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I Sys 520

Professor Allen

Final Project Write Up

Executive Summary

During the Chinese New Year holiday, a grocery store's sales will increase rapidly, like Black Friday in the USA. But when the New Year period passes, sales just drop back to the normal pace, and sometimes sales also will drop some points in the other months. The grocery store's manager keeps recording sales each month and makes a sales report to his boss.

So the goal of my project is helping this store to make an easier analysis of the sales in each department and each month. Also, the grocery store has promotion each month to promote their sales, but they do not estimate how much promotion they should use. Therefore, this project is designed for creating automatic charts for the manage analysis and a calculator for a manager to set a sales goal and give an appropriate promotion each month.

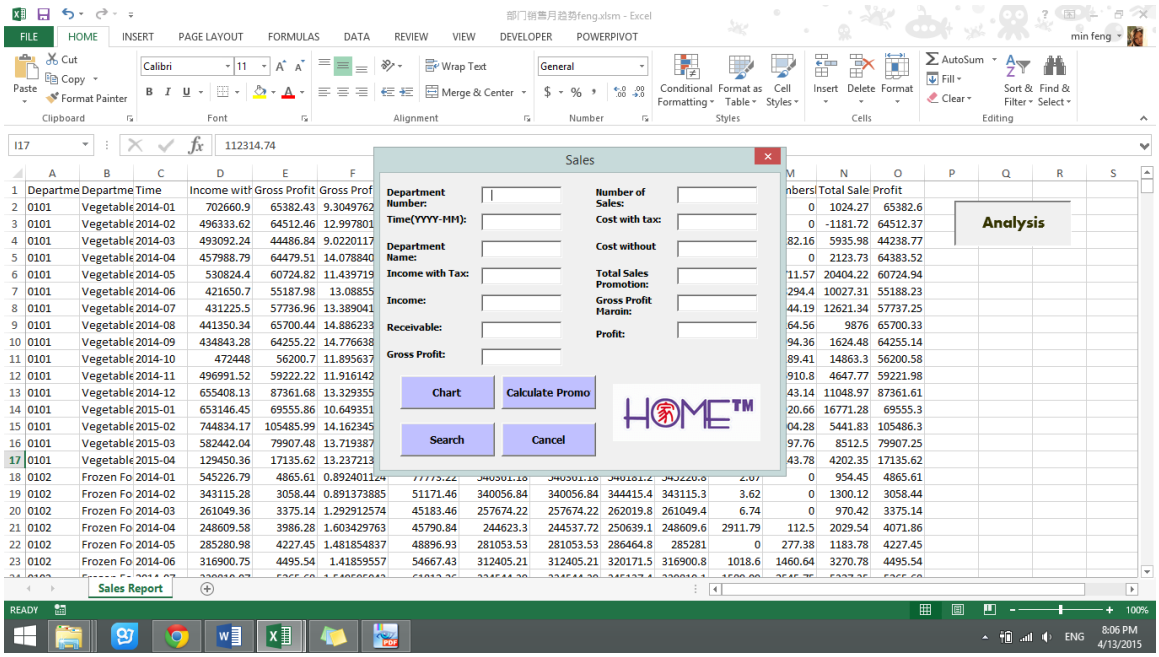
Implementation Document

My project has four features:

1. Searching monthly sales data in each department
2. Creating line chart of departments' sale
3. Creating line chart of years sales
4. Calculating promotion

When you open the project, the sheet “Sales Report” is the only sheet showed. It is the departments’ sales raw data from the company. Even though it has all the information we need to know, it is hard to analyze and find information.

