

Grocery Tracker

The VBA Application that Helps You Manage Grocery Product Prices

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Executive Summary

Description of Business

Buying groceries is a commonplace occurrence in everyday life. It's even commonplace to shop at different stores to find the exact product or product price that you want. However, it's not exactly easy to know which of all of the stores contains the cheapest product.

The Grocery Tracker project was created to help people keep track of their every-day grocery purchases. Grocery stores are largely apprehensive toward allowing people to monitor their prices due to the enormous variability of prices from store to store (even within the same chain). This project allows the user to enter in prices paid for different products. The program will keep track of all of the entries and then display the lowest price for a given product when prompted.

Overview of System

There are several functions within Grocery Tracker which allow a user to manage product prices from the different stores. Here is a list of them:

Add Items

In order to add items to the Grocery Tracker, simply click on the 'Grocery Tracker' tab, then select 'Add Product.' A form will then appear. Fill out the form, and press 'Save.'

Manage Items

Several options exist to customize the addition of products. Within the 'Add Product' form exist several buttons that allow a user to manage types, brands, metrics, stores, and cities. These come in handy when trying to identify which store has the cheapest product. Basic create, edit, and delete functions are supported. **NOTE:** though a management item may be deleted from the list, it will still appear within the list of products so as to preserve accuracy.

Find the Lowest Price

In order to find the lowest price of a product on Grocery Tracker, click on the 'Grocery Tracker' tab, then select 'Find Lowest Price.' A form will then appear. Two filter options exist: 'Product Name' and 'Product Type.' These filters work alone or together. As the filter is populated, results begin to show up in the 'Lowest Price Results' list. Click on one and see things like the location, store name, brand, metric, and whether the item was on sale! Further price comparison tools exist (see 'Compare all Prices for a Given Product')

Compare all Prices for a Given Product

The user may also access the pricing for a whole product. This can be accomplished by pressing the 'Compare Other Options' button. This will take the user to a screen whereupon exists a graph displaying all of the different options for a given product. This screen also displays the same information in a list view. This allows the user maximum flexibility to choose the best option when price is not the only deciding factor.

Implementation Overview

Introduction

Once the user opens “GroceryTracker.xlsx” they are greeted with an introduction tab. This tab has instructions which describe what and how each button works within the “GROCERY TRACKER” tab of the spreadsheet. This tab provides a detailed description of how to use the tool.

There are two sections within the GROCERY TRACKER tab: (1) “Manage Product Options” and (2) “Product Comparison.” The corresponding buttons are describes later. The functions of the buttons within each will be described hereafter. See the image below for a detailed view of the Introduction tab, as well as the GROCERY TRACKER tab.

