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MBA 614 Sec. 2

Executive Summary

Alex, Lucas, Julia, and I have a "family" plan with Verizon wireless. Each month Lucas, the designated "bill reconciler," is in charge of summarizing the month's cell phone bill and allocating the appropriate charges to each member. The allocations are complex, and the inputs and nature of charges often changes from month to month.

Lucas is consistently late with his duties. We always get a last-minute text, 5 days after the bill is due (the day before late charges begin accruing), telling us to "hurry and logon to the Verizon site and pay $XX.XX before 5:00."

My VBA code logs onto the Verizon site, downloads all appropriate information, calculates and allocates the bill, reconciles it to the total, and then sends a text message to each person informing them of their charge, along with relevant usage data. The text also includes the due date of the bill.

Implementation

In summary, I used Professor Allen's agent module for the internet access. The agent would log onto the Verizon site using the embedded user name and password, and then it would import the page using the .importpage method. Once all relevant pages were loaded and imported into excel, I wrote a set of "instr" logarithms to find the needed data inside the excel spreadsheets.

The calculations themselves were relatively straightforward (divide fixed/fee charges equally, allocate variable charges proportionally based on any usage/overage).

The output was a text message sent to each phone number. Using Professor Allen's modGmail module, it was easy to send 1 text message to each user that looked like this:

Your Base Charge: $ ##.##
Overages: $ ##.##
Total Minutes Left on Plan: ###

In the future (for bragging rights), I would like to create a separate gmail account for this procedure and allow an option for the recipient to reply to the text message with a code and allow VBA to pay the bill for the person.

Difficulties

Many difficulties were encountered with this project. The hardest part was navigating through the Verizon site; many portions of the site had to be navigated through script code. I almost resolved it on my own, finding the script names from Chrome's "Inspect Element" option. After finding the name of the relevant subroutine, I experimented with many different ways to get VBA to execute it (feeding it the correct information so I would be navigated to the right place). Ultimately, I had to ask the TA for assistance on getting the syntax right (I used the .execscript method).

There were also many different locations that the actual data (e.g., minutes used) was. They would also change a lot. I had to be careful on the "instr" characters I used to find them inside the spreadsheet.

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Another challenge I faced was how to create new lines in the text message sent. It took a while for me to learn how to splice Chr(13) into the text message.

The most valuable thing I learned is that with a longer program, organization is very important. I must be able to quickly navigate my way around the module without getting lost.