

O'REILLY®

OSCON™

Open Source Convention



Questions?

Please add your questions to
<http://bit.ly/14uvmG> and I will answer them
ASAP

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Based at the University of the Western
Cape, Cape Town, South Africa

But more like based in Africa

AVOIR - <http://avoir.uwc.ac.za/>

Drugs and gangsterism are out of control in
many communities

Only ~4.5 million internet users

But, 68% mobile penetration across the
board

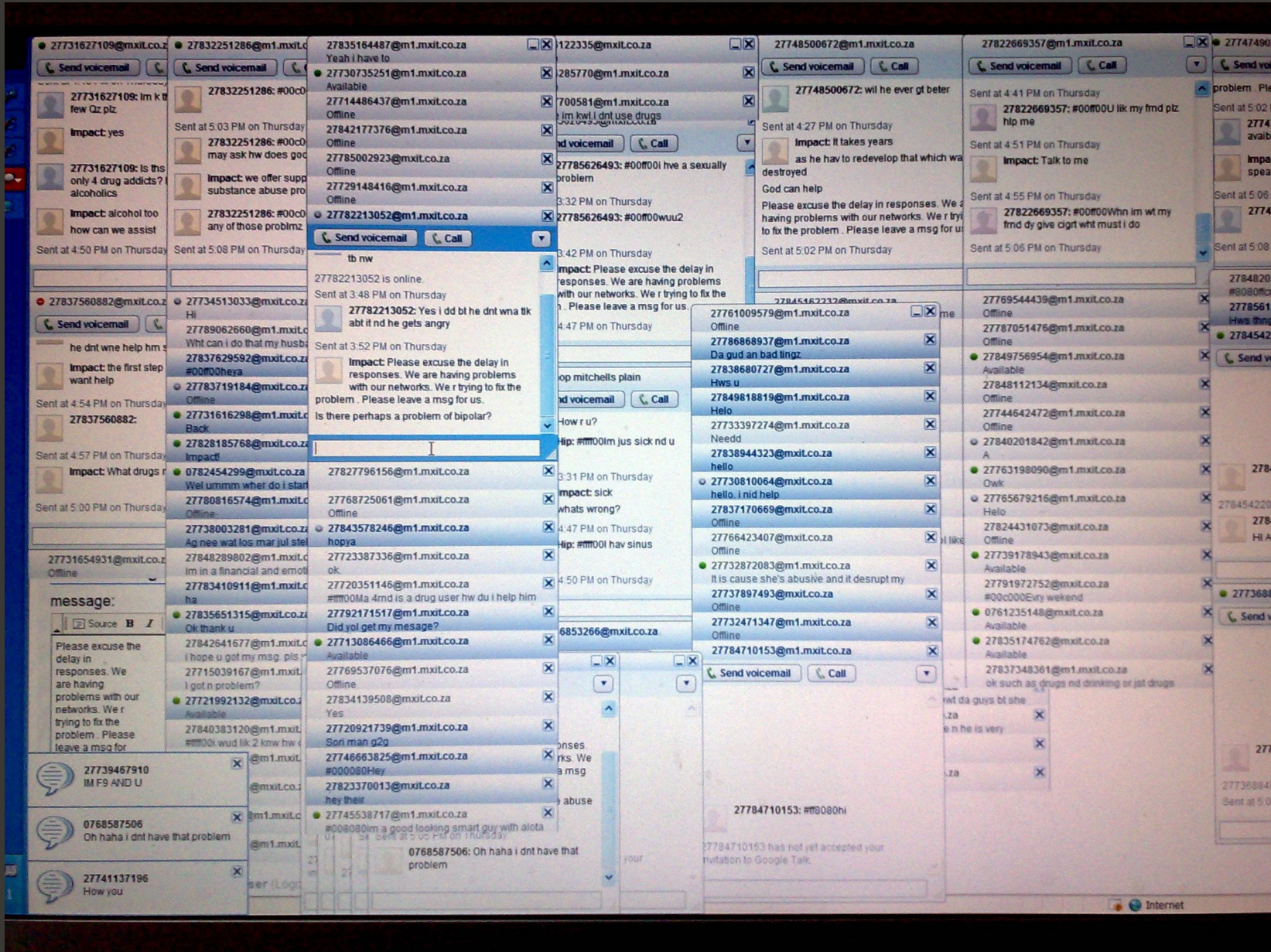
Upwards of 12.5 million mobile IM users
using MXiT and others

MXiT gets a LOT of bad press as a network
for drug dealers to sell their wares on

But that was all about to change...

So how does Free Software help?

In the beginning the world was without
form...



A group of community counsellors were
using Gtalk to help addicts

But the interface was inadequate for the volumes of conversations

Users were waiting a long time for a
response



And getting angry...

In other words, a mess

So we decided to help...

