Project

Executive Summary

I have recently been working on a project to consolidate all of the student-run websites used by the BYU Marriott MBA program (http://marriottmba.org). Although there are many different aspects to this consolidation project, one aspect is the creation of a student community. This student community allows students to complete a student profile page (somewhat similar to Facebook) with information like a biography, photo, contact information, etc.

Currently, the MBA Office compiles a student directory at the beginning of the year, creates a pdf file, and then distributes that to all the students via e-mail. Unfortunately, if a student gets married, moves, or changes their phone number, none of this information is updated in the static directory, so it is quickly outdated.

My project was to write a program in VBA that will allow the MBA Office to easily perform a query on the community database, and have a printable up-to-date student directory. The VBA code has 3 parts:

1. It uses a web query to pull the student data from a directory page on the website.
2. It calls a secondary Excel file that queries the directory page and imports the html so that it can parse out the url links to the profile images
3. A user form allows the user to select what type of directory they want (with or without images)
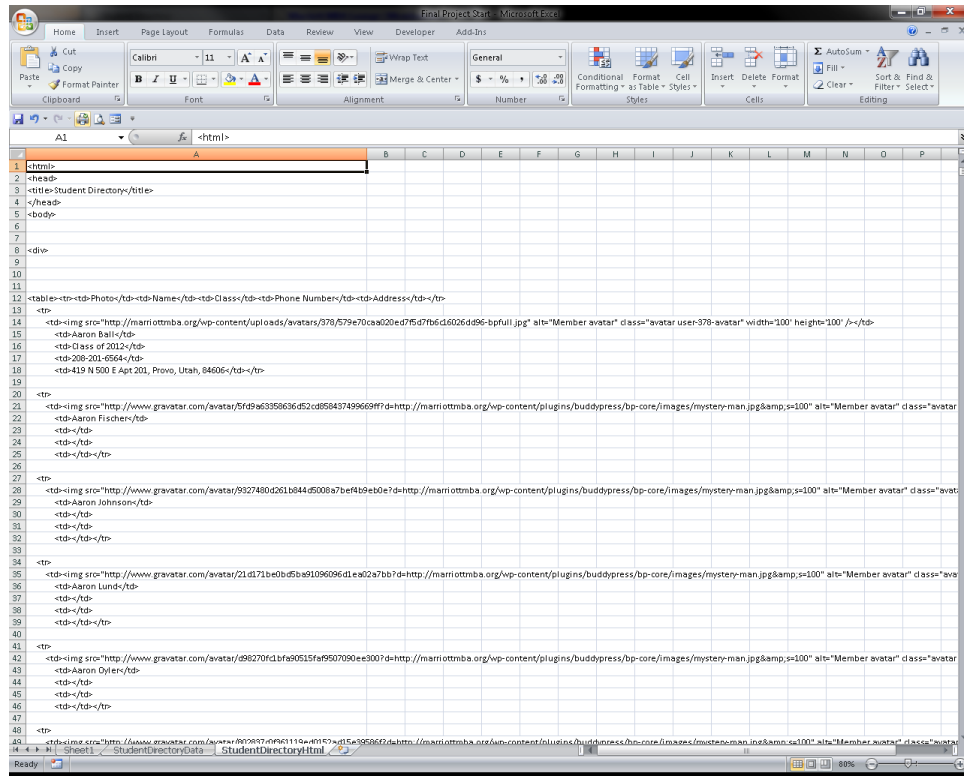
Future additions to the code will include the ability to filter by graduation year, marital status, etc. and an improved layout and format for the printable directories.

Implementation

Implementing this solution was multi-faceted. First, I had to create a custom directory page that would allow me to pull the data from a web query in an easy way. Because the site is a private site (and due to my limited php coding ability), and the default user directory is paginated and full of javascript and css, I spent well over 40 hours just creating a page that I could easily pull data from.
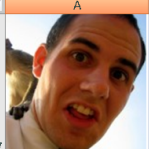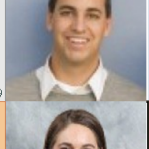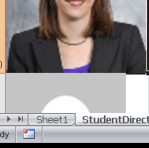

Initially, I was hoping that after all that work, a customized web query would bring in everything, however, web queries don't bring in the images (or the image url, for that matter), so I had to find a way to get the url to the image to be able to download it and then insert it into the sheet. I found someone who had written a VBA program called "Excel Link Chaser" – I was able to use this to scrape the html code from the page, and then I could use VBA to parse out the image links.

Next, I had to create a loop that would go through and download and insert the images from the image list. The images needed to be resized and then placed into a cell so that they would look good.

Finally, I needed to create a user form that would allow the user to choose what type of list they wanted to create.

Challenges

Implementing this solution was frankly very difficult. I ran into many concepts that I was unfamiliar with, and I realized the scope of the project was much larger than I anticipated. As I mentioned earlier, one of the biggest headaches was making sure that the input from the web was going to be something that would work. Because of the complexity of the Wordpress database (the platform the site is using), I spent much of my time learning php, and the correct calls to be able to even display the information I wanted in a web page.

The other large challenge was just time. I had hoped to spend more time on the VBA side of the code, but the php side just took a ton of time. I wasn't able to add the sort feature so that users could choose what class they wanted to create a directory for. Also, I realize that there must be a better way to store images, so that there isn't a huge call to the server each time you want to update the directory. Additionally, I didn't have time to do the formatting that I wanted, so that the directory matched what the MBA office has been using previously.

I do intend to add these capabilities going forward, as I am not satisfied leaving a project half done.