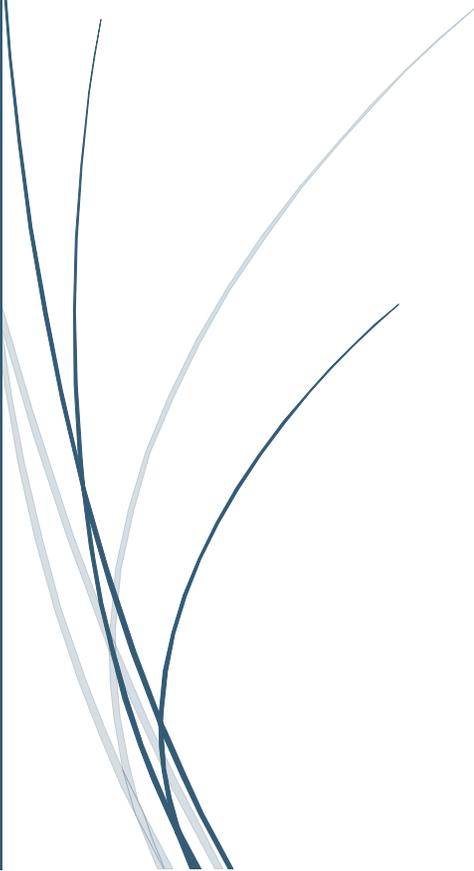
A dark blue vertical bar runs down the left side of the page. A light blue arrow points to the right from the bar, containing the date.

December 10, 2015

Online Quiz Analyzer

To be used with Kahoot!

Several thin, curved lines in shades of blue and grey originate from the bottom left and curve upwards and to the right.

Dave Watson

BRIGHAM YOUNG UNIVERSITY – IS 520

ONLINE QUIZ ANALYZER

My mother is a high school AP social science teacher who often uses the Online Quiz Service called “Kahoot!” to administer quizzes to help assess comprehension of in-class discussions and homework assignments. However, the format Kahoot! provided the results was long and difficult to read and obtain quick results.

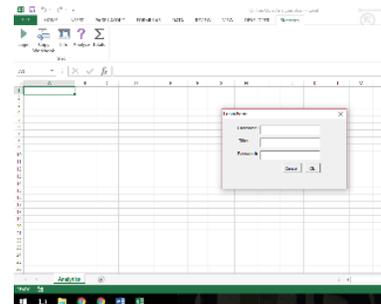
The system I designed enables the user to login to the Kahoot! website with a small amount of manual manipulation and analyzes the results of the chosen quiz. These results are summarized on the first tab of the workbook and allows the user to quickly scan the information to identify potential problem questions and users who encountered difficulties with wrong answers.

IMPLEMENTATION PROCESS:

I modified the ribbon strip to include a new tab with 5 buttons to run the program. The buttons include functions for Login, Copy Workbook, Summarized Information (Info), Analyze Questions (Analyze), and Totals (which creates a chart with the class totals).

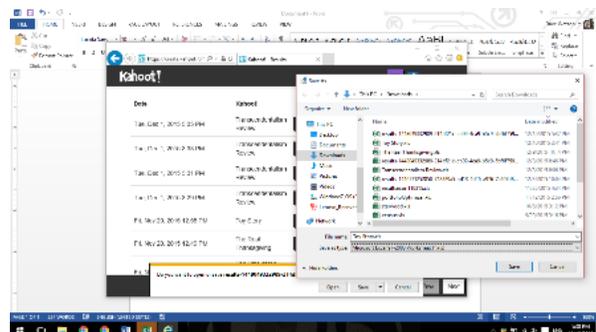
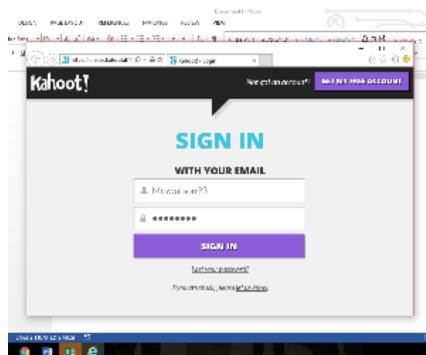


The Login button performs the following functions. It calls a user form prompting for the user to input their Username, Title of the quiz to be analyzed, and their Password to access Kahoot!. These values are stored as string for later use.

