Bryce Newbold's VBA Project Write-up

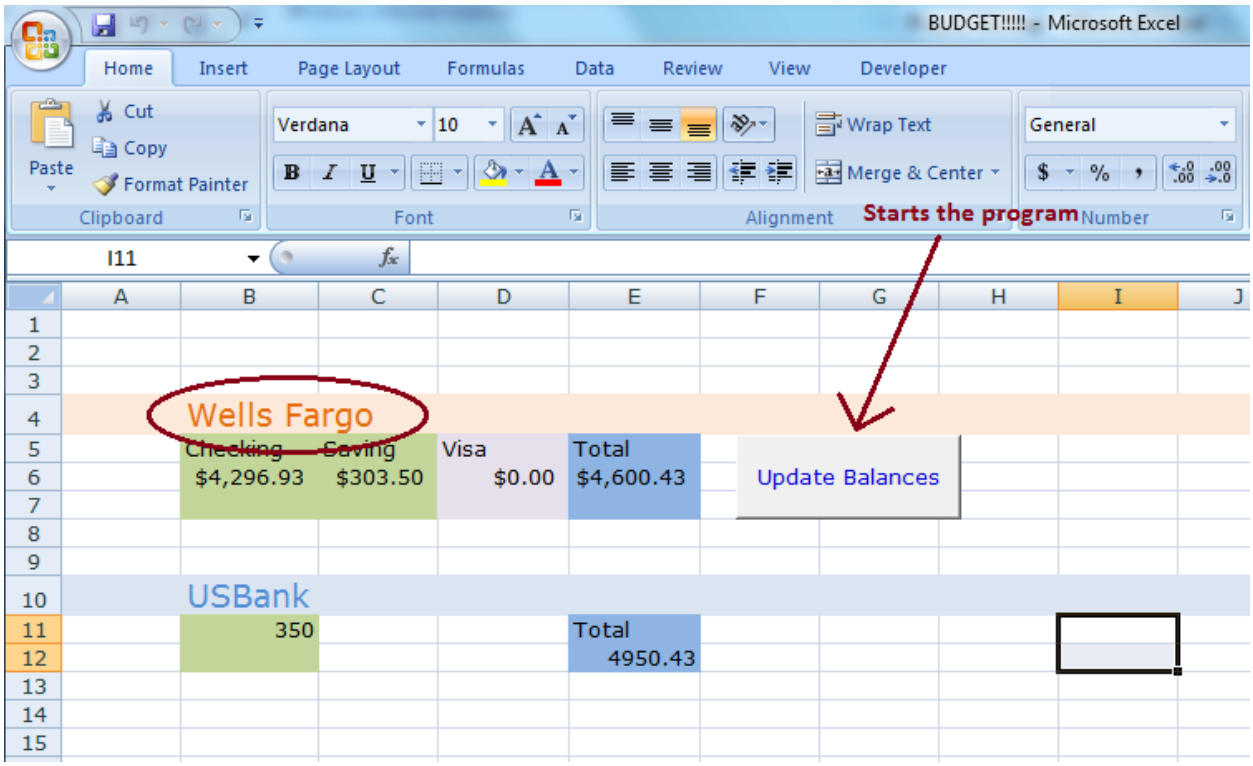
Sidenote

Overall I want to make a statement of how glad I am that we are posting our VBA write-ups. This is so important to share information with the general public. So many times I gather powerful help and solutions over the internet to my own problems, and I have wanted to contribute to that body of knowledge as well. I wish to give back at least a small portion of what I have received. I am grateful for the Internet, for this opportunity to share knowledge is wonderful. May all people share and benefit from it!

