

Tracking Inventory
for the
Romney Institute of Public Management

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Isys 540, Section 1
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Executive Summary

The Romney Institute of Public Management is the department in the Marriott School that offers the MPA graduate degree. “The mission of the MPA program is to prepare leaders of exceptional capability and integrity who are committed to serving their communities and improving public service organizations” (Romney Institute Mission Statement). As a student employee in the department it is my responsibility to help create an orderly environment that will best serve the faculty, students, alumni, and other friends of the Romney Institute.

During the past couple of years, the department has acquired a large inventory of gifts that they use to thank visitors who visit campus to assist in educating our students, individuals who help build networking relationships, or any other areas members of the department feel a gift is necessary. Tracking expenses, maintaining counts, and reporting sales tax on this inventory has been quite difficult to manage in the past.

A solution to the problems stated above would be to create an excel spreadsheet that would be managed by VBA using user forms. These user forms would make the inventory tracking records consistent and collect the information needed to track expenses, inventory counts, and generate sales tax reports. Expenses and counts would be generated instantly and management will be able to make decisions quickly when approached with questions about inventory.

Implementation

The Record Information form collects all the information that is needed for each order that is placed:

Receipt #

Each order is referenced by this number. The receipt number ties all items taken for each other together.

Date

Sales tax reports and other data needed for inventory is filtered by the date it is taken

Name

Identifies who is taking the inventory so we know who to talk with if a problem should occur

Department Division

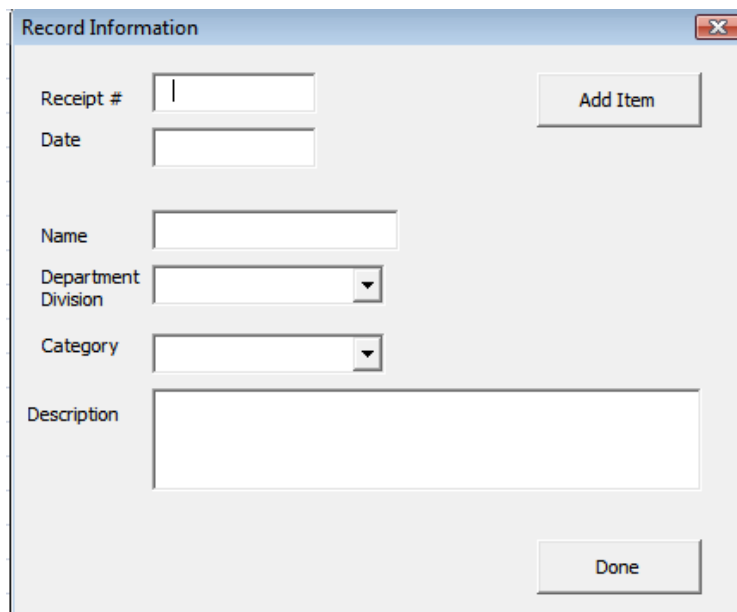
At the end of the year each division of the department must know how many gifts they have given out and the costs incurred. This helps us to easily sort the gifts and their costs.

Category

Each department division has certain events where they give out gifts. This particular field helps us sort the gifts they use into these categories so they can make various decisions about the costs etc concerning the gifts given out.

Description

This field was included because it allows the user to include any other details that we might need to know when looking at particular orders. Ex: guests gifts were given too.



The screenshot shows a software window titled "Record Information" with a standard Windows-style title bar (blue background, minimize, maximize, and close buttons). The window contains a form with the following fields and controls:

- Receipt #**: A text input field with a vertical cursor at the beginning.
- Date**: A text input field.
- Name**: A text input field.
- Department Division**: A dropdown menu with a downward arrow.
- Category**: A dropdown menu with a downward arrow.
- Description**: A large text area.
- Add Item**: A button located to the right of the Receipt # and Date fields.
- Done**: A button located at the bottom right of the form.

The Add Item form contains all the information that is required for tracking gift counts and expense information. One can add multiple items to an order but an item can't be taken unless the order form is filled out first and all the information required is entered.

Item

This listbox helps the user know what items are available and it connects us to the right item in our inventory counts spreadsheet where all the inventory information is kept.

