



RECIPE BOOK CREATOR AND MEAL PLANNER



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Executive Summary

Business Description:

Amy Collier is a registered dietician who recently graduated from Brigham Young University. During her studies, she had access to expensive proprietary software that allowed her to create recipes, to plan meals, and to create automated grocery lists. Now that she has graduated, she does not currently have those resources when she consults with clients. Buying the software is not currently an option with her budget, so she needs a functioning substitute to be more effective at her job.

At home, she likes to pick and choose recipes from a large number of physical recipe books and online sources. Because of this, it is often difficult to find specific recipes and remember which recipe book or file folder included that particular recipe. Planning meals and creating grocery lists can also be a challenge. Amy suggested that I make one program that would meet all of these needs.

Solution:

In order to address all of these needs, I created "Collier's Recipe Manager" in Excel VBA code.

Creating a recipe:

I created a simple and easy-to-use user interface that allows the user to enter in recipe information and pictures which are then transferred to a separate saved worksheet with a professional format.

Recipe Book Generator:

Once the user has created a few recipes and saved them, the recipe book generator allows the user to pick which saved recipes should be included in the new recipe book. The user can also choose to customize a simple cover for the recipe book. Once the user is finished, he or she can save the workbook for later use.

Meal Calendar:

The user has the option to create a calendar and assign specific recipes to different meals on a particular day. There is also the option to import and edit a previously created calendar.

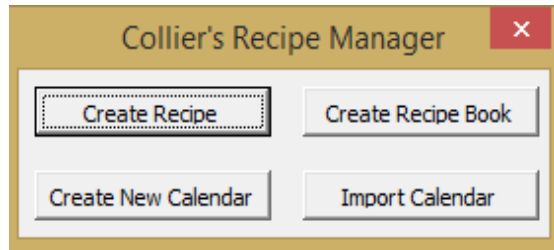
Grocery List:

Once the meals are planned for the week, the user can print out a grocery list of the items needed to make the planned recipes.

Project Implementation

Main Menu

In order to make the program easy to use, I created a user form that shows when the workbook is opened. The user has four options: create a recipe, create a recipe book, create a new calendar, or import and edit an existing calendar. When the user clicks the button of his or her choice, the code will take them to the corresponding user form.



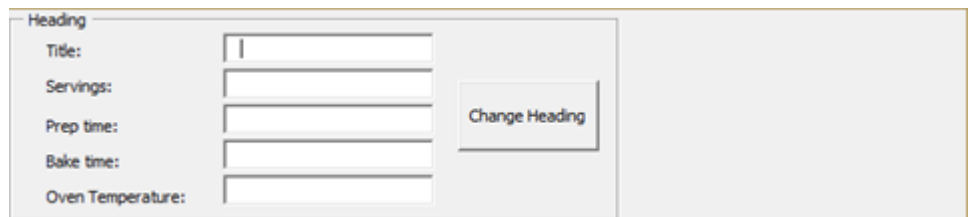
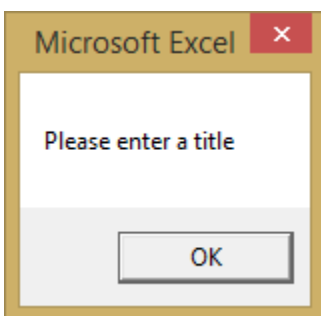
Creating a Recipe

If the user clicks the “Create Recipe” command button, he or she will be taken to the Recipe Wizard user form. At the same time, the “template” worksheet becomes visible and is copied into a new worksheet called “New Recipe”. Using the Recipe Wizard platform, the user can enter in the information needed to create the recipe.

Heading

The first section of the Recipe Wizard is the Heading. The user must enter in a title or they will receive a message box prompting them to enter in a title.

This title is crucial because the recipe will eventually be saved with the title as its filename. The “Servings”, “Prep Time”, “Bake Time”, and “Oven Temperature” fields are optional and will add to the recipe only if the user enters something in the appropriate textbox. When the user presses the “Change Heading” button, the information in the heading fields is copied over to the recipe.