Chisimba framework + a little coding effort +
XMPP library (XMPPHP) = DAS

DAS = Drug Abuse Support

Great! But...

...Major scaling issues with the PHP library!

Each conversation created a new socket

Load increased

Until...



Time for plan B

Yanked out the PHP for handling the
messages

And slotted in a little Python
(<http://xmpppy.sf.net/>) to get the message
and dump it to the database

This turned out to be good.
(We haven't yet been able to kill it)

So how does it all work? Very simple!

User connects to IM service of choice
(in most cases MXiT)

A message is sent to initiate conversation
with the counsellor

Counsellor answers and message is automatically queued or manually re-routed to another counsellor

Messages are answered in a FIFO style,
unless they are priority messages
(active suicides occurring whilst on the phone
for example)

Counsellors use a web interface in a regular browser to type their chats, so training kept to a minimum

Mom2.0 project as a result where mothers in the community help out too

Software stack is simple and lightweight so anyone can run it from a laptop and low bandwidth connection even. No need for expensive hardware



IM
Applications



Messaging
Engine



Database



Web
Interface



Some statistics

General Drug
queries, 3618

Ecstasy, 31

Rocks, 46

Alcohol, 936

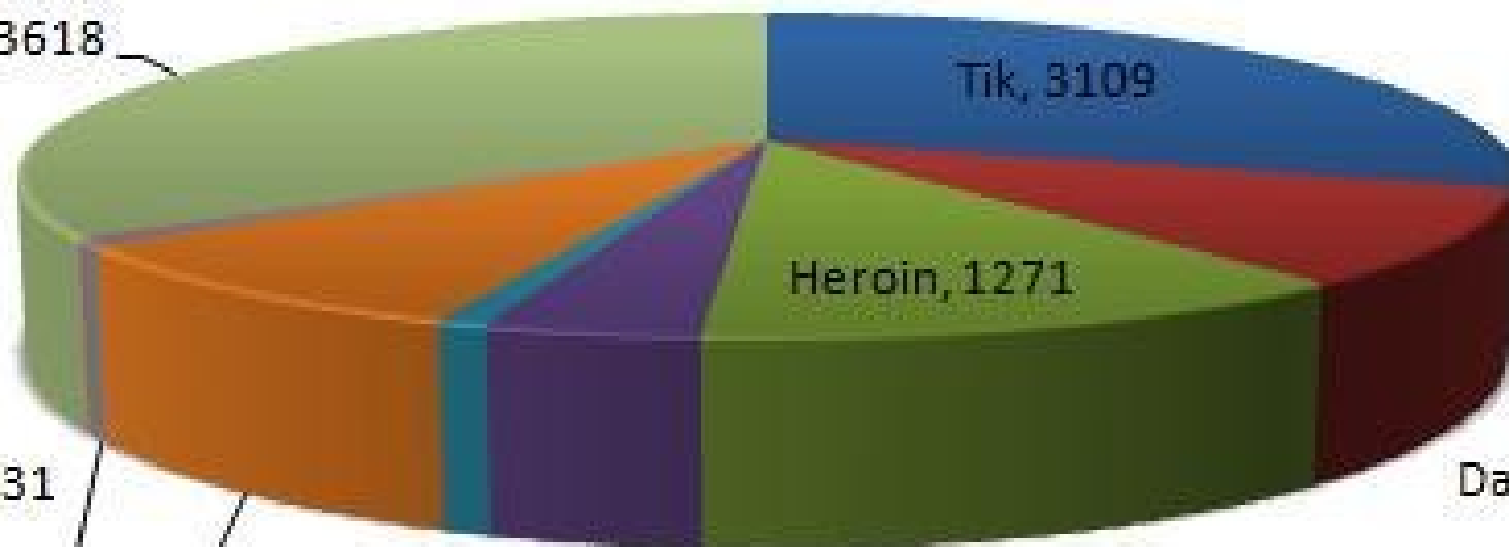
Mandrax, 94

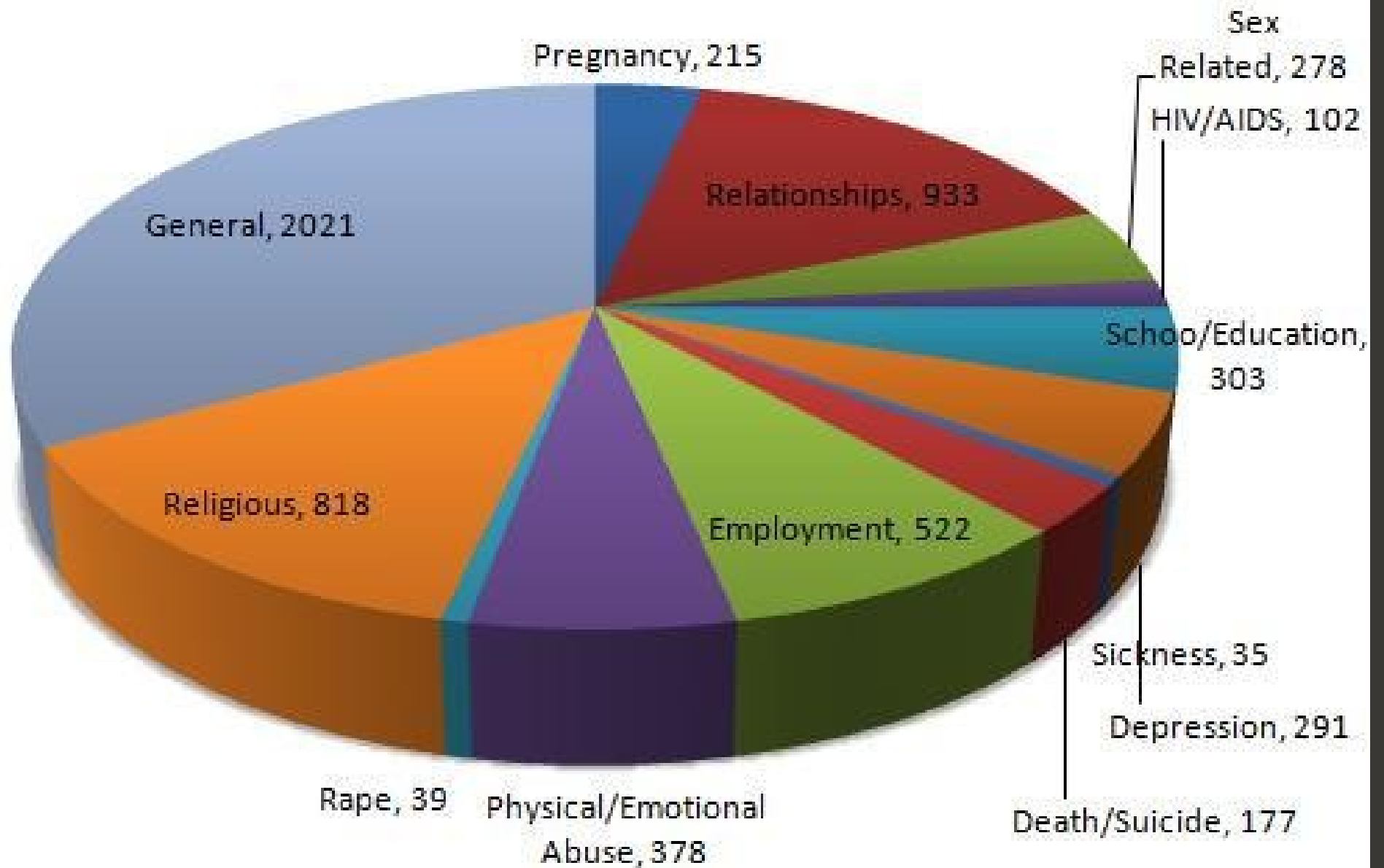
Cigarettes, 404

Heroin, 1271

Tik, 3109

Dagga, 988





Use cases have now been extended to help
out HIV patients

As well as people seeking career advice and
landing a job

...and a super cheap mobile dictionary for school learners (2000x cheaper than SMS)

