Executive Summary

Taffy Town Inc. is a small family owned business located in Salt Lake City, Utah. The company has been in business for almost 100 years. The company was known as the Glade Candy Company until 1995 when the company changed its name to Taffy Town to reflect its decision to discontinue all of its product lines other than taffy. Since 1995, Taffy Town has positioned itself as a leader in gourmet taffy. The company primarily does business in the United States, although in recent years it has picked up some key international accounts. The company prides itself in using the finest ingredients and in processing the taffy in a manner that keeps the product fresh and soft. Taffy Town currently produces over 60 flavors and a variety of standard assortments.

For my project, I created a system that will help Taffy Town manage customer complaints. The system uses Excel as the user interface and Access to store the data. When a complaint is received, the employee receiving the complaint will open the application by clicking on the shortcut on his or her desktop. The employee will enter the required information, including the customer's description of the complaint. The employee also has access to a chart summarizing historical complaints in case he or she needs to reference that information. After the employee records the complaint, an email is sent to the appropriate individual(s) in the company. The email includes the complaint information along with a chart showing historical complaints.

When the individual receives the email, he or she will take the necessary action to resolve the complaint. Once the complaint is resolved, the employee will record the resolution in the customer complaint system. At the end of each week, the sales manager will use a report to review all complaints that have not been resolved within 5 days. He will also review complaints that have been resolved and change the status of the complaints from open to closed.

The customer complaint system will help Taffy Town better understand complaint trends by providing a centralized location to store all complaint data. The system will further help Taffy Town by creating an instantaneous way for employees to be made aware of complaints that resulted from process failures in their respective departments. Additionally, the system will provide a framework for holding the respective managers accountable for resolving process failures that led to the complaint. Finally, the system provides a set of reports to enable employees to quickly view complaint data and to follow up on unresolved items.

Implementation Documentation

The sections that follow describe the functionality of the complaint system. The functionality of the system is broken into three sections: entering complaint, editing a complaint, and viewing reports.

Entering a Complaint

When the employee opens the program to record a complaint, the program generates a historical chart that users can view either when entering a complaint or when looking at the historical complaint report.

Once the program is open, the user can open the form to record the complaint by clicking either the record new complaint button on the ribbon or by clicking the top button displayed on the spreadsheet as illustrated below.
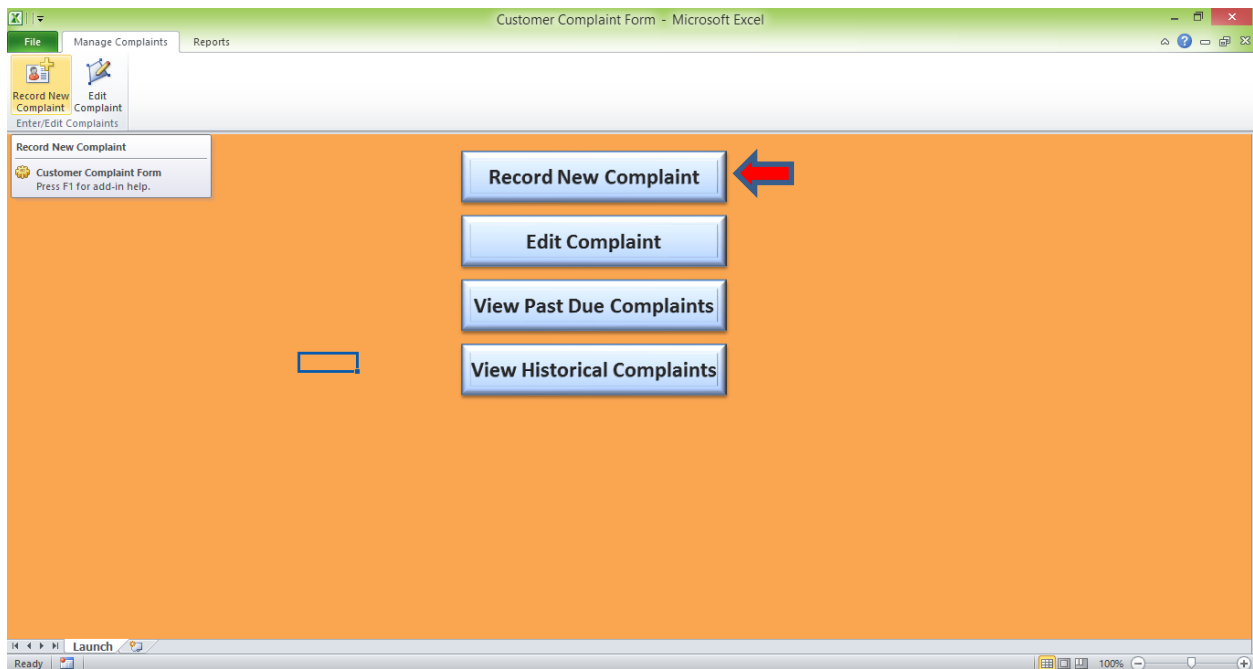
Upon clicking the button, the program loads the list of customers into the complaint form, sets up the list of potential email recipients, generates worksheets that will temporarily store the complaint data, and retrieves a unique complaint number from the customer complaint database.