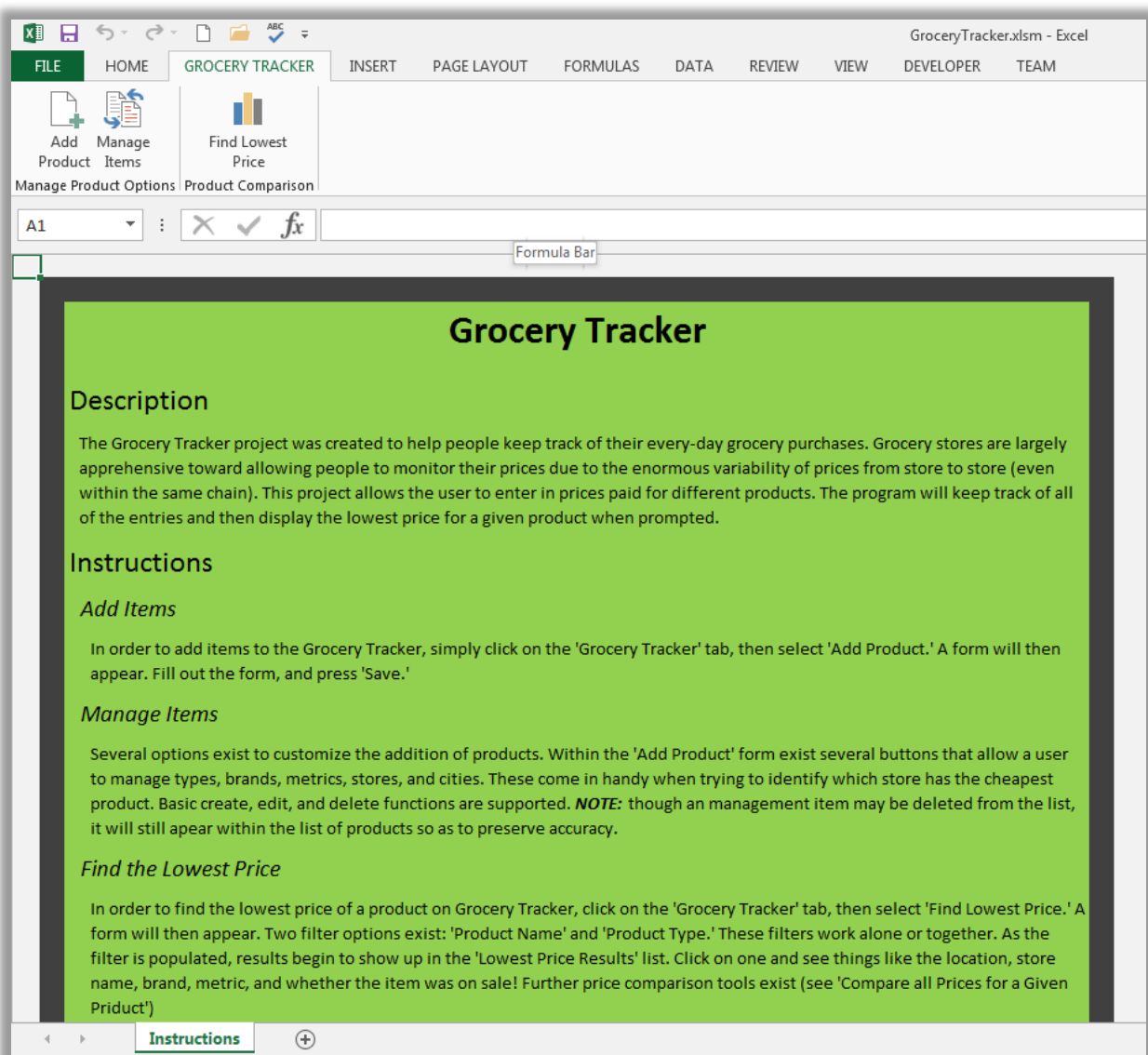


Figure 1 - The Introduction page and the GROCERY TRACKER tab.

Add Product Functionality

This is the button located on the far left of the GROCERY TRACKER tab. This button, when clicked, will display the “Add Product” form. This allows a user to add any product of his or her choosing by filling out all of the fields, and by pressing the “Save” button. The user may cancel at any time without saving. All of the entered information will be lost.

In addition to these features, there are several dropdowns and fields. The dropdowns contain pre-determined values that the user may edit later. The user must select the desired option from all of the dropdowns, set a price, and specify whether the item was on sale. Then the product is ready to be recorded.

Finally, there are several buttons on the form that correspond to all of the dropdowns present on the form: Types, Brands, Metrics, Stores, and Cities. When clicked, this button will bring the user to the Item Management form (explained later).

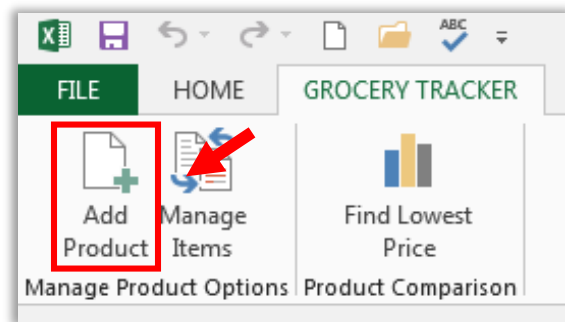


Figure 2 - Add Product button.

Figure 3 - Add Products form.