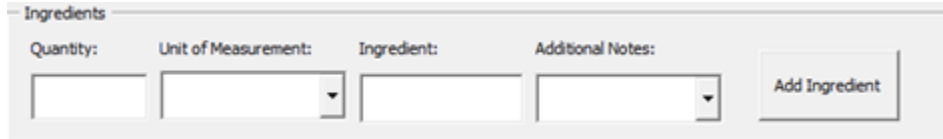


Ingredients

Next, the user is able to enter in ingredients and directions. Any preferred recipes that listed the ingredients next to the direction in which they are mentioned. The user enters in the needed ingredients first and then enters in the direction that is connected to those ingredients.

In order to enter ingredients, the user enters the quantity, the unit of measurement, the ingredient name, and any additional notes (chopped, pitted, sliced, etc.). The quantity field and the ingredient fields are simple text boxes. The units of measurement and additional notes are combo boxes which pull saved lists of common measurements and common notes. While typing, the box will automatically hint at saved measurements or notes, so the user can more quickly enter in the information. The user can tab from box to box and when add ingredient is clicked, the quantity box

is automatically selected. Add ingredient takes the entered information and pastes it in two places. The first is visible for the recipe itself and the second location is hidden and used for the eventual grocery list.



The 'Ingredients' form contains four input fields: 'Quantity' (text box), 'Unit of Measurement' (dropdown menu), 'Ingredient' (text box), and 'Additional Notes' (dropdown menu). An 'Add Ingredient' button is positioned to the right of the 'Additional Notes' field.

Directions

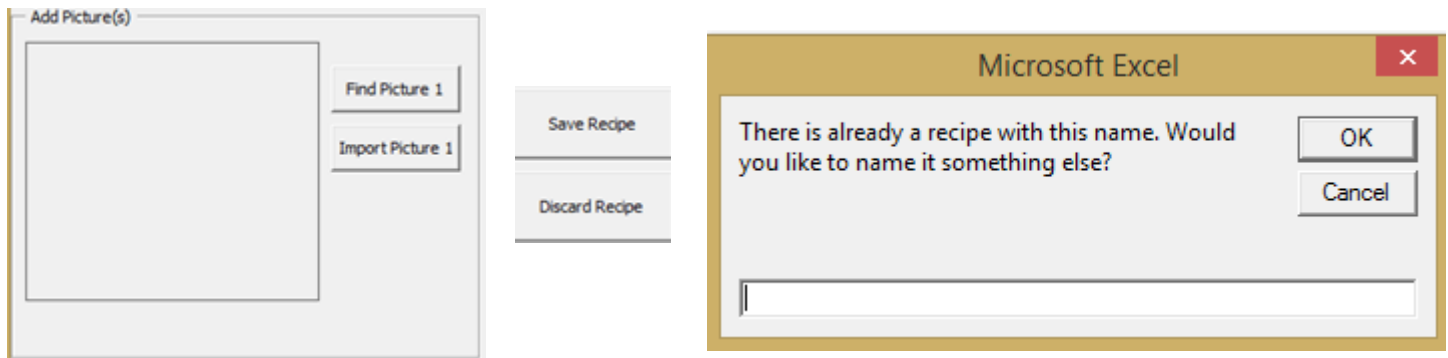
The directions box automatically numbers the direction based on how many times the two buttons have been pressed. If the user wants to connect the direction with the entered ingredients, he or she presses the "Add Connected Direction" button. If not, the ingredients will be moved further down the page with the "Add Unconnected Direction" button.



The 'Directions' form features a large empty text area on the left. To its right are two buttons: 'Add Connected Direction' (top) and 'Add Unconnected Direction' (bottom).

Add Picture

If the user wants to import a picture, he or she presses the "find picture" button. This gives him or her a dialog box to pick a specific picture file. Once the picture is selected, pressing the "Import Picture" button will put the picture in one of the image objects on the recipe sheet. Each time a picture is imported, the buttons and destination are changed.



