Beyond the Web
using VoIP technologies to expand Drupal sites
(and vice-versa)

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Can technology help change this situation?
What’s Up is a telephone-based, neighborhood news system that will make it easier for youth to collect, share, and analyze information about personally meaningful places, people, and opportunities in their neighborhoods.

By dialing a central number, youth will be able to send and receive personal messages, publish community announcements, create voicemail groups and find out what is happening in their communities.
System architecture

The What's Up system

Phone component
- Festival
- What's Up scripts
- Asterisk
- MySQL Server

Web component
- Drupal
- What's Up modules

web browser

telephone
Asterisk, the open source pbx

- make and receive VoIP calls
- read keypad input
- record and play audio files
- handle dialplan extensions and contexts
- voicemail, conferencing, billing applications
- call shell scripts
Sample dialplan

[from-gizmo]
exten => s,1,NoOp(${CALLERID})
exten => whatsup,1,Goto(default,s,1) ; goto default

[from-voicepulse]
exten => _16177153509,1,Goto(default,s,1) ; local number
exten => _18664606602,1,Goto(whatsup,s,1) ; toll-free number

[whatsup]
exten => s,1,Wait,1 ; Wait a second
exten => s,n,Answer ; Answer the line
exten => s,n,Set(TIMEOUT(digit)=3) ; set digit timeout to 3 seconds
exten => s,n,Set(TIMEOUT(response)=10) ; set response timeout to 10 seconds
exten => s,n,AGI(whatsup-472/whatsup_main.agi.php) ; call what’s Up
exten => s,n,NoOp("WU_RESULT set to ${WU_RESULT}")
exten => s,n,Hangup
# What’s Up modules (and libraries)

<table>
<thead>
<tr>
<th>Module Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>audio_xmlrpc.module</td>
<td>xml-rpc api to audio.module</td>
</tr>
<tr>
<td>voip.module</td>
<td>phone login, extensions, call history</td>
</tr>
<tr>
<td>voip_voicemail.module</td>
<td>voicemail</td>
</tr>
<tr>
<td>voip_group.module</td>
<td>user groups, group voicemail</td>
</tr>
<tr>
<td>voip_event.module</td>
<td>calendar events</td>
</tr>
<tr>
<td>voip_poll.module (*)</td>
<td>community polls</td>
</tr>
<tr>
<td>voip_statistics.module (*)</td>
<td>Usage statistics</td>
</tr>
<tr>
<td>other</td>
<td>phone calls, conferences, sms, etc.</td>
</tr>
</tbody>
</table>
The Drupal advantages

- User and content management
- Web interface
- Lots of useful modules already implemented
- Friendly community
Technical challenges

- lack of basic Asterisk, Drupal documentation
- dependency on too many modules
- lack of clear APIs
- HTML / forms / themes embedded in the code
- combine real-voice with text-to-speech
- meaningfully integrate audio with web pages
What’s Up 2.0 features

multi-language interface

event subscription

personal buddy lists, audio notes and calendar

location-based calls and queries

social-network visualization
Immediate help needed

- port eventfinder.module to 4.7
- function to send email with file attachments
- easy way to upload audio files from existing forms
- webpages for users and groups
- graphic designer for logo, themes and support materials
- overall usability testing and feedback
For additional information

“Asterisk: the future of telephony” (O’Reilly 2005)

www.voip-info.org

www.asteriskguru.com

phpagi.sourceforge.net

www.digium.com

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