Manage Items Functionality

As seen in the figure to the right, this is the button located in the middle of the GROCERY TRACKER tab. This button will display the “Manage Options” form which simply prompts the user for the specific item s/he desires to edit. These items include the following:

- **Types** – this is the type of product. Examples include fruits, vegetables, beef, poultry, seeds/nuts, and more. This is the overarching type of product.
- **Brands** – this can consist of any of the generic or name-brands that exist in a given supermarket. Some examples include: Foster Farms, Quaker, Kellogg, and more.
- **Metrics** – this is the basic measurement type. The point of this is to keep all things standard by reducing them to their basic unit. Some examples include pound, ounce, piece, and more.
- **Stores** – This list contains all of the stores familiar to the user. Examples include Costco, Winco Foods, and Maceys.
- **Cities** – These are all of the cities the user frequents to get their groceries. Examples include Springville, Orem, and Provo.

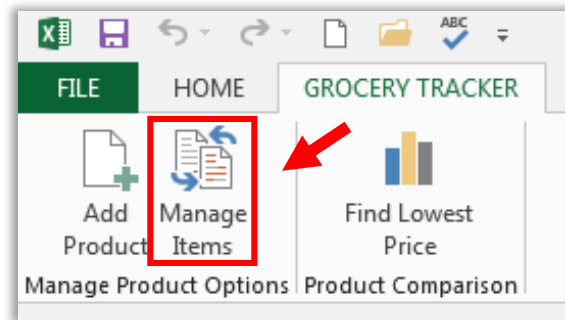


Figure 4 - Manage Items button.

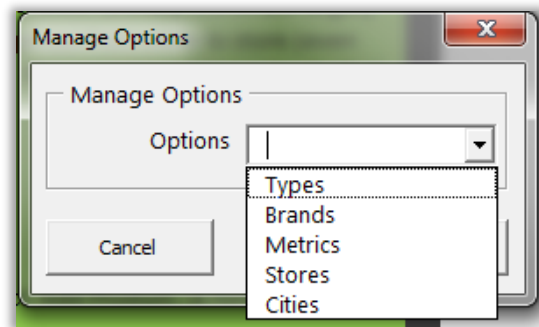


Figure 5 - The manage Options form which prompts a user to select an option to edit.

After selecting the “Go” button, the user is brought to the form that corresponds with the selected item. The basic create, edit, and delete options are available here. Use the add box to add an item. Simply type in the name and press the “Add” button. If the item is misspelled, Excel’s spell checking function will prompt the user to make the necessary changes. The case of all of the entries will also be automatically adjusted to proper case.

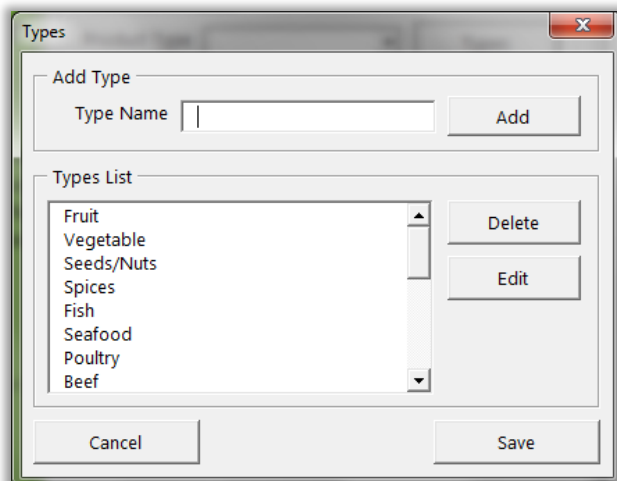


Figure 6 - Manage Items

In order to Edit or delete an item, the user must first select it from the list, then perform the desired action. For editing, another small form will appear with the name of the item ready to edit. For delete, it will remove the item from the list. If all of the modifications are satisfactory, the user can simply push the “Save” button. If the changes were made in error, press the “Cancel” button.