This block shows two overlapping windows. On the left is the 'Add Picture(s)' window, which includes a large image placeholder, a 'Find Picture 1' button, and an 'Import Picture 1' button. Below this window are two buttons: 'Save Recipe' and 'Discard Recipe'. On the right is a 'Microsoft Excel' dialog box with a red close button in the top right corner. The dialog text reads: 'There is already a recipe with this name. Would you like to name it something else?'. It contains an empty text input field and 'OK' and 'Cancel' buttons.

Save or discard recipe

Once the recipe is finished the user can press the save button. The system will check to see if there is currently a "Recipe" folder in the same location as the RecipePro.xlsm workbook. If there is not, it is created. The new recipe is copied over to a new workbook and saved with the title name. If the recipe already exists, the user must enter in a new filename. If the user is unsatisfied with the current recipe, pressing the "Discard Recipe" button will erase it and take the user back to the main menu.

Recipe Book Generator

Picking recipes

After creating a few recipes and saving them in the recipe file, the user can now create a recipe book. By clicking on the "Create Recipe Book" button, the user will be taken to the "Create Recipe Book" user form. The right list box automatically populates all of the current recipes saved in the recipe folder. The user then can add or delete the files that will be included in the recipe book.

The whole Recipe Wizard user form

Recipe Wizard

Heading

Title:

Servings:

Prep time:

Bake time:

Oven Temperature:

Change Heading

Ingredients

Quantity:	Unit of Measurement:	Ingredient:	Additional Notes:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Add Ingredient

Directions

Add Connected Direction

Add Unconnected Direction

Add Picture(s)

Find Picture 1

Import Picture 1

Save Recipe

Discard Recipe

A completed recipe

Spiced Fruit Soup

MAKES 5 SERVINGS

1.5 c sugar
3 c water
2 pieces ginger, 1-inch-thick
2 whole star anise
1 Tbsp lemon zest
1.5 pt raspberries

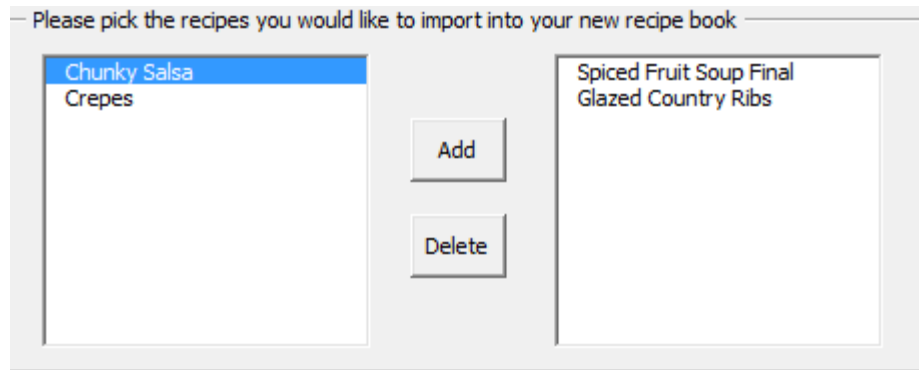
2 Tbsp lemon juice
.75 lb apricots, halved and pitted

1. Combine the sugar, water, ginger, star anise, zest, and 1 pint raspberries over high heat in a medium saucepan.

2. Bring to a boil and cook until sugar is completely dissolved. Mash the berries with a potato masher until they release most of their liquid and strain into a large bowl. Stir in the lemon juice and apricot halves and chill the broth in the refrigerator for at least 1 hour.