Implementation

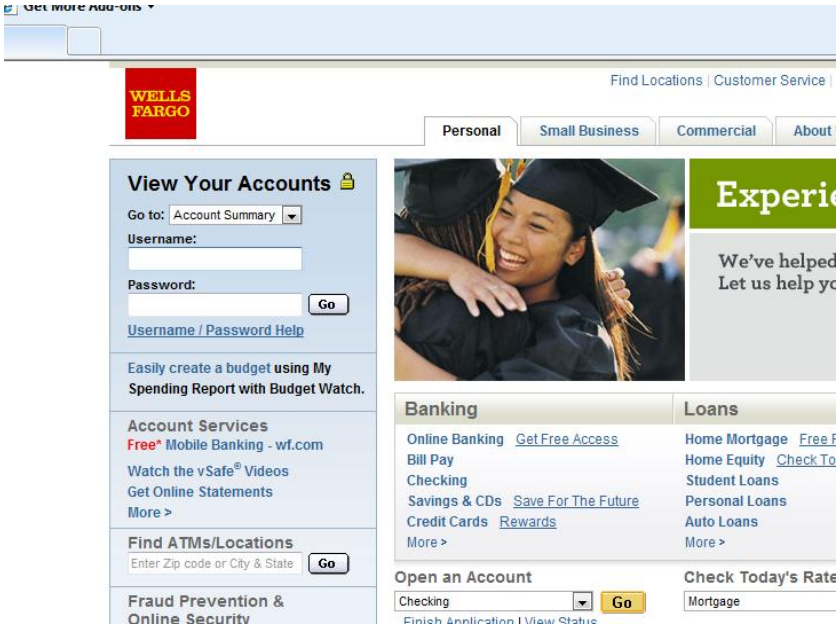
This section will describe the logic and functions of the vba project.

Once the spreadsheet is open, you will see the spreadsheets broken down by semester, in addition to spreadsheets involved with this VBA project. The first step to running the program is to open the spreadsheet labeled "Current Balance." You will see something similar to this:



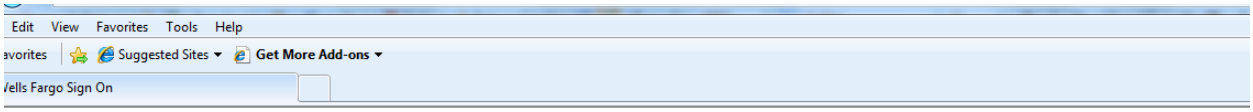
As you can see, you will need to click the button on the spreadsheet labeled “Update Balances” in order to initiate the VBA program. Once fired, this program will automatically run, without user interface, through the end when it updates sheets and cells in the spreadsheet. Accordingly, you will need to input your own Wellsfargo.com credentials in the code to get it working:

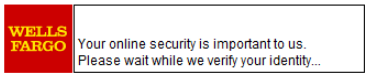
```
Sub BrycesProject()

    openBroswer
    openPage "www.wellsfargo.com"

    ie.document.all("userid").Value = "insertUsername"      'sorry, I couldn't give you my username
    ie.document.all("password").Value = "insertPassword"    'or password--use a friend's wellsfargo account
    ie.document.forms("signon").submit

    'Login is Successful!!!

    waitForAccountPage

    'Now Update account balance.

    updateHTML
    getAccountBalances

    'Now follow the Checking account link

    getTransactions


End Sub
```



To get this code view open, simply press “Alt” + “F11” and open Module 1 in the project called “Bryce’s Project.”

Now you will watch and wait as Internet Explorer opens and logs you in. (This is optional; to hide the browser, just change its "visible" property to false: ie.Visible = False). Once the login button is clicked, Wellsfargo.com sits on an intermediate page called "Wells Fargo Sign On." I created a method that waits for the actual accounts page to show up:

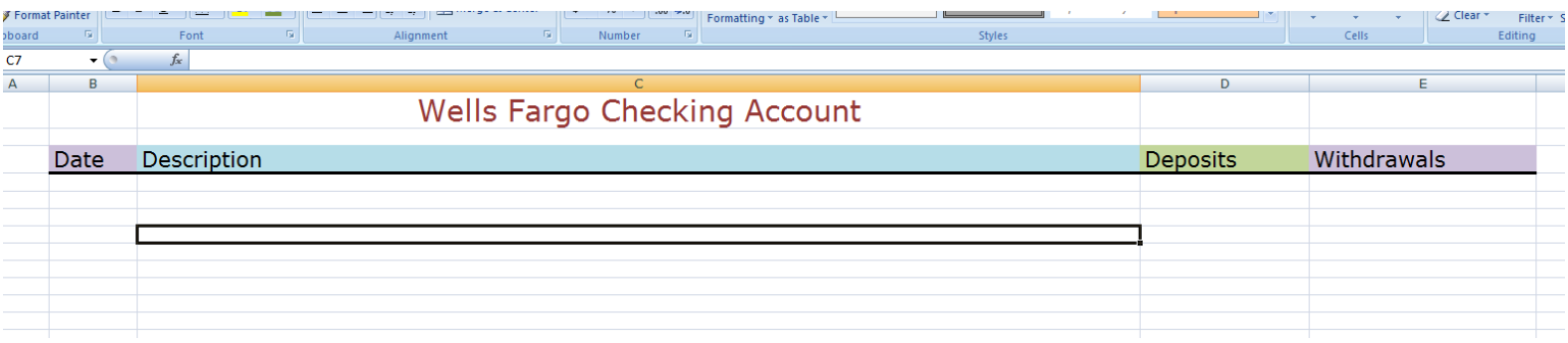




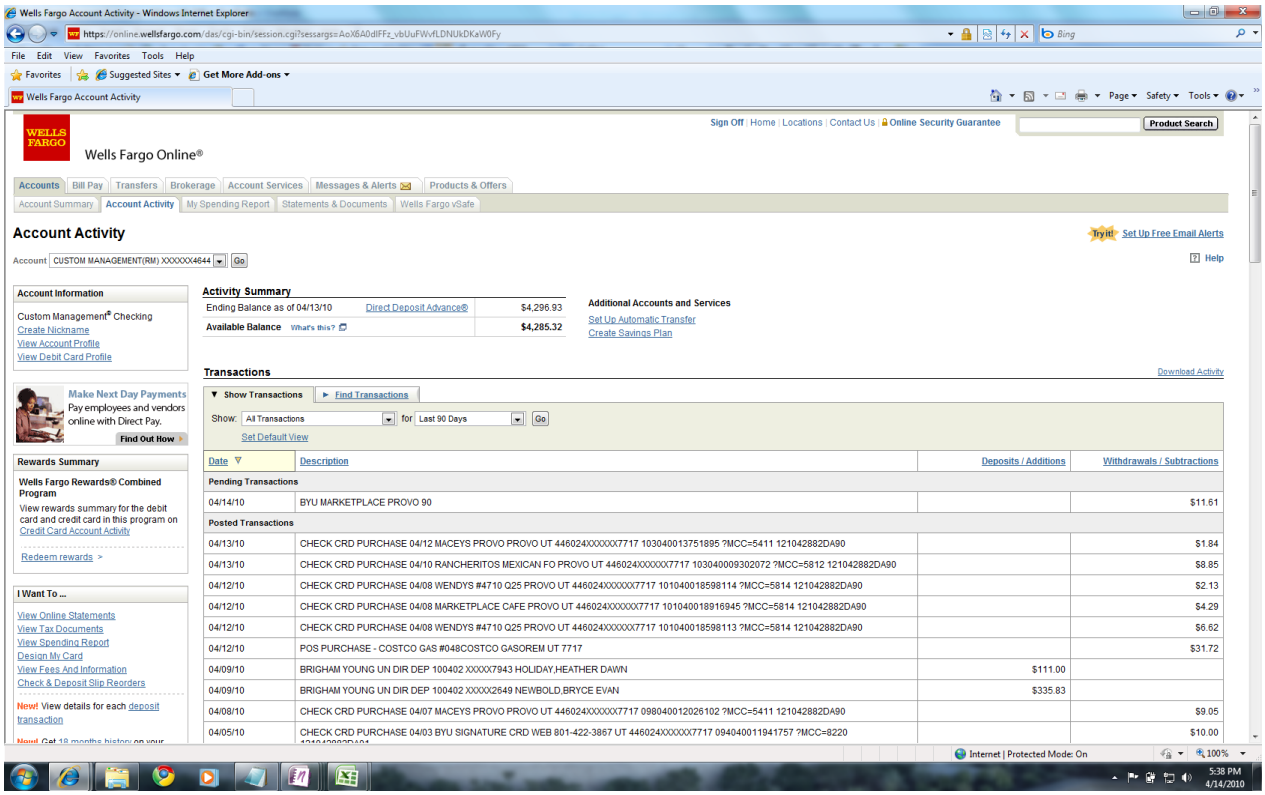

```
Sub waitForAccountPage()
  Do
    Sleep 250
    If Not ie.busy And ie.readystate = 4 Then
      Sleep 250
      If Not ie.busy And ie.readystate = 4 And ie.document.Title = "Wells Fargo Account Summary" Then Exit Do
    End If
  Loop
End Sub
```

Next the program will grab account summary information and store it in the cells next to the update button. The spreadsheet then quickly updates the other semester budget cells.