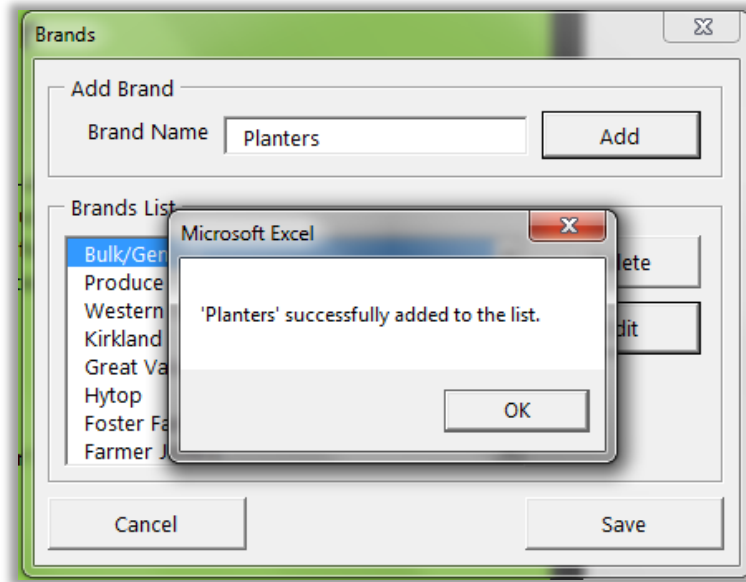


Figure 7 - Notice after an item was added.

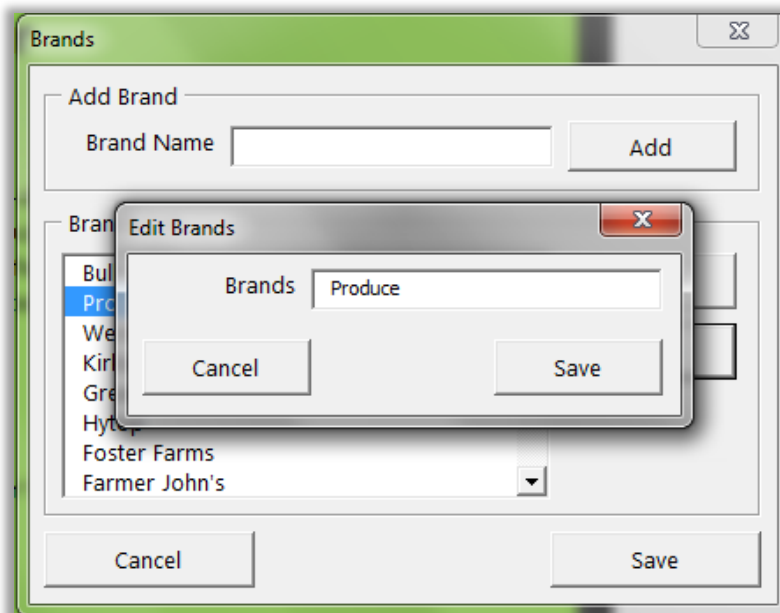
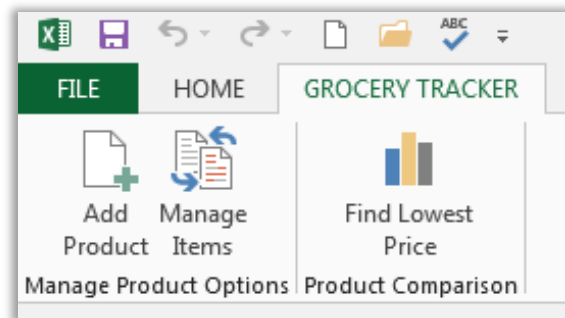


Figure 8 - The edit window.

Find Lowest Price Functionality

As seen in the figure to the right, this button is located on the far right of the GROCERY TRACKER. This button will display the “Find Lowest Price” form. This form will find the lowest price for all of the products within the spreadsheet. If there is more than one product with the same name and brand, GROCERY TRACKER will populate the “Lowest Price Results” list with the cheapest one. If there is only one entry, that is the entry it displays (as seen in the figure below).



The GROCERY TRACKER will also display detailed information when an item is selected. Items can also be searched by either Product Name, Product Type, or both.