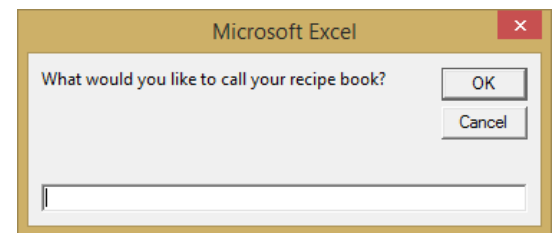
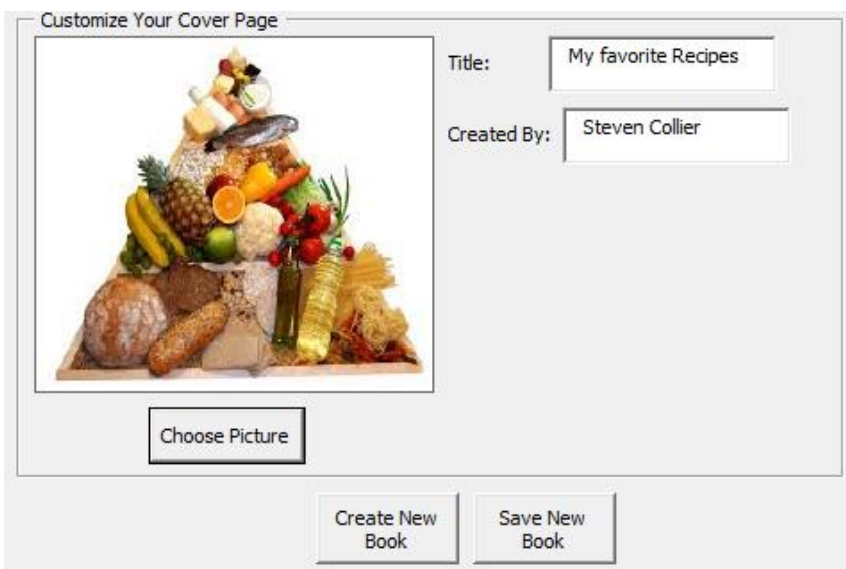
3. Finish the soup by stirring the remaining raspberries into the broth. Divide the soup among the bowls and serve immediately.





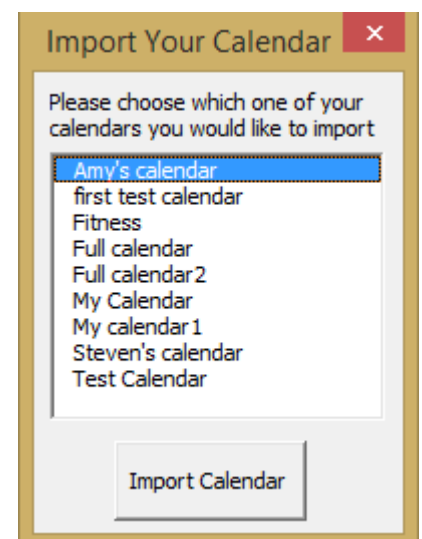
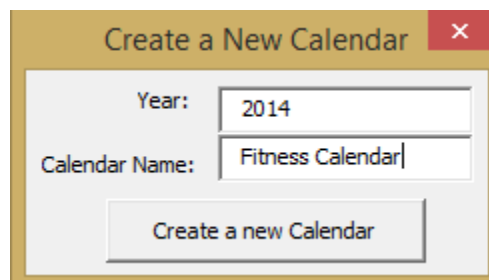
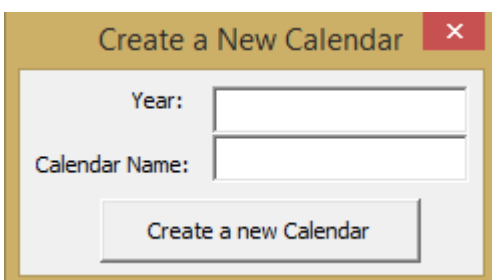
Customized Cover Page

When the user creates the recipe book, the system automatically creates a cover page based on the user's specifications. The options are an imported picture, a title, and listing who created the recipe book. After filling in all of the fields, the user creates the new recipe book. The system loops through the recipe files and imports the recipe pages for all of the selected recipes. The first sheet in the new workbook is the customized cover page. The user can now save the new workbook and is prompted to give a name for the new recipe book.



Creating or Importing a Meal Calendar

The next option is to choose create a meal calendar on the main menu. This will bring the user to the "Create a New Calendar" user form. Here the user can pick a year and a name for the calendar. After pressing the "Create a New Calendar" button, the system generates calendars for each month of that year. The user can also import an existing calendar.