Once the complaint form is open, the user can begin to enter in the required information. Since it is likely that the user will not have the customer's customer number memorized, the user can simply begin to type the customer name into the search field and the program will automatically complete the rest of the name as shown in the screenshot below.

The user cannot record a complaint without entering at least one item. Additionally, the user cannot enter an item unless they have selected at least one complaint category. If the user attempts to add an item without selecting a complaint category, a message will display as shown in the screenshot below.

If the user attempts to record a complaint without adding at least one item, the message shown in the below screenshot will appear.

When the user clicks the add item button, the item data is recorded on a sheet in the workbook and the appropriate recipients are added to the email list based on the complaint category the user selected. An item appears in the list that contains the information the user entered. This is shown in the below screenshot.

If the user needs to remove an item that he or she has entered, the user does so by clicking on the remove item button. At any point after the complaint form is open, the user can view a chart that details the company's historical complaints. The user may reference this in order to understand how prevalent a certain type of complaint is.

After the user has entered all necessary information, he or she clicks on the record button to process the complaint. When the user clicks the record button, the remaining data on the form is transferred to a worksheet. This data, along with the previously recorded item data, is then inserted into the database. The historical chart is updated, the program sends an email to the previously designated recipients, and the form is closed. An example of the email received by the recipients is shown below. This process is a key feature to the system. This email allows the user who enters the complaint to easily inform the necessary people in the company of the complaint. The email also makes the recipient accountable to investigating why the complaint occurred and making a resolution. Lastly, the email provides the recipient with a visual summary of how prevalent the particular type of complaint has been.

WIRED - Hack This Trial: Technology Is (Finally) Aiding Legal Strategy - 4 hours ago

Complaint C217   Inbox   x

Todd Gomez <t.s.gomez1166@gmail.com>   5:36 PM (0 minutes ago)
to me

Attention: T.S.Gomez1

Complaint C217 has been recorded for TACOMA BOYS regarding invoice I00054

TACOMA BOYS described the complaint as follows:

The peppermint and the cherry were hard. I hurt a tooth.

The issues below were recorded for the following products:

• Item 00412 had 1 case(s) of lot number 14300 affected by hard taffy issues
• Item 00418 had 2 case(s) of lot number 14300 affected by hard taffy issues

Please take the necessary action to resolve these concerns and record the resolution by: 12/14/2014
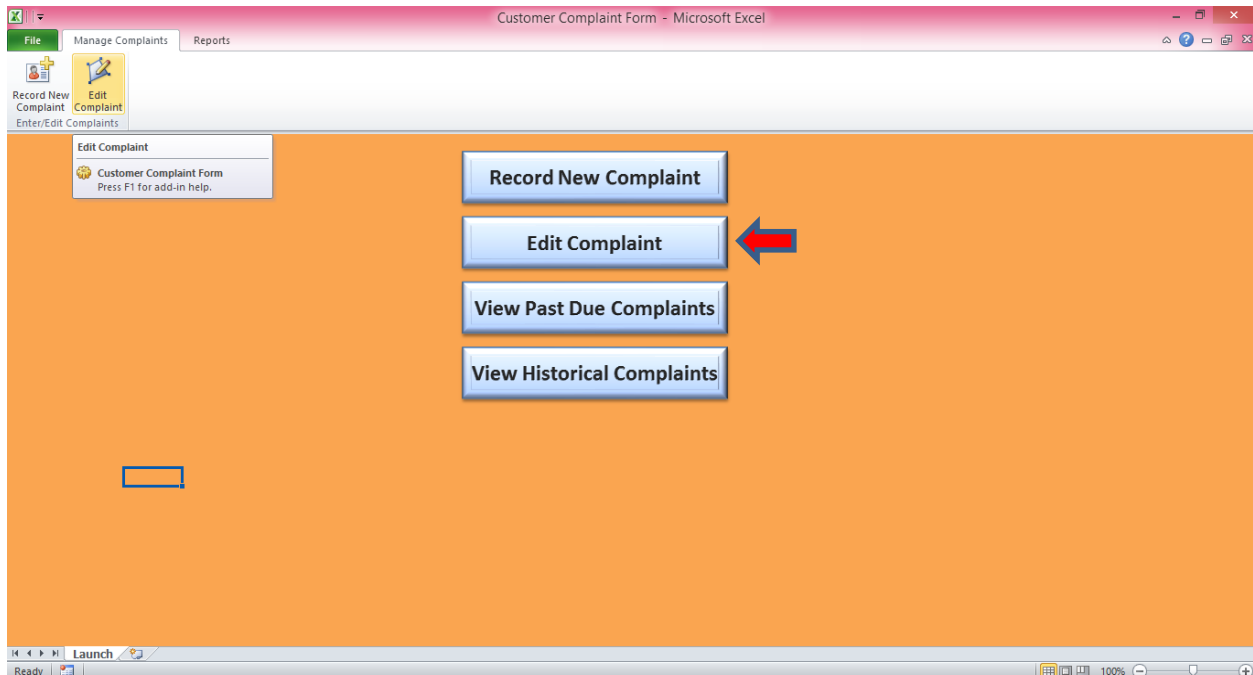
Editing a Complaint