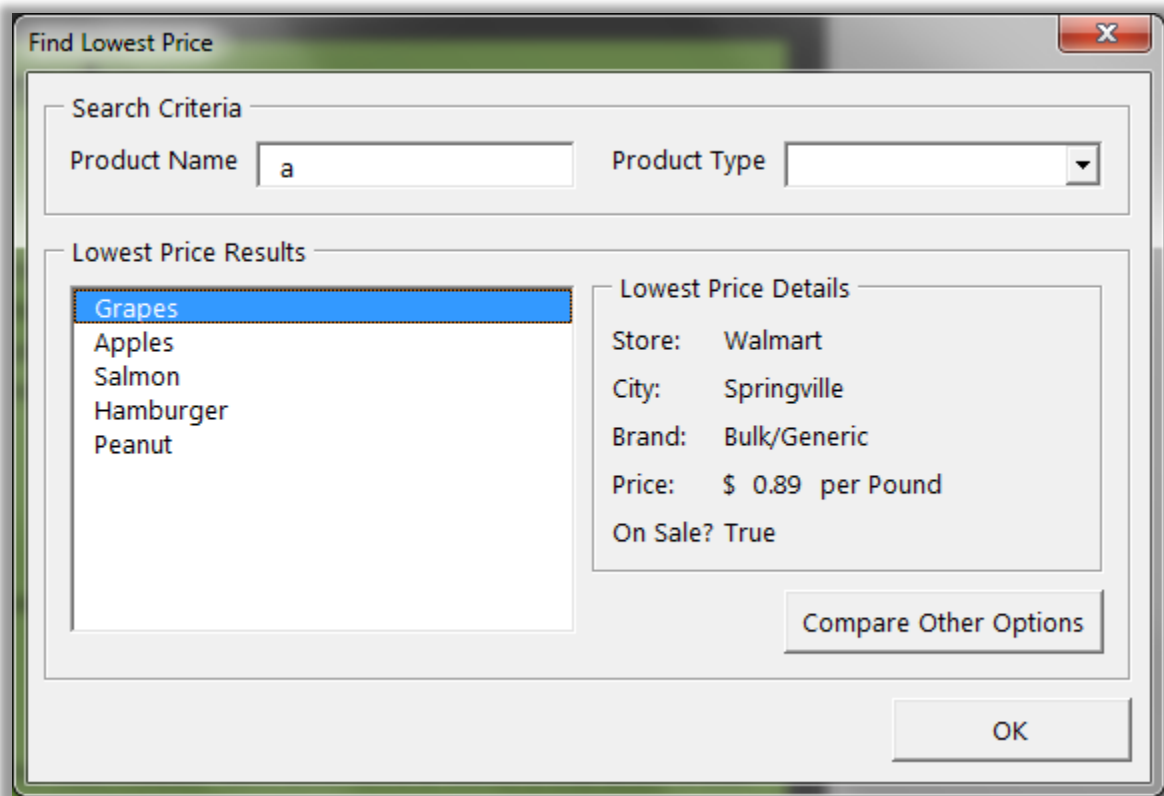
A screenshot of the 'Find Lowest Price' dialog box. The dialog has a title bar with the text 'Find Lowest Price' and a close button. It is divided into several sections. The 'Search Criteria' section at the top contains a 'Product Name' text box with the letter 'a' and a 'Product Type' dropdown menu. Below this is the 'Lowest Price Results' section, which contains a list box with the following items: 'Grapes' (highlighted in blue), 'Apples', 'Salmon', 'Hamburger', and 'Peanut'. To the right of the list box is the 'Lowest Price Details' section, which displays the following information: 'Store: Walmart', 'City: Springville', 'Brand: Bulk/Generic', 'Price: \$ 0.89 per Pound', and 'On Sale? True'. At the bottom right of the dialog is a 'Compare Other Options' button, and at the very bottom center is an 'OK' button.

Figure 9 - The Find Lowest Price form.

Finally, the user can see all of the product entries for a given name and type by clicking the “Compare Other Options” tab. This will generate a graph of all of the like products, and will display all of the detailed information on the side within the “Comparable Options Details” text area. The user may click OK when finished.



Figure 10 - the Compare Options window.

What I learned

- How to transfer data between windows
- How to incorporate spellcheck into Excel User Forms
- How to view a graph within a User Form window
- Just how to code better in VBA overall

Help

Apart from Google and Stack Overflow, I didn't use any help. I cited the URLs of the larger snippets of code within my VBA code.