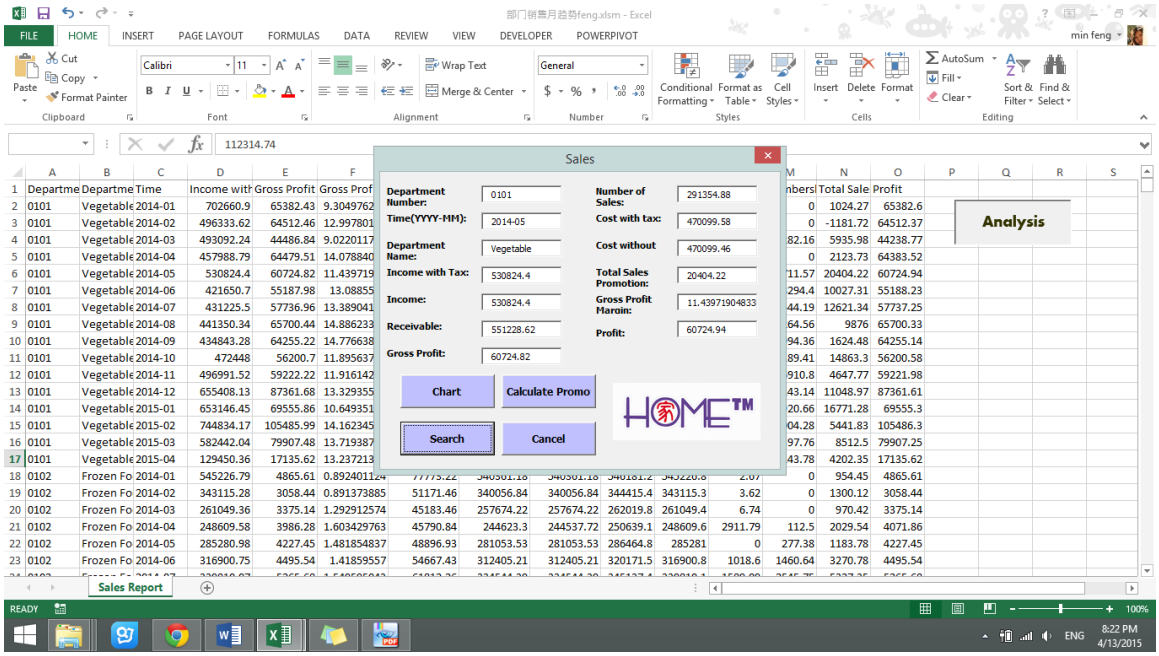
As you click the “Analysis” button, a userform will be shown to you. The first form is used to show data details and buttons. The picture showed below is what the form looks like.



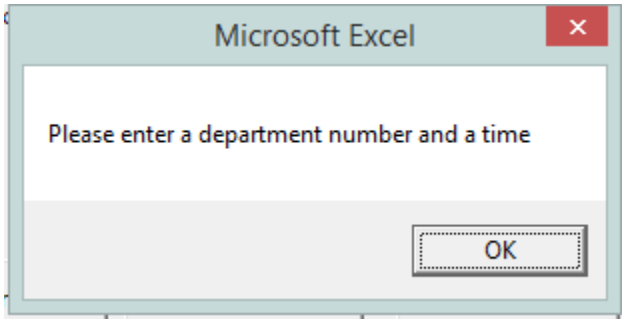
Searching:

When you want to review sales detail in a department, you can use the search feature.

You need to input the department's number and time to specify which month and department you want to see. Then all the information will be showed in the table.