Attributes that describe each item

Color

Some items have multiple colors so the user needs to be able to select the appropriate color for the item they are taking from inventory. This field will also inform the user of the colors available.

Size

Jackets in particular have various sizes and so this field is another attribute that we use to identify the particular item the user is taking from inventory. This field will also inform the user of the sizes available.

Image Screen

After the size of the item is selected, an picture of the item they have selected is displayed so the user knows exactly what the item looks like before they take it from inventory.

Price

This field informs the user of the cost department incurred for this item. The price information is needed in calculating total order costs

Quantity

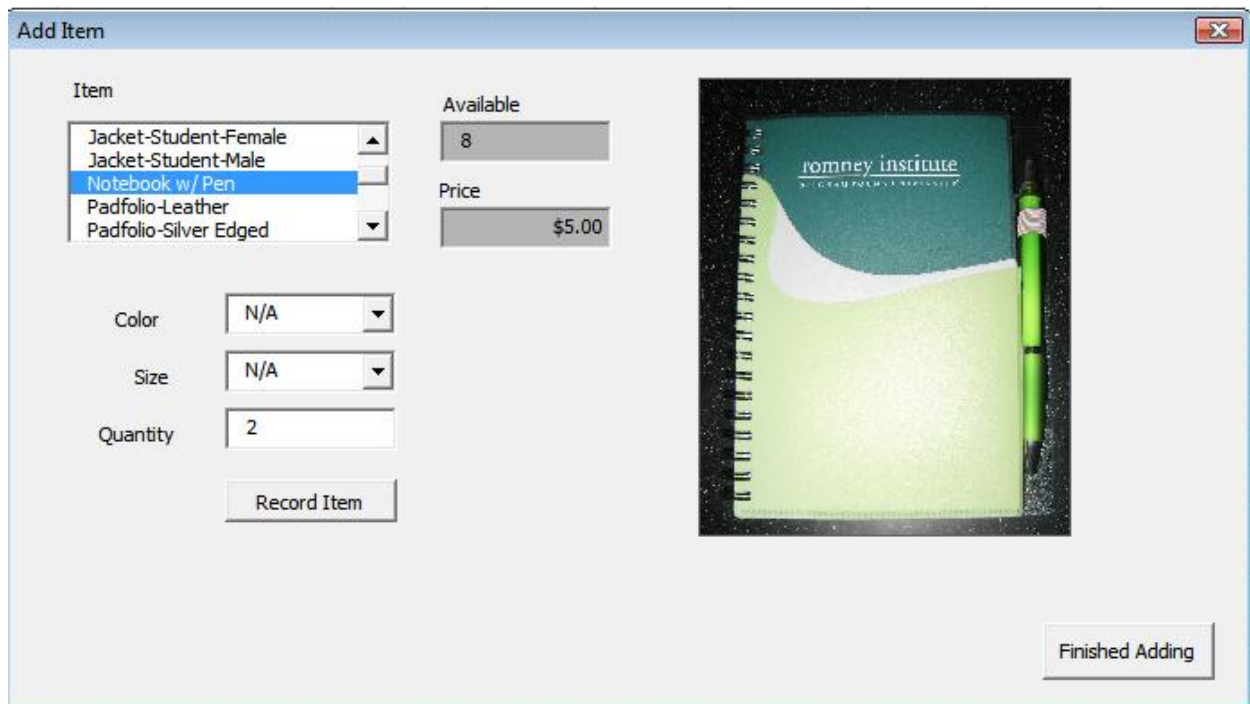
This field informs the user the number of items we have in storage for that particular item

Record Item

The button will record the information for that item and the order it is tied to on the appropriate spreadsheets. All orders are recorded on the Log spreadsheet and only those orders who have a category of "purchased" are recorded on the sales tax spreadsheet.