Once this information is gathered, the program moves on to the next (and biggest) step: importing all the transactions from the last 90 days. The project will gather this information and place it in the last spreadsheet in the workbook, "Transactions (90 days)."



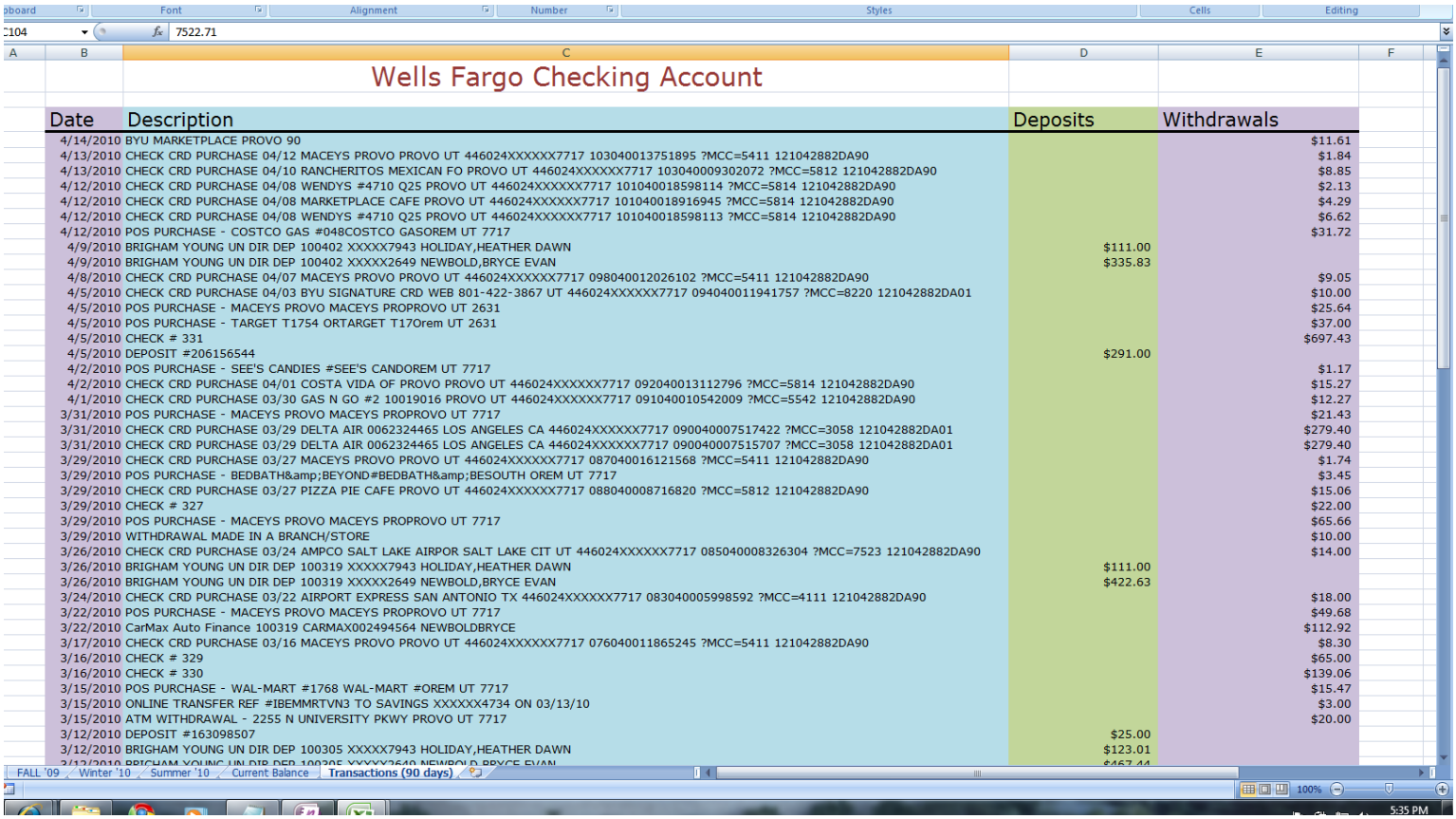
To fill this table of transactions, the program first follows a link from the accounts page. The link is the checking account name. This opens the new web page of the checking account summary, with an html table of all recent transactions.



