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ISYS 520

Final Project Write-Up

I. Executive Summary

This summer I worked for The American Academy (TAA), a start-up company in Salt Lake City. TAA offers alternative online high school for at-risk and dropout students, partnering with school districts across the nation to help students achieve their high school diplomas. Since 2009, TAA has increased the number of school districts it has partnered with by 10x, and has plans for rapid growth over the next few years.

TAA uses a database of 15,000 school districts in order to develop a marketing strategy as well as derive district specific information on revenues, enrollment, and per-pupil funding. However, this database is very user unfriendly and difficult to navigate, and TAA salespeople ultimately haven't been using it. In order to help the salespeople use this information, I created a series of sub procedures and user forms that make this information much more accessible and useable.

My project has two parts. First, I created a user form that allows the user to search for specific school districts and extract pertinent information about that school district. Second, the user can specify criteria such as state/county, enrollment, and per-pupil funding levels, and create a report that will sort out all school districts that meet the criteria. These tools save the salespeople time and provide a way for them to better identify school districts to work with.

II. Implementation Documentation

Created worksheet with button for the user to start with

- MsgBox displays when workbook is opened prompting user to the correct starting place
- Button initiates the userforms that allow the user to search for specific school districts and to generate reports based on search criteria

Search for specific school district (userform)

- Created text boxes to allow the user to specify search parameters (name, state, enrollment, and per-pupil funding information)
 - Created and populated combo box to select state
- Allowed user to search for either the first occurrence in the data set, or the next occurrence in the data set
 - The user must specify at least part of a district name in order for the search to run
 - The search found exact matches as well as partial matches in the data

- Once a match was found, pertinent information was displayed on the form
 - Calculated overall, state, and federal per-pupil funding based on enrollment and revenue data
 - Used vLookup to look up county codes listed in the school district database and turn it into the county name to be displayed
 - Searched database for all other relevant information and displayed it on the form
- Enabled user to clear all displayed information
- If user clicks on “Generate Report” button, it takes user to the second form

Generate report based on specific criteria

- Created text boxes for user to input search parameters (state, enrollment, per-pupil funding)
- User can specify what information to report using checkboxes on the right side of the form
- The button “Generate Report” will search the school district database for all school districts that meet the specified parameters
 - A new worksheet is created that displays the information
 - Only the desired information (based on the check boxes) is displayed
 - The order of the information, as well as the formatting, is changed to help the user better navigate the data
- If the user creates another report, it will delete the existing report and put the new one in its place
- Techniques used in the first userform (vlookup, calculating per-pupil funding, etc.) are used again in this form

III. Discussion

This project really helped me understand how much I didn’t know about programming in VBA as I encountered all sorts of different problems and had difficulty fixing them. However, I believe that I am much more competent now than I was three weeks ago when I really started working on this project. There are still some topics I don’t understand how to do, but the topics I used in this project, for the most part, I feel comfortable with now.

There were a couple of things that I had to struggle through that were some of the main sections of my project. One of these things was working with ranges. I had difficulty keeping track of where my active cell was, and what range I was working with. There was one section of the code that had all sorts of errors because it was picking up the wrong ranges to pull into the sub procedure. Going back, I would be much more deliberate with my ranges and would be more specific (instead of using cell.offset) in order to better deal with these potential problems. Also, I had to find how to do a couple of functions (vlookup) specifically, which I had difficulty

getting to work. It took turning off the errors and then changing the variable type in order to get it work properly. I think I have much more patience now.

There was one thing I was not able to get to work on my project. Although I was able to use enrollment and per pupil funding as search parameters when looking for a specific school district, I was not able to get them functioning when the user goes to create a report. Right now the only parameter that does work is the state. I'm not completely sure what happened, as at one point the enrollment parameter also worked, but right now it isn't. Before I hand this project off to the firm that I work with, I need to go back and find out why those other parameters, especially employment, have stopped functioning. There are a couple of other small bugs that need to be worked out, but nothing that hinders the functionality of the project.

The biggest think I learned was how to sculpt and work through a project with significant scope. After making each addition, I had to go and see if the program still worked. More often than not, it didn't, and I would go back through and try to correct my error. I got a little quicker by the end of the project and made fewer errors, and was more familiar with VBA. As opposed to the homework assignments, this project really helped me dive into VBA and programming and start to understand it.