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VBA Final Project Writeup

Executive Summary

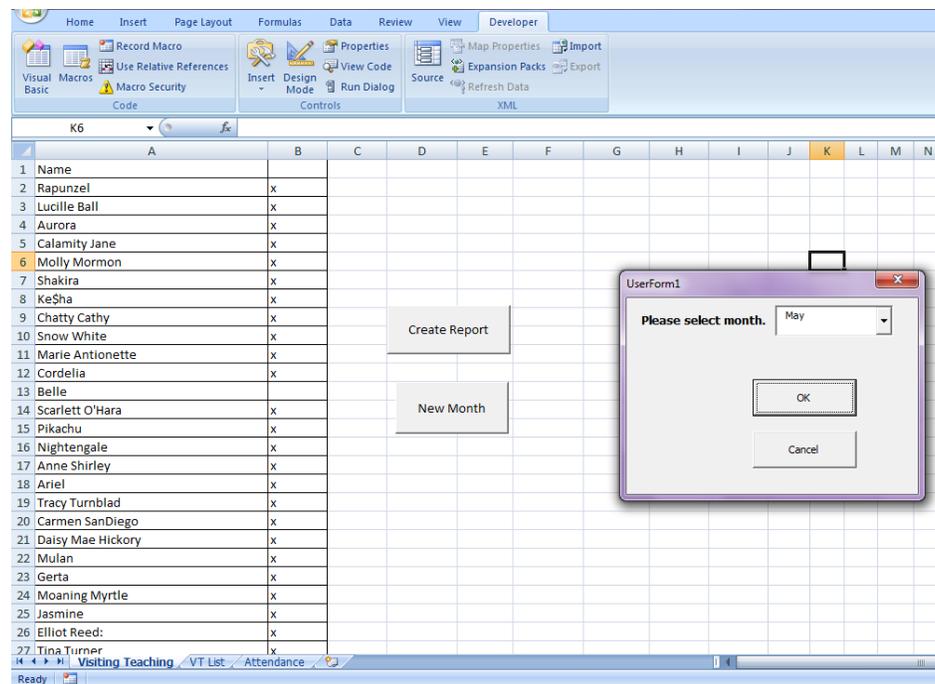
This semester I have been serving in my ward as secretary for one of the Relief Societies. My main job is to record Visiting Teaching and Attendance numbers for the ward's monthly report. The most frustrating thing I have to do is rifle through several different sheets of paper to compile the numbers at the end of the month. Additionally, this hard-copy approach is not very user-friendly as I have to count the number of girls attending each week and those who have been visit taught by hand before entering them in to the ward report.

In order to make this easier for myself and future secretaries I decided to write a program to automate this process.

Implementation

The first tab of the spreadsheet is labeled "Visiting Teaching", the second tab "VT List", and the last tab is "Attendance". The first tab is a spreadsheet where I record the girls who have been visited as the visiting teachers report them to me. The second spreadsheet is a list of the companionships that visit each girl in the Relief Society. The third tab is the list where I keep track of the girls who attend Relief Society each week.

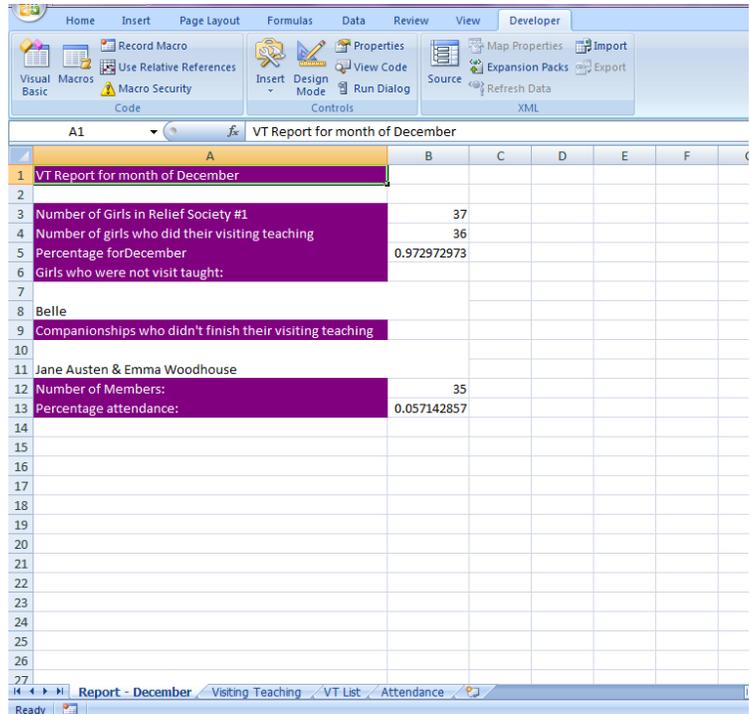
There are two buttons on the first tab for visiting teaching. This is labeled "Create Report".