Complete "Create Recipe Book" user form

Create Recipe Book

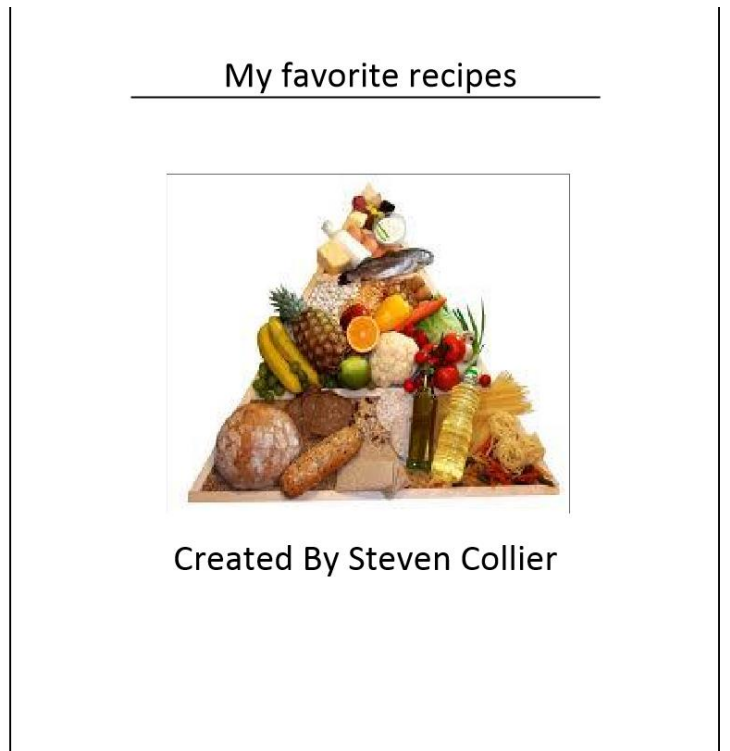
Please pick the recipes you would like to import into your new recipe book

Chunky Salsa Crepes My Recipe	Add	Glazed Country Ribs Spiced Fruit Soup Final
	Delete	

Customize Your Cover Page

	Title: My favorite Recipes
<input type="button" value="Choose Picture"/>	Created By: Steven Collier

Completed cover page



Along with the calendar, the system generates two kinds of buttons: a button that takes the user to the Add Meals user form and buttons that will allow the user to create a grocery list once all of the meals have been entered.

December 2014							Add Meals	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
		1	2	3	4	5	6	Create Week 1 Grocery List
	7	8	9	10	11	12	13	Create Week 2 Grocery List
	14	15	16	17	18	19	20	Create Week 3 Grocery List
	21	22	23	24	25	26	27	Create Week 4 Grocery List
	28	29	30	31				Create Week 5 Grocery List

Plan a Meal

After the calendar is created or imported, the user will see the “Plan a Meal from Saved Recipes” user form. With this interface, the user can pick a month, a day, the meal, and a recipe from the populated recipe list. The button “Assign Recipe” assigns the meal to one of the three cells below the data, depending on the selected meal. The user can even select more than one recipe for a meal. When a month is selected, Excel shows the selected month’s spreadsheet.

“Plan a Meal from Saved Recipes” user form

Plan a Meal From Saved Recipes

Month: January
February
March

Day: 1
2

Meal: Breakfast
Lunch
Dinner

Recipe: Chunky Salsa
Crepes
Glazed Country Ribs
Spiced Fruit Soup Final

Assign Recipe Close

Recipes are assigned to January 1st, 2014 (Two are assigned to lunch and dinner)

January 2014 Add Meals

Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Chunky Salsa Crepes, Spiced Fruit Soup Final Glazed Country Ribs, Chunky Salsa	2	3	4
7	8	9	10	11