After the recipient resolves the complaint, he or she will access the system and update the complaint by clicking on edit complaint button either on the ribbon or on the worksheet as illustrated below.

Once the edit form is open, the user has several options for finding the complaint as shown in the below screenshot.

If the user has the complaint number, he or she can simply enter that number into the Complaint No. field and press the find button adjacent to the text box. The user can follow a similar process to lookup up the complaint by the invoice number. If the user only remembers the customer name, he or she can enter the customer name and then cycle through the complaints listed for the customer until he or she finds the correct complaint. If the user reaches the last complaint for a given customer and then clicks the next button again, the message below will display.

Once the user finds the complaint, he or she can record the resolution along with his or her initials. When the user clicks on the update button, the database will be updated.

Other users can also use the edit form to update complaint information as needed. Periodically, the sales manager will access the user form to review open complaints and to close them. In order to close a complaint, the sales manager must double click on the text box next to the status label. Upon double clicking on the text box, a form will appear for the user to enter a password. If the user enters an incorrect password, the following message will be displayed.

The user will then be taken back to the edit form. This feature is essential to ensuring that only authorized employees can close out complaints. Additionally, this process allows management to review customer complaints. Once the user enters the correct password, the status of the complaint is changed to closed. The user must click update to save the change.

Viewing Reports

User can use the complaint system to view the following reports: past due complaints and historical complaints. To view the past due complaints form, the user must click on the view past due complaints button on either the ribbon or the worksheet as shown below
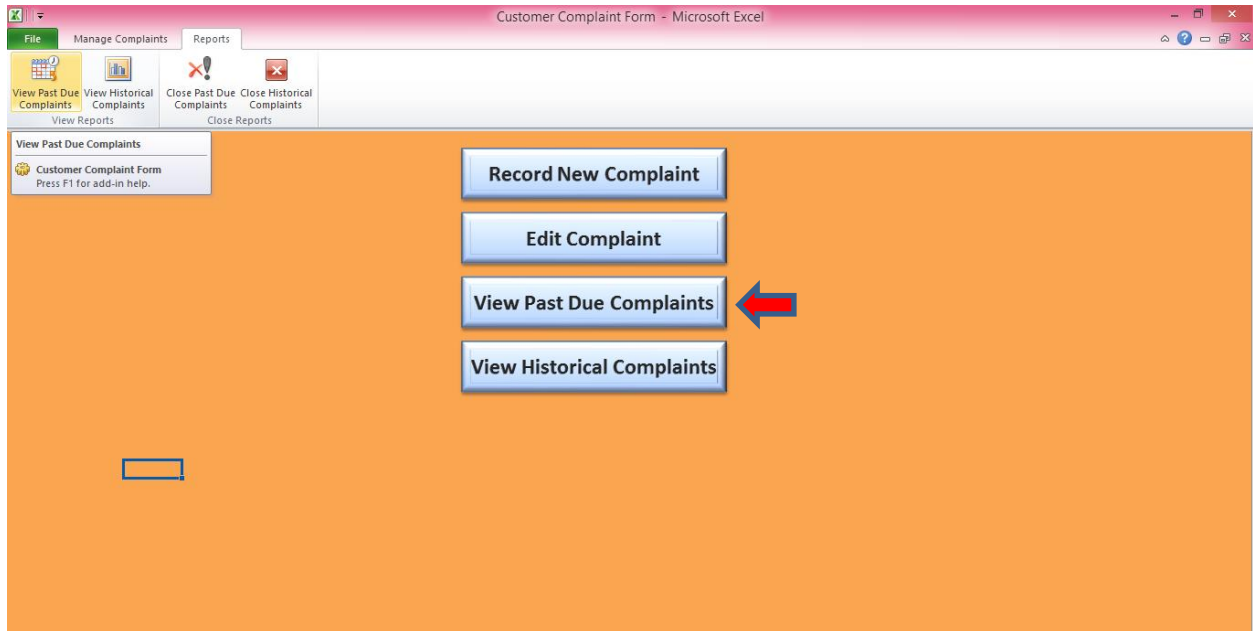
The user will then be taken to the following report.
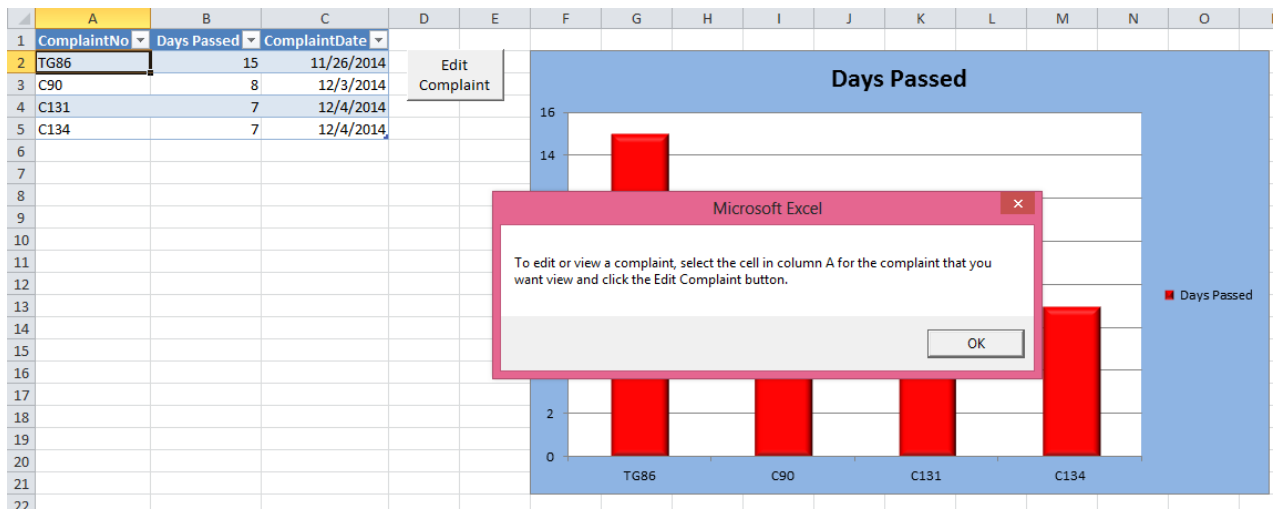
The message box instructs the user to select a complaint in column A and then click on the edit complaint button to either view or edit the complaint. This report is important because it allows managers to see which complaints have not been resolved within five days of being received. The manager can look at the complaint and can contact the appropriate employee to find out why the employee has not resolved the complaint.

When the manager selects a complaint number and clicks the edit complaint button, the system opens the edit form and displays the information for the selected complaint as shown below.

Users can also view a report that displays a chart of historical complaints. To access this report, the user clicks on the view historical complaints button on either the ribbon of the worksheet as shown below.