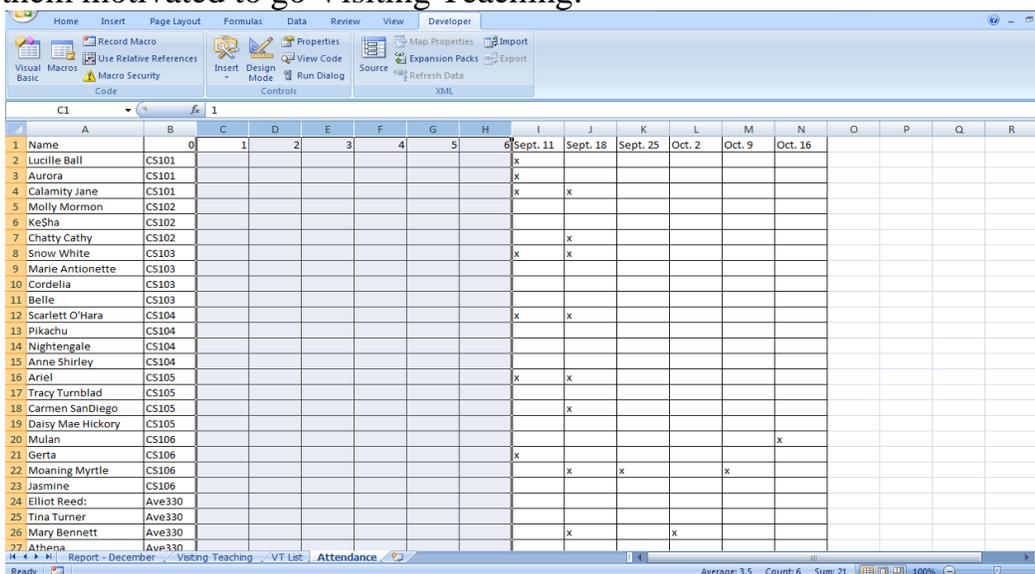
Once this button is clicked, a form pops up on the screen asking the user to select the month the report is for. Once this is selected, the user pushes "OK" to create the report. After the button is clicked, all the user has to do is sit back and let the program do the rest.

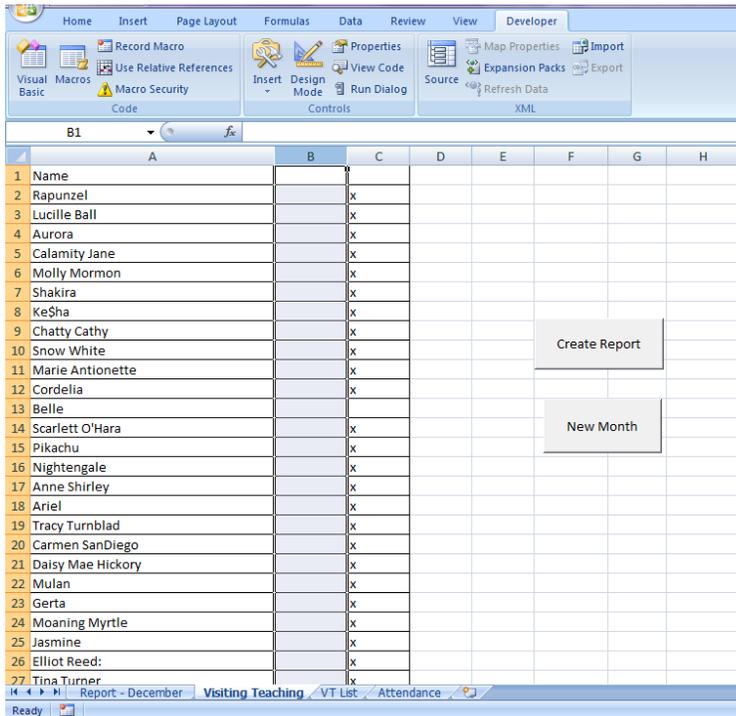
This button creates a new tab labeled with the

