

IVR Example Program 2 - Lists and Variables

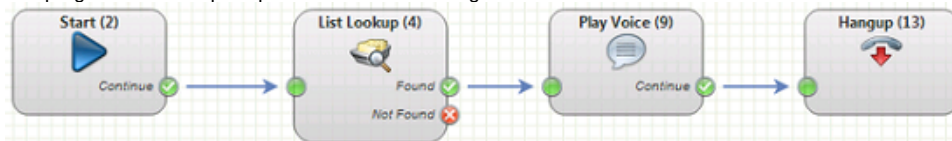
In this routing example a simple service is created which uses lists and variables. We recommend you follow and program this version. The knowledge gained in the [Programming Example](#) section is assumed.

The object is that callers should only be able to take part once in a vote. If callers ring twice, they should hear a prompt that they have already voted.

To achieve this, the hash value of the caller's number is entered into a list. The hash value is stored in the variable `$callerhash` and is a unique code representing the caller's number (in contrast with `$caller`, which depending on your rights in the system may be shortened using xxx or invisible). During every call a list is checked. If the hash value is found in the list, then the caller has already called.

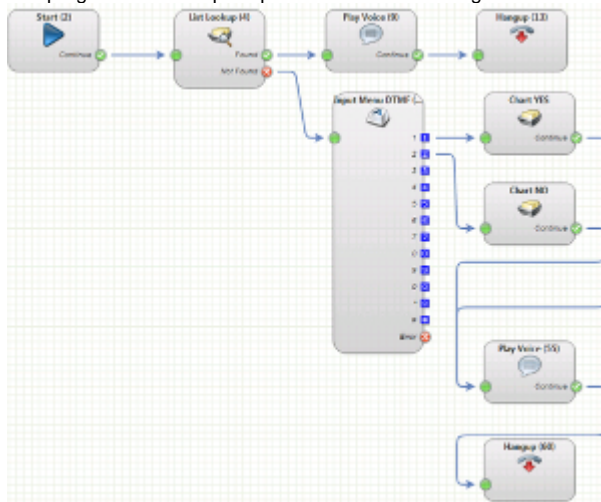
Proceed as follows:

1. First of all, create a list. Lists are created by accessing the function **System Settings - Lists** in the main menu. Use **New** to create a new list, and name it *Callers*. You will not need to create any entries - values will be added to the list when people call the system.
2. Create a new routing application. After the *Start* object, add an object *List Lookup*.
3. In the properties of this object select the *Callers* list as the Key Column 1 and enter Key Value `$callerhash`.
In this example, the variable `$callerhash` is to be looked up in the first column of the list. If an entry is found, program execution will continue with the object output *Found* and the caller should be played a prompt that they have already called the system.
4. Connect the *Found* output to a Play Voice object containing a prompt *You have already voted*.
5. After the play voice object, add a *Hangup* object (optional).
The program should in principle look like the following:



6. If the value is not found in the list, the output *Not Found* will be used. Add an *Input Menu DTMF* object to this output. In the parameters, setup a prompt with the following announcements: "Press one to vote yes, and press two to vote no."
7. Add two *List Functions* objects to the outputs 1 and 2 of the input menu dtmf object.
8. Call the first object *Vote YES* and parameterise it as follows:
List: *Callers*
Function: *Add Value to List*
Value 1: `$callerhash`
Value 2: `$caller`
Value 3: `$input`
Value 4: *YES*
9. Call the second object *Vote NO* and parameterise it as the first list, for Value 4 enter NO.
10. Add a prompt *Your vote has been counted* after the objects *List Operations* and connect it with both objects.

11. After the play voice object, add a *Hangup* object (optional).
The program should in principle look like the following:



12. Test the program by calling it.
13. To check the results, use the function **System Settings - Lists** and view the *Callers* list. The 4 fields should be filled with values.
14. In the table of routing applications select the **Counter Statistics** function for the application. A new window opens showing the routing application. The numbers in red indicate how often a particular object has been executed. This gives you a quick way of viewing how many callers have voted *Yes* and how many *No*.