Finished Adding

This button will allow the user to return to a clean order form so that they can generate a new order



The screenshot shows a software window titled "Add Item" with a standard Windows-style title bar (minimize, maximize, close buttons). The window contains the following elements:

- Item Selection:** A list box with four items: "Jacket-Student-Female", "Jacket-Student-Male", "Notebook w/ Pen" (highlighted in blue), "Padfolio-Leather", and "Padfolio-Silver Edged".
- Available:** A text box containing the number "8".
- Price:** A text box containing "\$5.00".
- Color:** A dropdown menu showing "N/A".
- Size:** A dropdown menu showing "N/A".
- Quantity:** A text box containing the number "2".
- Action Buttons:** A "Record Item" button and a "Finished Adding" button (located at the bottom right of the window).
- Image:** A photograph of a green spiral-bound notebook with a white cover and a green pen resting on it. The notebook cover has the text "romney institute" and "A CLASS POLITICAL REPOSITORY".

All of the fields I have included on these two forms are critical to tracking and maintaining inventory information for our department. As you can see, these forms make the spreadsheet very user friendly and it collects the data we need in the format needed to generate the reports requested.

Learning and Conceptual Difficulties

This project taught me the importance of designing upfront. I have had to completely scratch my code at least three times because the design I was following created difficult problems that made it almost impossible to code a solution.

In this project, I had the opportunity to learn various ways to populate list boxes and combo boxes. In addition to understanding the various ways one can access this information, I have also learned how to adjust various properties of each of the items I have included on the forms I created.

I was originally using offsets to find the cells of certain ranges that I wanted to record information but after several hours of research, I discovered that offsets can only be used under certain conditions. After several more hours of research, I discovered that cells of restricted ranges can function in a similar fashion as the offset method I was using earlier. This project has been very difficult and I have spent over 40 hours designing, researching, coding, and working out problems.

This project has definitely opened my eyes to some of the amazing things VBA can do and that coding gets somewhat easier as you practice.

Project Write-Up

The Romney Institute Inventory Log that I have created consists of six spreadsheets that have the following purpose:

Log

All inventory orders are recorded on this sheet and include a receipt#, Date, Name, Division, Category, and Description which are listed in columns A-F. On this sheet there can be multiple lines containing the exact information for each of these columns because only one item is listed at a time for a particular order so columns G-L should be different on each line. These columns (G-L) contain the following information for each item recorded for an order. They are the name of the item, color, size, quantity, price, and total cost.

Sales Tax

This sheet contains only those orders (and item information) that have a category equal to the value of "purchased." It uses the same columns and rules as the Log sheet. Management looks at this sheet to see if they have to complete a sales tax report for the month.

Lookups

On this sheet, column A holds all of the names of the various department divisions found in the Romney Institute and is used to populate the department division combo box on the order form. Column B contains a list of all the categories one can select in each division. This list is used to populate the category combo box on the order form

Inventory Counts

This spreadsheet contains all of the information we need to identify each of the items we have in our inventory. For each of the items we list the item, color, size, picture (picture file name), price, initial count, count left. This sheet is used heavily in the code to identify the items the user is selecting and to pull the information needed to record for each of the orders.

Config

This spreadsheet only uses cell A1. This cell contains the path to the gift pictures so if the spreadsheet is moved to other computers you only have to change the path in one spot and it will access all the pictures for the items you have in your inventory so you don't manually have to change them all.

Temp

This spreadsheet holds information you enter on the order form temporarily here so when an item is recorded the information for that order is easily accessible.

When the user opens the inventory spreadsheet, an order form will automatically generate and requests that the user enter receipt#, date, name, department division, category, and description before they can select the item they would like to remove from inventory. Once all the information is accurately entered into the order form the user can click on the add item button which will open the "Add Item" form where they can see what is available in inventory and select the items they wish to give away.

Once the add item button is pressed, a user must select an item from the listbox and then select a color and size from the drop down lists. If a color or size doesn't pertain to a certain item you must still select "N/A" from the drop down to continue. It is after an item, color, and size are selected that the price, the # available, and the picture for that item are displayed. It will then have you enter the quantity you would like to take from inventory. If that item is larger than the quantity available it will request you change the amount you wish to take from inventory. Once the item for that order has been recorded the fields are reset and you have the option of selecting another item or clicking the finished adding button. If the finished adding button is selected it will take you back to a fresh order form where the fields have been cleared so you can begin a new order. If you don't wish to create anymore orders you can click the done button.

When the done button is pressed on the user form you have the option of reviewing the orders you have entered in the past on the log sheet or you can check the sales tax sheet to see if you must generate a sales tax report for that month on orders that have been purchased.