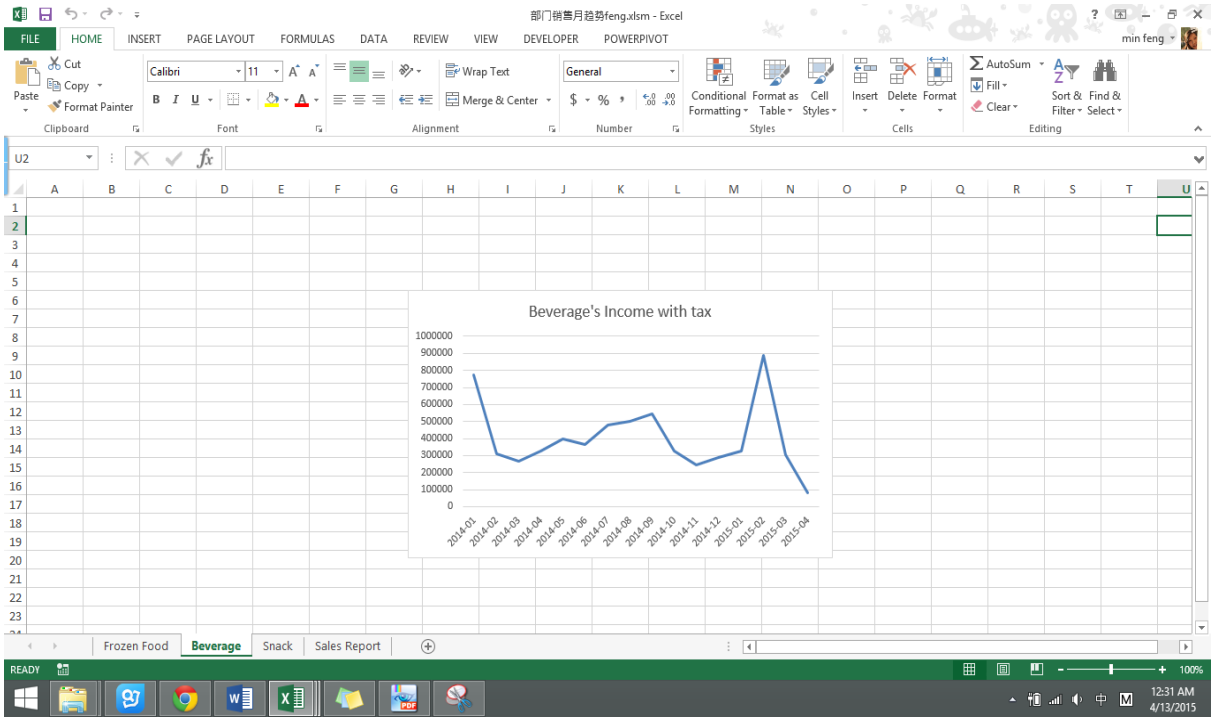
You have to input both department number and time, if one of these information is missing, a message box will show up to remind you.



Charts:

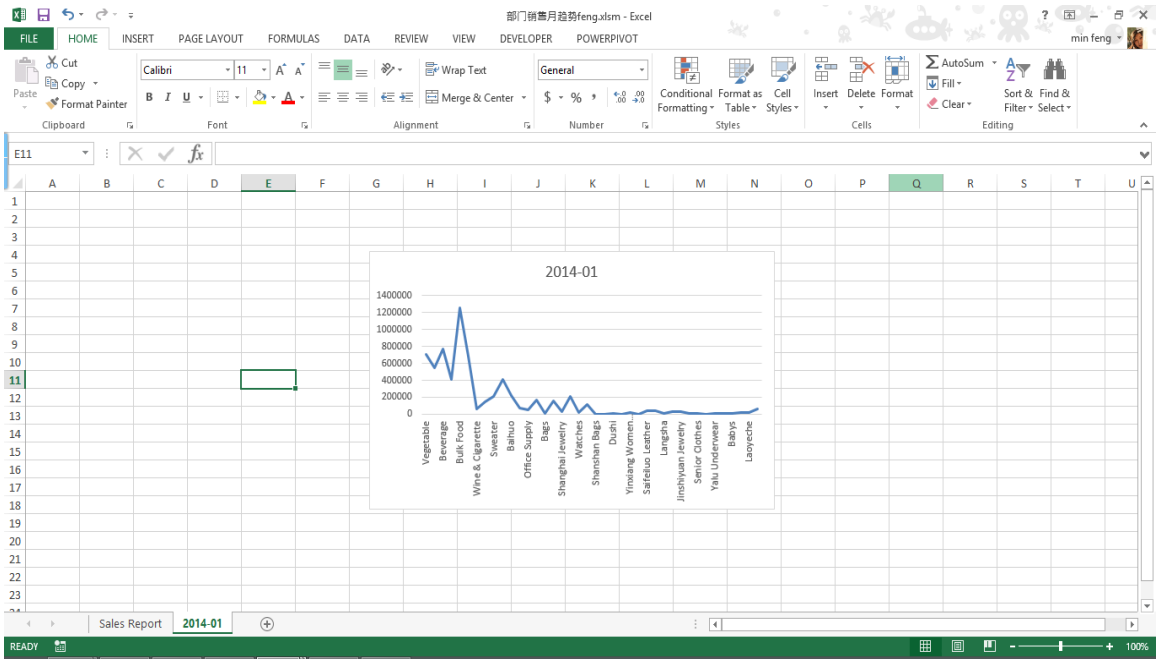
This spreadsheet can create charts depending on what the user wants to show. It can create a chart of a department's sale trend over one year, all the department of a year and month. For example, manager wants a department's sales trend over one year, he can in

