

THINKING OUTSIDE THE BOX
IN CUSTOMER SERVICE

I don't receive Health Benefits, You don't have to pay FICA, nor do I Take Days Off

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You Always Need to Guard that Your Data Is Secured

I want to start this newsletter by wishing you and your family a very happy holiday season. I hope you enjoyed all the blessings that Christmas brings and you had time to be thankful for your many blessings. We all hope that 2011 will be an improved economy and the hardships that our nation has faced are over.

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Any of you who know me personally know both my significant other and I are huge Ohio State University football fans. Leslie even works for OSU and she is in charge of a departmental IT Support Center. A couple of months ago she was notified that a central IT system had been breached and that personal information for several hundred thousand staff and students may have been exposed. So here was Leslie at a pre-game tailgate on her Droid trying to assist with the situation and prepare her staff for handling support calls.

Even in the best IT organizations with the best security practices, information stored on servers and accessed by secure networks can be vulnerable to sophisticated and motivated hackers. Companies must constantly be proactive searching for and eliminating potential

breaches. The cost of a breach can be substantial and even though the breach at OSU may not have lead to the loss of personal data, it will be expensive to provide the credit monitoring.



This leads to explaining a significant difference between a Voice Response Unit IVR application and web servers. The VRU is just an IO and with no connection to the web, it is

Officials at [The Ohio State University](#) are currently in process of notifying as many as 760,000 current and former students, faculty, staff and others of a breach to one of their servers that contains their personal information. That includes social security numbers, names, addresses and birthdates. While they say two different computer forensic consultants have told them there is no evidence any information was taken, the [university](#) is offering 12 months of [free credit protection services](#) just in case. Officials also say they're in the process of determining what steps to take to prevent future unauthorized access.

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extremely difficult to hack it or use it as a portal to the actual computer system where the personal data is stored. This is why banks have used IVR self-service applications for years. Even though the user is accessing live account information, a properly designed IVR application defines what can be done and callers can not use the application to access unauthorized data.

This is not to say that you don't need to implement security measures. If you are working with sensitive data like HR functions or medical information, you should have a UserID/Password routine in place in order to use the self-service IVR application. You should also be monitoring who uses the solution and how they are using it through log files and auditing practices. Further, you should have additional requirements if the application is truly sensitive such as the monitoring of the CallerID and you may even need further security measures for particular menu selections.



Finally, never use a person's Social Security Number as a UserID. In some states, this is even illegal but the storage of and overuse of SSNs leads to additional security issues.

Things You Don't Want To Do

In the past on many occasions you have heard me say, "The number one rule of the design of any IVR application is....**Don't have the application ask the user for something they don't know**". An example of this would be a utility billing system that asks for an account number when the homeowner may not know it. If you instead ask for the home phone number tied to

that account, the record can be found easily.

The number one rule of for an actual IVR script....**"Don't send a string variable value to the computer system that isn't real"**. Even though a user may say and enter February 30th, it just doesn't exist and this means the VRU system can not speak or write this record to a field. You can not assume that the caller knows whether the data they entered is valid or not so you will have to provide the logic to check the value of the string against what is indeed valid. In this example where the caller needs to enter a date, break it down into multiple questions. First ask for the month. By knowing the month, the system knows what are the maximum number of days for that month. If your date application requires a future date such as for a future appointment...the created date can be checked against the current date to make sure the date is indeed in the future. We are discussing a date here but the same is true on entry of a time. The time has to be valid just like the date.



Let's say the caller has entered two digits for the month, two digits for the day of the month and two digits for the year. We have already run logic on these three variables to verify that the date is proper. Now we can convert the string to a real date.

dvar = **CreateDate** *month, day, year*

Returns the date value from *month, day, and year*.

You need to run the same logic to check the validity of time variable components and there

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is similar syntax to create a time.

tvar = **CreateTime** *hours, minutes, seconds*

Returns the time value from *hours, minutes, and seconds*.

Formatting dates and times

You can format date and time values by using date and time formats or number formats because date/time values are stored as real numbers. To format dates and times, you can use either the commonly used formats that have been predefined or create user-defined formats using standard characters that have special meaning when used in a *format* parameter.