To begin perusing this table and importing the contents appropriately into my budget's spreadsheet, this project uses a very powerful tool called "textParser." This is a simple VBA class module that searches text for any given string of characters, allowing you to either find the string or get the characters from the last found string to the next one.

The main benefit of this portion of the program is to automate login, spreadsheet updating, and transaction viewing. In about 6 seconds (depending on your computer and network speeds), the budget workbook will be complete with new account balances and the most recent transactions for budget tuning, forecasting, and even tithing calculation.

The finished result is an updated transactions sheet, with all the latest account information.



Wells Fargo Checking Account

Date	Description	Deposits	Withdrawals
4/14/2010	BYU MARKETPLACE PROVO 90		$11.61
4/13/2010	CHECK CRD PURCHASE 04/12 MACEYS PROVO PROVO UT 446024XXXXXX7717 103040013751895 ?MCC=5411 121042882DA90		$1.84
4/13/2010	CHECK CRD PURCHASE 04/10 RANCHERITOS MEXICAN FO PROVO UT 446024XXXXXX7717 103040009302072 ?MCC=5812 121042882DA90		$8.85
4/12/2010	CHECK CRD PURCHASE 04/08 WENDYS #4710 Q25 PROVO UT 446024XXXXXX7717 101040018598114 ?MCC=5814 121042882DA90		$2.13
4/12/2010	CHECK CRD PURCHASE 04/08 MARKETPLACE CAFE PROVO UT 446024XXXXXX7717 101040018916945 ?MCC=5814 121042882DA90		$4.29
4/12/2010	CHECK CRD PURCHASE 04/08 WENDYS #4710 Q25 PROVO UT 446024XXXXXX7717 101040018598113 ?MCC=5814 121042882DA90		$6.62
4/12/2010	POS PURCHASE - COSTCO GAS #048COSTCO GASOREM UT 7717		$31.72
4/9/2010	BRIGHAM YOUNG UN DIR DEP 100402 XXXXX7943 HOLIDAY,HEATHER DAWN	$111.00	
4/9/2010	BRIGHAM YOUNG UN DIR DEP 100402 XXXXX2649 NEWBOLD,BRYCE EVAN	$335.83	
4/8/2010	CHECK CRD PURCHASE 04/07 MACEYS PROVO PROVO UT 446024XXXXXX7717 098040012026102 ?MCC=5411 121042882DA90		$9.05
4/5/2010	CHECK CRD PURCHASE 04/03 BYU SIGNATURE CRD WEB 801-422-3867 UT 446024XXXXXX7717 094040011941757 ?MCC=8220 121042882DA01		$10.00
4/5/2010	POS PURCHASE - MACEYS PROVO MACEYS PROPROVO UT 2631		$25.64
4/5/2010	POS PURCHASE - TARGET T1754 ORTARGET T17Orem UT 2631		$37.00
4/5/2010	CHECK # 331		$697.43
4/5/2010	DEPOSIT #206156544	$291.00	
4/2/2010	POS PURCHASE - SEE'S CANDIES #SEE'S CANDOREM UT 7717		$1.17
4/2/2010	CHECK CRD PURCHASE 04/01 COSTA VIDA OF PROVO PROVO UT 446024XXXXXX7717 092040013112796 ?MCC=5814 121042882DA90		$15.27
4/1/2010	CHECK CRD PURCHASE 03/30 GAS N GO #2 10019016 PROVO UT 446024XXXXXX7717 091040010542009 ?MCC=5542 121042882DA90		$12.27
3/31/2010	POS PURCHASE - MACEYS PROVO MACEYS PROPROVO UT 7717		$21.43
3/31/2010	CHECK CRD PURCHASE 03/29 DELTA AIR 0062324465 LOS ANGELES CA 446024XXXXXX7717 090040007517422 ?MCC=3058 121042882DA01		$279.40
3/31/2010	CHECK CRD PURCHASE 03/29 DELTA AIR 0062324465 LOS ANGELES CA 446024XXXXXX7717 090040007515707 ?MCC=3058 121042882DA01		$279.40
3/29/2010	CHECK CRD PURCHASE 03/27 MACEYS PROVO PROVO UT 446024XXXXXX7717 087040016121568 ?MCC=5411 121042882DA90		$1.74
3/29/2010	POS PURCHASE - BEDBATH&BEYOND#BEDBATH&BESOUTH OREM UT 7717		$3.45
3/29/2010	CHECK CRD PURCHASE 03/27 PIZZA PIE CAFE PROVO UT 446024XXXXXX7717 088040008716820 ?MCC=5812 121042882DA90		$15.06
3/29/2010	CHECK # 327		$22.00
3/29/2010	POS PURCHASE - MACEYS PROVO MACEYS PROPROVO UT 7717		$65.66
3/29/2010	WITHDRAWAL MADE IN A BRANCH/STORE		$10.00
3/26/2010	CHECK CRD PURCHASE 03/24 AMPCO SALT LAKE AIRPOR SALT LAKE CIT UT 446024XXXXXX7717 085040008326304 ?MCC=7523 121042882DA90		$14.00
3/26/2010	BRIGHAM YOUNG UN DIR DEP 100319 XXXXX7943 HOLIDAY,HEATHER DAWN	$111.00	
3/26/2010	BRIGHAM YOUNG UN DIR DEP 100319 XXXXX2649 NEWBOLD,BRYCE EVAN	$422.63	
3/24/2010	CHECK CRD PURCHASE 03/22 AIRPORT EXPRESS SAN ANTONIO TX 446024XXXXXX7717 083040005998592 ?MCC=4111 121042882DA90		$18.00
3/22/2010	POS PURCHASE - MACEYS PROVO MACEYS PROPROVO UT 7717		$49.68
3/22/2010	CarMax Auto Finance 100319 CARMAX002494564 NEWBOLDBRYCE		$112.92
3/17/2010	CHECK CRD PURCHASE 03/16 MACEYS PROVO PROVO UT 446024XXXXXX7717 076040011865245 ?MCC=5411 121042882DA90		$8.30
3/16/2010	CHECK # 329		$65.00
3/16/2010	CHECK # 330		$139.06
3/15/2010	POS PURCHASE - WAL-MART #1768 WAL-MART #OREM UT 7717		$15.47
3/15/2010	ONLINE TRANSFER REF #IBEMMRTVN3 TO SAVINGS XXXXXX4734 ON 03/13/10		$3.00
3/15/2010	ATM WITHDRAWAL - 2255 N UNIVERSITY PKWY PROVO UT 7717		$20.00
3/12/2010	DEPOSIT #163098507	$25.00	
3/12/2010	BRIGHAM YOUNG UN DIR DEP 100305 XXXXX7943 HOLIDAY,HEATHER DAWN	$123.01	