put department number and leave “time” box empty, then a new sheet with the chart is added. Each department has their sheets named with the department’s name.



All department’s sale in one month:

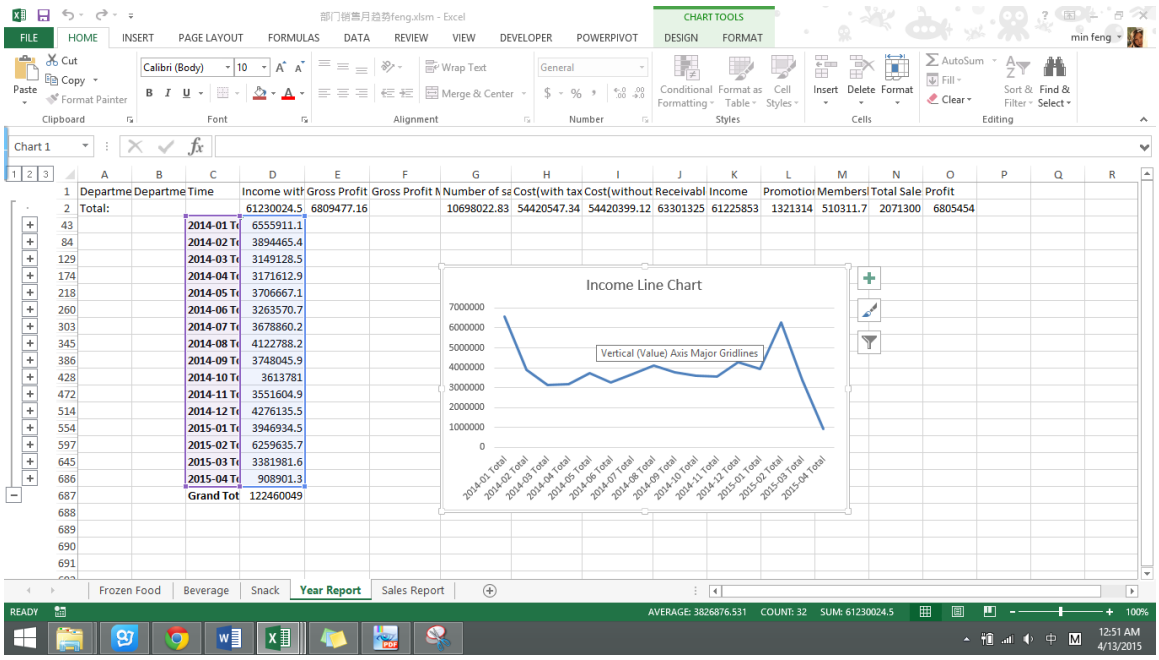
When the user only input time, it will create a chart of all the department’s sales in that month. This feature helps the manager to analyze which department has the most sales, and compare sales between all departments in a specific time. This can provide the manager an idea of which department needs more attention.