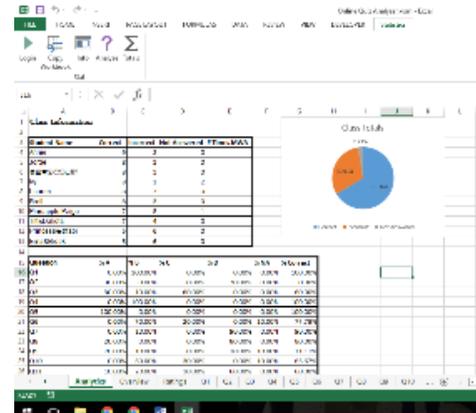


When the user clicks “Ok”, the user form checks to make sure that the user has input on all of the fields and that none of them are blank. Then the program starts an Internet Explorer browser within Excel.

The browser stops at the Kahoot! main login page with the username and password auto-filled. The user then clicks the “Sign In” button to access the website. After logging in, the user manually follows the appropriate link (“All Results”) to bring up the completed quizzes that are available for download. The user clicks “Download” on the desired quiz and performs a “Save As” function with filling in the name of the quiz as the title of the quiz.



The “Total” button creates a chart from the total correct, incorrect, and not answered questions and identifies each category in a pie chart. The program labels each section and creates a data legend at the bottom of the chart. The chart is also configured by the program to fit on the “Analytics” tab.



SOLUTION:

This is the end result of the program. The user can then browse through the information provided in the high-level analytics created by the program.

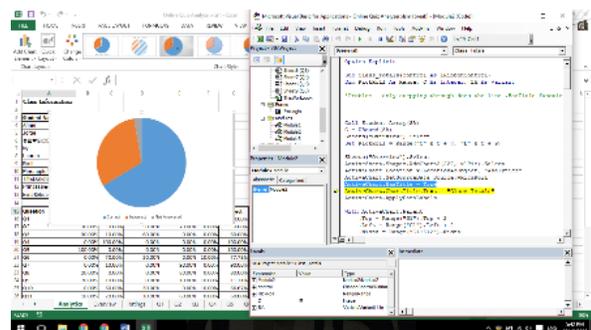
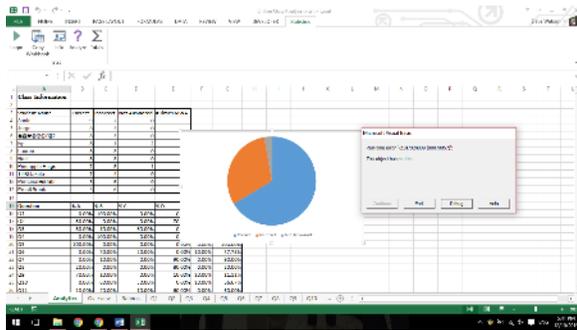
CONCEPTS LEARNED:

While working on this project, I learned a great deal about VBA syntax and how there were many ways to code a solution, which each way providing different benefits. I also learned about the logic of loops and how to manipulate the loop to produce the output desired. For example, my first iteration of the “Copy Workbook” macro kept creating the new tabs in backwards order, starting from the last question until the “Overview” tab. I had to try a few different ways of wording the loop in order to reverse it back to the correct order.

Additionally, I had to learn a lot of patience and keeping notes in my code. I often got frustrated in the beginning stages of the project when encountering a barrier that would prevent my code from working. I struggled to fix the code I was working on instead of creating a note describing the problem and then moving on to a different portion of the program where I could successfully code and obtain results. I also learned that I had to be creative in writing the program when I encountered a barrier that couldn't be overcome due to deficiencies in my knowledge of programming.

PROBLEMS WITH THE PROGRAM:

I came across a few problems that I could not resolve. The first is in creating the chart with the class totals. Running the macro by itself would create an error code stating that the chart did not have a title. I wrote into the code “ActiveChart.HasTitle = True” but it would stop at the next line with the same error. However, stepping through the code with “F8” created the chart correctly, as seen above in the step-by-step implementation.



The last problem I came across was creating the array for “# MWA” in the Class Information section. I wanted to be able to count how many times each student, when incorrectly answering a question, picked the most common wrong answer. This would help the user identify if one answer was tricking students into choosing it.

HELP RECEIVED:

When I ran into issues with my VBA syntax, I would search for the general issue on VBA forums. If I didn't understand conceptually the code, I would copy it and manipulate it with different information to see how it interacted with the rest of my code. Once I understood it, I would rewrite the code so that it would correctly function with the rest of the program in my language.

I had substantial help from Dr. Gove Allen on populating the Kahoot! Website Login page. The site did not contain name IDs for the User ID, Password or Sign In button. His help made it possible to populate the two fields, however, the sign-in portion did not work still. I have included the code with which he wrote to circumvent the issue.