And delivering Wikipedia content (basic, text only pages) to mobile users via Wikipedia API and XMPP

More use cases on the way too, also any ideas would be welcome!

All software is released under GPLv2, so if you think of something cool, let us know!

Some of the code...

How to write an XMPP bot in a few slides using Chisimba (with explanations)

```
public function init() {
```

```
    $this->objSysConfig = $this->getObject  
( 'dbsysconfig', 'sysconfig' );
```

```
    $this->jserver = $this->objSysConfig-  
>getValue ( 'jabberserver', 'bot' );
```

```
    $this->jport = $this->objSysConfig-  
>getValue ( 'jabberport', 'bot' );
```

```
    $this->user = $this->objSysConfig
```

```
public function dispatch() {  
    $action = $this->getParam ( 'action' );  
  
    switch ($action) {  
        case 'messagehandler' :  
            $this->conn->autoSubscribe ();  
            try {  
                $this->conn->connect ();  
            }  
    }  
}
```

```
switch ($event [0]) {  
    case 'message' :  
        switch ($pl ['body']) {  
            default :  
                $this->conn->message($pl['from'],  
"I don't understand your  
request!");  
            break;  
            case 'hello' :
```

Add in your configs to register.conf file (as text) and you are good to go!

Execute your messagehandler case as a cron or something to control “uptimes”

Demo “XMPP Bot” code at
[http://cvs2.uwc.ac.za/trac/chisimba/browse
r/modules/trunk/dumbassbot](http://cvs2.uwc.ac.za/trac/chisimba/browse/r/modules/trunk/dumbassbot)

So again, if you have any questions or
comments please ask or...

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