The following are examples of user-defined date and time formats:

Format	Display
m/d/yy	12/7/58
d-mmmm-yy	7-December-58
d-mmmm	7 December
mmm-yy	December 58
hh:nn AM/PM	08:50 PM
h:nn:ss a/p	8:50:35 p
h:nn	20:50
h:nn:ss	20:50:35
m/d/yy h:nn	12/7/58 20:50

Bottom line, if this variable string for date or time is going to be written to a field, the mapping of the variable needs to match that required by the field. The same is true if the value is to be spoken. ■

Understanding Parameters of User Input

It has come to our attention that some clients are not understanding the parameters that define when a request for caller input is ended. There are two methods to request input in the current system. (GetDigits and the newer syntax, PlayGet)

Syntax:

ClearDigits ; Clears the digit buffer of any previously entered digits.

strvar = GetDigits digitcount, stopchar, maxtime, prompt

Suspend script execution and wait for touch tone digits to be entered by the caller. Assigns the digits keyed by the user to *strvar*.

strvar = **PlayGet** *file.wavx, digitcount* [, *stopchar*] [, *maxtime*]

Plays the voice file (file.wav) and then suspends script execution to wait for touch-tone digits to be entered by the caller. Assigns the digits keyed by the user to *variable name*. *In this example, that is strvar*.

The stopchar can not be an "@" character if the string input being requested has more than one character, as any input moves the script execution on and the variable collected from the digital buffer would only be the first digit entered.

i.e.

PolicyNumber = PlayGet 9, "@", 18

In this example, we are expecting a policy number of 9 characters and the caller has



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Vision Voice Vantage, Inc.
829 Bethel Road #213
Columbus, Ohio 43214

Phone: 888-252-2555
Email sales@ODTVision.com



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18 seconds to respond. Sometimes the variable may have different lengths. If you also have policy numbers with a length of 8, the caller can enter a "#" key which would be requested by the voice prompt at the completion of input and the script would execute the collection of the variable from the digital buffer immediately. ■

Code to Verify Date

```

Dateenter:
  ReturnCode = Play "entmo.wav",0,"@" ;Please enter 2
digit digits value for the month
  Returncode = GetDigits 2,"#",10
  emo = DigitBuffer

  If emo = "01" then
    maxdays = 31;January
  Elseif emo = "02" then
    maxdays = 28 ; February
  Elseif emo = "03" then
    maxdays = 31 ; March
  Elseif emo = "04" then
    maxdays = 30 ; April
  Elseif emo = "05" then
    maxdays = 31 ; May
  Elseif emo = "06" then
    maxdays = 30 ; June
  Elseif emo = "07" then
    maxdays = 31 ; July
  Elseif emo = "08" then
    maxdays = 31 ; August
  Elseif emo = "09" then
    maxdays = 30 ; September
  Elseif emo = 10 then
    maxdays = 31 ; October

```

```

Elseif emo = 11 then
  maxdays = 30 ;November
Elseif emo = 12 then
  maxdays = 31 ; December
else
  goto dateenter
Endif
Enterday:
  Cleardigits
  ReturnCode = Play "EntDay.wav",0,"@" ;Please enter the a 2 digit
value for the day of the month followed by # Key
  Returncode = GetDigits 2,"#",10
  Eday = DigitBuffer
  leday = length eday
  If leday = 0 then goto EnterDay

  If eday > maxdays then
    Rtn = Play "Toomanydays.vox" ;you entered too many days for this
month
    GoTo Enterday ; (new tag needs to be created for section where
we enter day)
  Endif
Enteryr:
  Cleardigits
  ReturnCode = Play "Entyr.wav",0,"@" ;Please enter the a 2 digit
value for the year followed by # key
  Returncode = GetDigits 2,"#",10
  eyr = DigitBuffer
  leyr = length eyr
  If leyr = 0 then goto Enteryr
  If Eyr < Year" then ;compares current year to the year value entered
  Rtn = Play "badyr.vox" ;you entered a bad year which is passed
  goto Enteryr ;(new tag needs to be created for section where we
enter yr)
Endif

```

After the date is verified, you can use the "CreateDate" syntax to create a date and also then format it to write to a field or speak it. ■