Learning and Difficulties

Through the course of this project, I encountered many challenges that had to be overcome. In order to overcome them, I had to use a combination of ingenuity and creativity, as there is not only one way to accomplish a task.

The largest obstacle I had to overcome dealt with the importing of check transactions. To accomplish this, one must follow the links given by each check in the transaction table, then download the picture of the check. However, to make this functionality useful, I realized that I would have to analyze the graphics of the check in order to determine who I wrote it to.

I originally wanted to do this so that I could keep tabs on the amount of tithing I had paid. (Tithing is one tenth of one's income that is voluntarily paid to the Lord). I would search the most recent checks made out to my church, add them up, and also add up my income. This way I could calculate how much tithing I had left to pay.

However, as I began researching all of the resources I had, including the wealth of knowledge on the Internet, I realized that this function would not be feasible. Instead of giving up and having no way of

checking my tithing against income, I implemented the transaction import. This accomplished a lot: I normally have to log in to Wellsfargo.com to get the account information I need. Plus, instead of only importing check information, I would be importing the paychecks I had received.

I realized that this transaction import would accomplish exactly what I needed. I had originally not wanted to make this task a part of my VBA project, since it seemed pointless. Therefore I was going to just leave it out and just update my budget spreadsheet with my account balances. However, since I realized the value of the transaction list, I quickly decided to add this function to my project. It not only replaced the check image idea, but it improved upon it.

In conclusion, thank you for reading my project report. I hope you were inspired and got some good ideas for your own projects. Feel free to reference mine for ideas and solutions.