Create Week 1 Grocery List

Create Week 2 Grocery List

Calendar Menu

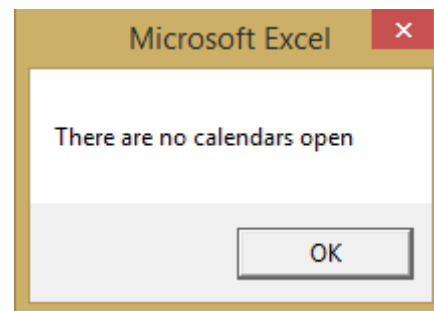
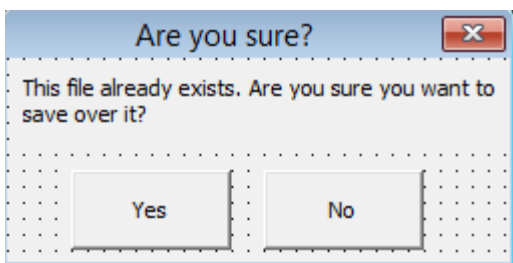
If the user would like to save the new calendar or save changes to the imported calendar, he or she can find the Calendar Menu tab and click the Save calendar button. If no calendar is open, the user will receive a message which says "There are no calendars open". If the file already exists, the user can decide to save over the existing file or to enter in a new name. If the user wants to go back to the main menu, the system will delete the current calendar and bring up the Main Menu user form.

Current Calendar Open:

Return to Main Recipe Menu

Save Calendar

Import Different Calendar



Grocery List

Once the user has assigned recipes to all of the meals for the week, he or she can now create the grocery list. After pressing one of the weekly grocery list buttons, the system loops through all of the assigned recipe files and pulls out the hidden ingredient information. This information is copied into a new worksheet called "Grocery List". If an ingredient is already on the list, the quantity will be added together. If the user clicks the button of a different week, it overwrites the current grocery list.

Completed Grocery List

Quantity	Measurement	Ingredient
14	lb	tomatoes
6	c	chile pepper
2/3	c	jalepeno chili pepper
4 1/4	c	onion
1	c	cilantro
2	c	vinegar
1	can	tomato paste
12	cloves	garlic
2 1/4	tsp	salt
2	tsp	black pepper
2	whole	eggs
1 1/2	c	milk
1	c	all-purpose flour
1	Tbsp	cooking oil
1 1/2	c	sugar
3 1/2	c	water
2	pieces	ginger
2	whole	star anise
1	Tbsp	lemon zest
1 1/2	pt	raspberries
2	Tbsp	lemon juice
3/4	lb	apricots
1	c	ketchup
1/4	c	cider vinegar
1/4	c	molasses
2	Tbsp	worcestershire sauce
2	tsp	chili powder
3	lb	pork ribs

Learning and Conceptual Difficulties

Accessing data in another workbook from a user form: When creating the new recipe book and calendar workbooks, I originally created everything in a new workbook and attempted to modify everything in those new workbooks from the original workbook. I thought that this would work because I had been testing with templates from the original workbook. When I began to put everything together, I realized that the original workbook had to be selected and visible in order to run the user forms. This made things difficult for the user to see what changes were being made, and it made the code much more complicated. I eventually changed the code to import or create the recipe books, calendar, and grocery list in the original workbook and export them when saving.

Hidden worksheet templates: I created templates that proved to make all of the formatting so much easier. I would just copy the created template and rename it. Originally I was hiding the template, but I ran into problems when the new worksheet would not be created when the template was hidden. I eventually just showed all of the templates to avoid this problem. With more time, I would research a fix to keep my templates hidden.

Finding if a worksheet or workbook existed: I ran into several errors and problems with my code with me opening, closing, and saving so many workbooks. I eventually was able to either trap the errors with the “on error resume next” and “on error goto 0” lines of code, or I was able to use code to check if the workbook or worksheet existed.

Creating a Folder: I learned how to search for a folder and then create it using the Mkdir() function.

Multiple Modules: I learned that as my code grew and grew, it made things much easier when I organized the code into different modules.

Future Opportunities

Emailed grocery list - If there was more time, I would have created a user form that would send the grocery list to a selected email.

Nutrition facts - I also would import nutritional information from Agricultural Research Service of the United States Department of Agriculture. With this information, I could create Nutrition Facts labels that would be displayed in the picture column for each recipe.

Import recipe - Using the Pixter app on my iPhone, I am able to take pictures of recipes and extract the text from the picture with acceptable accuracy. I could take this information and enter it into a text box of a user form. The user could then insert tabs to pull out specific information and import that information into the Recipe Wizard.

Assistance

The only assistance that I received was from my wife Amy. I consulted with her about the design of the user forms and to make sure that I was meeting her specifications.