

# PHP does IVR

Breaking the rules for fun and profit

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<https://github.com/mikegeeklabs/ivrdemo>

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# IVR: Interactive Voice Response

Not a human on the telephone. A robot.



# Why not use \_\_\_\_\_

- ✦ Must exist inside of firewall
- ✦ not everyone wants SaaS
- ✦ required to “own” it
- ✦ \$\$\$\$\$\$\$ (mine, not theirs..)



# What gear do I need?

- ✦ Linux(ish) Server
- ✦ Asterisk
- ✦ Cepstral Voices (optional)
- ✦ PHP
- ✦ SIP-VoIP line trunking





# Asterisk? WTF is Asterisk?

The swiss army knife of VoIP  
It's a phone system... or an IVR platform

“apt-get install asterisk”  
to learn the hard way

see: [asterisk.org](http://asterisk.org) for real answers



# /etc/asterisk/sip.conf

This is for a test phone.. I am using “twinkle”

```
[twinkle]
username=twinkle
secret=twinkle
host=dynamic
dtmfmode=rfc2833
insecure=port,invite
context=from-internal
type=friend
fromuser=twinkle
```

Just used  
for testing

check firewall  
rules



# /etc/asterisk/extensions.conf

```
[juice]
exten => 233,1,AGI(juice-agi.php)
exten => 233,1,Hangup

[default]
exten => 233,1,AGI(juice-agi.php)
exten => 233,1,Hangup

[from-internal]
exten => 233,1,AGI(juice-agi.php)
exten => 233,1,Hangup
```



# AGI = Like CGI (not really)

- ✦ Asterisk Gateway Interface
- ✦ Prehistoric Robot

```
root@grunge:/usr/share/asterisk/agi-bin# php ./juice-agi.php
```

```
ANSWER
```

```
STREAM FILE juice-en-welcometothetest ""
```

```
GET DATA juice-en-accountormeter 13200 11
```

```
0 result=00005
```

```
STREAM FILE juice-en-accountloc0000520150203 ""
```

```
GET DATA juice-en-isincorrect 2000 1
```

```
0 result=1
```

```
STREAM FILE juice-en-yourcreditbalance ""
```

```
SAY number 150.00 ""
```



# Why do this with PHP?

Once you have a  
hammer.....





# Disclaimer:

I am not a programmer.

But I am good with a hammer and duct tape.

I do not recommend anything I am about to show you, it may not be safe or even useful.

My goal is to share something useful and entertaining...



# In and Out

```
include ("juice-agi.inc");
ob_implicit_flush(false);
set_time_limit(30);
error_reporting(0);
$stdin = fopen('php://stdin', 'r');
$stdout = fopen('php://stdout', 'w');
// ASTERISK * Sends in a bunch of variables, This accepts t
// There is an elegant way to do this and I forgot it.
while (!feof($stdin)) {
    $temp = fgets($stdin);
    // Strip off any new-line characters
    $temp = str_replace("\n", "", $temp);
    $s = explode(":", $temp);
    $agivar[$s[0]] = trim($s[1]);
    if (($temp == "") || ($temp == "\n")) {
        break;
    }
}
```

Big Hammer Construction

Memphis, TN (map)

1 review

★ Thumbtack Highlighted service

🏆 Gold member

Share



# Standard Functions

```
function sagi($whattosay, $file, $chars, $looplimit, $enforce) {  
    GLOBAL $stdin, $stdout, $stderr, $parm_debug_on, $result, $db, $callerid, $portal, $voice;  
    #Speak and say = SAS = If the file does not exist, create it.  
    $voice = 'Allison-8kHz';  
    $loop = 0;  
    $wait = 1200*$chars;  
    if ($wait < 2000) {  
        $wait = 2000;  
    };  
    //SCRIPT CREATION  
    script("$whattosay", "human-juice-$language-$file.wav") ;  
    while ($loop < $looplimit) {  
        ##sagiagain:  
        if (@fopen("/usr/share/asterisk/sounds/en/human-juice-$language-$file.wav", "r")) {  
            $src = execute_agi("GET DATA human-juice-$language-$file $wait $chars");  
            logit("human-juice-$language-$file.wav streamed");  
        } else {  
            if (@fopen("/usr/share/asterisk/sounds/en/juice-$language-$file.wav", "r")) {  
                logit("juice-$language-$file.wav exists");  
            } else {  
                system("/usr/local/bin/swift -n $voice \"$whattosay\" -o /usr/share/asterisk");  
                logit("juice-$language-$file.wav created");  
            };  
            $src = execute_agi("GET DATA juice-$language-$file $wait $chars");  
            logit("juice-$language-$file.wav streamed");  
        };  
        if (!empty($src[result]) and $src[result] > -1) {  
            $entered = dt($src[result]);  
            return $entered;  
        };  
        sleep(.1);  
        $loop++;  
    };  
}
```



# And GOTO's



GOTO's are Bad Form  
But they work really well for an IVR



## #----- PAY CREDIT CARD

paycreditcard:

\$amount = chooseamount(\$owed);

if (\$amount < 1) {  
 goto accountinfo;

};

sas('You entered', 'youentered');

\$src = execute\_agi("SAY number \$amount \"\" ");

sas("\$currency", 'currency');

sleep(.2);

\$chosen = sagi('if correct, press 1', 'ifcorrectpress1', '1', '2', true);

if (\$chosen != '1') {  
 goto paycreditcard;

};

ccnum:

\$ccnum = sagi('Enter your 16 digit credit card number', 'enter16cc',

sleep(.2);

if (!ccluhn(\$ccnum)) {  
 sas('Invalid credit card number', 'invalidccnum');

#goto paymentoptions;

goto ccnum ;

};

sas('Thank You', 'thankyou');

sleep(.2);

ccexpmth:

\$ccexpmth = sagi('Enter 2 digit expiration month', 'enterexpmth', '2',

\$ccexpmth = str\_pad(\$ccexpmth, 2, "0", STR\_PAD\_LEFT);

if(\$ccexpmth < 1 or \$ccexpmth > 12) { goto ccexpmth ; } ;

sleep(.1);

sas('Thank You', 'thankyou');

sleep(.2);

ccexpyr:

\$ccexpyr = sagi('Enter 2 digit expiration year', 'enterexpyr', '2', '');

\$y = date("y") ;



# GOTO:

- ✦ are generally ignored.. the flow flows through them...
- ✦ can be nested within a function very well, looping back
- ✦ can be nested from function to function and raptors attack, bad weird things can happen to variables, scope, memory, flow, sanity, chaos increases...
- ✦ they work well for “non web” work like an IVR.
- ✦ I’d suggest KISS (Keep it Simple and Safe)
- ✦ May need an “else” catch all



# Live demo's

(I hope this works..)

Note: This supports recorded files as well...



# Fini. Questions? Ridicule?

<https://github.com/mikegeeklabs/ivrdemo>

or go to [geeklabs.com](http://geeklabs.com) and follow links