month selected. This button calculates the percentage of visiting teaching by comparing the number of girls who the user has recorded as being visit taught on the first tab, by the total number of girls. In addition, the report also contains the names of the girls who were not visit taught. Additionally, it pulls up the list of companionships that didn't do their visiting teaching. Finally, the report includes the average percentage of girls who attend Relief Society each week, calculated by taking an average of the weekly attendance for the month. These are all displayed in the new tab created for that month.



The second button is labeled, “Start New Month”. This button inserts a new column in the “Visiting Teaching” tab and a new month’s worth of columns to record attendance. Therefore, the user can keep track of attendance trends to help the Relief Society know who may need more attention. Additionally, watching Visiting Teaching trends can help the Presidency re-evaluate Visiting Teaching companionships or focus on certain people to get them motivated to go Visiting Teaching.





Difficulties Encountered

The first thing I wanted to try doing to make my program even more beneficial to the user was to use a file exported from MLS. I contacted two of the Ward Clerks before I was able to understand what MLS was and how I could use this in my program. However, after talking to the Ward Clerk who is a Computer Science major I learned that my ward hardly uses MLS anymore and only uses googledocs for reporting.

Another problem I had was with the user form. I had to switch back and forth between two formats in order to get the usability I needed. First I used a combo box and attempted to populate it with the headings from my monthly visiting teaching spreadsheet. However, this made me unable to insert new columns every month. Also having each of the months already listed out made running my program a lot more complex. Then I changed my user form to include a text box where the user typed in the month. This created problems if there were any spelling errors. Finally, I went back to a combo box and populated it myself with all 12 months.

This created another problem. When the user clicked ok on the form I assigned the month selected to a string variable within my form code. I made the month a public variable so I could reference it throughout the workbook. However, whenever I tested my code, it

displayed an integer instead of the month I selected. After running the code with breakpoints to see if the variable was holding the string assigned I found the problem. I had to change my code from assigning the variable a string in the user form to assigning it in my main sub procedure. This alleviated my problem.

One thing I was constantly reworking was the configuration of my spreadsheets because of how I wanted my program to calculate percentages. First, I had the girls listed by apartment with spaces separating different apartments. This would not work in counting the number of girls in the relief society because I could not tell the program to stop counting when there was an empty cell. Therefore I had to get rid of the spaces. This was also necessary because in the column next to it, I wanted the program to count each empty cell as part of a variable indicating the number of girls who had not been visit taught that month. Then I had to think about running a find function to print out the names of the girls who had not done their visiting teaching. In my VT List tab I had each visiting teacher listed in separate cells by the girl they taught. This created problems conceptually because it would require a much more complicated find function. Additionally, when putting the names into a string, depending upon how the do loop worked, companions would not always be listed side-by-side – decreasing the usability of the report. Finally I decided that I had to list companionships together in one cell next to the girls they visit teach. This would make putting them into a string much easier.

By far the biggest problem that I had was writing the find function to gather a string containing all the names of the companionships that did not do their visiting teaching. I wrote a two nested do loops with an instring to search the “Visiting Teaching” sheet for the girls who had not been visit taught and searching the “VT List” sheet for the same name and adding the cell’s value next to it to the string. It was easy to create the string of girls who had not been visit taught. However, I tried adapting the find function I wrote in the USDA directory project but came up with several bugs. First of all I realized that I needed to create a holding variable to hold the values of the girls to compare to those who hadn’t been visit taught on the “Visiting Teaching” sheet. Then I had to reason through if statements comparing these using instring. I got to the point where the code runs all the way through without any bugs, but the string still comes up empty. So after spending 2.5 hours trying to figure it out I went to Dr. Allen’s office. Finally, I ended up having to use an equal statement instead of an instring and I had an exit do in the wrong place.