Sales tread line in years:

The line chart for a year's sales is created on a copy of "Sale Report" sheet, and named the new sheet "Year Sales". In the new sheet, data is sorted and grouped by time, it is convenient to copy to a sheet and subtotal by time. The chart is showed the trend of total

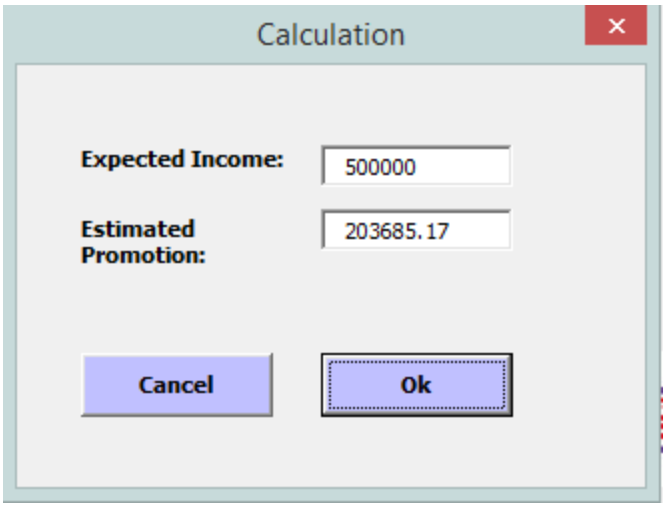
monthly sales of all departments in one year.



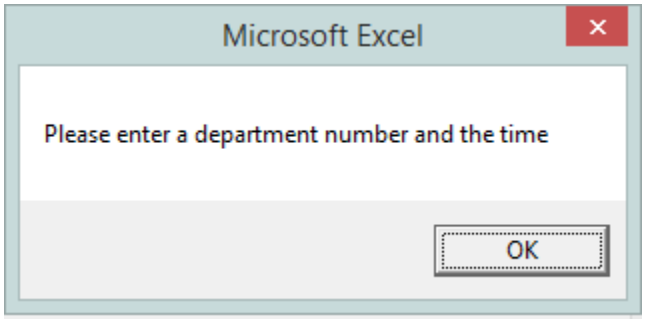
Overall, this project can create different charts depending on the user's analysis.

Promotion calculation:

When the user has reviewed the information for a department, he can click "Calculate Promotion" button to estimate how much promotion they can have in order to meet their income goal. After you click the button, a new form will be showed to you. User can enter their expected income of a department in a specific month in the box. It will calculate the maximum promotion they can do.



The “Calculation” form needs information of the department’s number and time from the “Sales” form. So if the user forgets to enter the department name or time in the first userform, a message box will be shown to the user.



Learning and Conceptual Difficulties

This is my first VBA programming class. At first of this class, class materials were a little confusing for me. However, as I went to the TA's office hours to get help, this class began to make sense to me. I learned great stuff from this class and applied some applications on my internship. This project applies several concept from the VBA class. First, this model relies on a large amount of variable declaration, dimensions as array and

looping. I struggled with creating a dynamic size of array. Since I need to use a loop to fill values in the array, and the size of array depends on how many units I found, it is hard for me to re-declare the size of the array, also keep the same order of elements. But I do did some research online and tried a couple of simple trials, it finally worked out. Except creating the dynamic size of array, I added a new sheet every time when I needed to create a chart. At first I did not know how to add a sheet and automatic create a chart at the same time. I did lots of research online, then I just remembered that Dr. Allen showed how to create the automatic chart by using macro. So I used macro to create a new sheet and saw the macro's code. Then I copied the macro code and did some modification to add a new sheet.

Assistance

Dr. Allen gave me some idea of how to create select data for multiple criteria. And I researched online source and class materials to finish this project. That is all the assistance received for this project.