When the report opens, a chart showing historical complaints is displayed. The user can use the pivot slicers to filter the data by month and by complaint category as shown below.
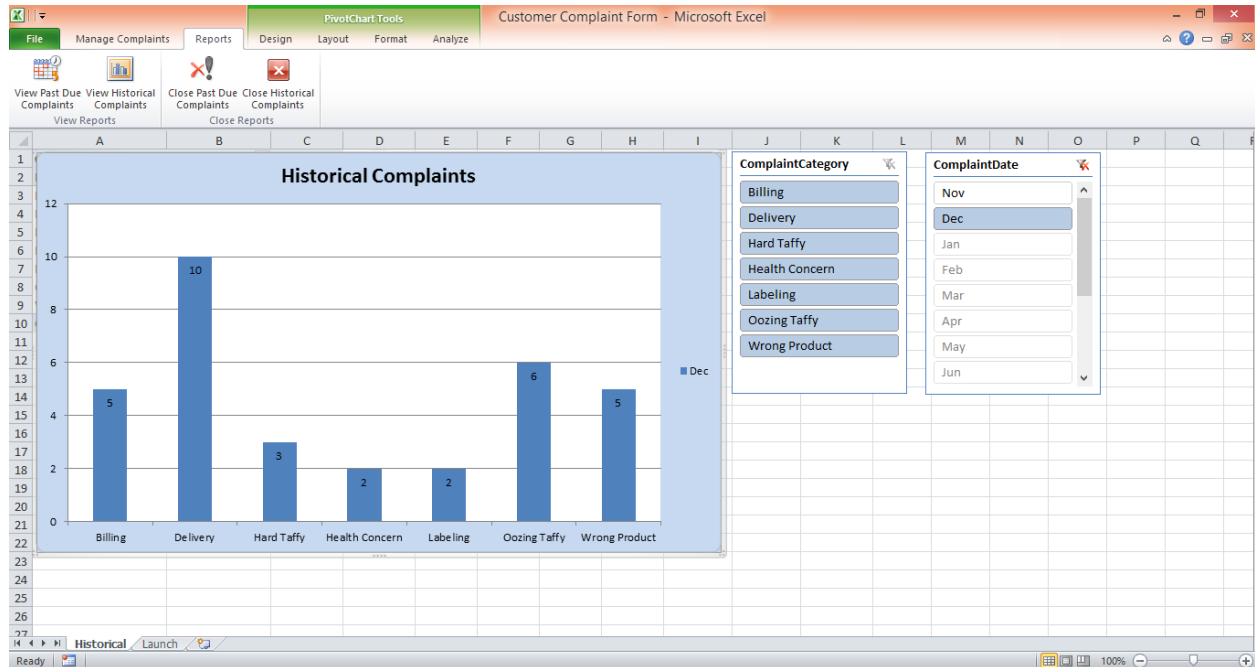
This report allows users to analyze how prevalent complaints of each category are. It also allows them to see which types of complaints are most prevalent.

Discussion of Learning and Conceptual Difficulties Encountered

Throughout the course of the project, I learned how to use VBA to interact with several Microsoft Office programs, how to save a chart as an image file, how to use a customized ribbon, and how to use imported data without having to put it on a worksheet.

Completing this project helped me to understand how to use excel as a front-end application that interacts with other Microsoft Office programs. I needed this program to be able to record complaint data even if another user had the program open. Consequently, I learned how to setup an Access database that the Excel application could directly interact with to retrieve and insert data regardless of whether other users were also using a read-only copy of the application. In conjunction with this, I learned how to generate a unique ID number without having to store any data in the spreadsheet.

In addition, I also learned how to use VBA to interact with Outlook. I learned the code necessary to check to see if Outlook is open and to open the program if necessary. I also learned how to use VBA to create an email from user form items and to send a formatted email to a list of selected recipients.

As part of my project, I wanted the users to be able to view the chart of historical complaints from the form where they fill out the customer complaint. I was unsure if this could work at first because when a user form is open I have never been able to look at other sheets in the workbook. I researched online and discovered that I write code to save the chart as an image file and then load that file into a separate user form when the user pressed the button to open my complaint user form. I further learned that I could use a command button to view another user form while I still had the first user form open.

During the project, I also refined my understanding of how to customize the ribbon. During class, I did not fully grasp how to arrange the buttons on the ribbon into different tabs or how to get the ribbon buttons to run the code. Through trial and error and discussions with friends and the TA, I was able to customize the ribbon so that the user had the option of navigating from the ribbon or the worksheet buttons.

Finally, completing this project stretched me to learn how to use imported data without having to store the data on a worksheet. Prior to this project, any spreadsheet that I developed utilized many worksheets. These worksheets were filled with tables and other intermediate calculations that I would then reference in my VBA code. I started this project in the same manner, but then decided to see if I could import certain data without having to store it on a worksheet. I realized I could use public variable to pass data between procedures so that I did not have to store the data on a worksheet. I also realized that I could use record sets to store data that I imported from Access.

In the end, I was able to accomplish all of the items that I outlined in my project proposal. There was one thing that was outside the scope of my project that I was not able to accomplish. In the form where I created for users to edit the complaints, I wanted to make it possible for them to search by date as well. I initially used a calendar add-in that allowed this to work, but the add-in would not work on all the computers that I needed to run the application on. The problem I was having is that the data type of the date in the user form was a string and in the database, the format was a date. I figured that I could

perhaps use a combination of the mid and format functions to convert the string and compare it to the date values, but I did not have time to dig into this since the project deadline was approaching.

I did not receive substantial assistance on my project via direct interaction with another person. I was able to find solutions to the difficulties I encountered by referencing previous assignments and the internet. The main exception was the discussions that I had with the TA and a classmate regarding customizing the ribbon. I used certain code segments that were posted on the internet as a basis for the code that I needed to make my project work.