

CSSA SIGiST meeting  
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## Speaker

Walter Kruse

Software testing consultant at IndigoCube

Tester who writes code



## Ruby ?

Perl and Smalltalk's younger brother

Interpreted, truly OO, dynamically typed

Fun but not a toy

Bleeding edge

Touted as the tester's scripting language

Killer apps: RoR and WATiR



## Demos

- File data munging (1-3)
- Searching (4)
- Interacting with spreadsheets (5)
- Querying a database (6)
- Windows automation (7)
- Web automation (8)
- Performance (9)



## Taking it further

- Performance monitor
- SQL Injection Jackhammer
- Screenshots
- Compare inventory
- Watch a log file



## Taking it further

- WMI – patch levels
- Event log
- XML and Web Service testing
- Start-up utilities
- Check environments



## Taking it further

- Data-driven HVAT
- Abstraction, DSLs
- BDD – Stories - RSpec

# RSpec

Behaviour-driven development

User stories

```
When 'I change the password from "$old" to "$password"' do
  |old, password|
  @note.change_password :old_password => old, :password => password
end

Then 'the text should be "$something"' do |something|
  @note.text.should == something
end
```

# Thank you

Questions ?

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## Code listing

```
# 01-sort.rb
File.new("00-sort.txt", "w").puts(File.read("99-in.txt"))

# 02-case.rb
input = IO::readlines("99-in.txt").sort.uniq
output = File.new("01-case.txt", "w")
input.each do |line|
  line.to_s
  line.downcase!
  output.puts(line)
end

# 03-count.rb
count = 0
IO::readlines("99-in.txt").each do |line|
  if line =~ /SIERRA/
    count = count + 1
  end
end
puts "The value 'SIERRA' occurs #{count} times in the file '99-in.txt'"

# 04-find.rb
require 'find'

Find.find("C:\\sigist\\") do |f|
  if f =~ /txt/
    x = File.open(f)
    while line = x.gets
      if line =~ /balaeapterons/
        puts f + ' : ' + line
      end #if
    end #while
  end #if
end #do

# 05-excel.rb
require 'win32ole'

application = WIN32OLE.new('Excel.Application')
application.visible = TRUE
workbook = application.Workbooks.Add();
worksheet = workbook.Worksheets(1);

worksheet.Range('A1:D1').value = ['Minimum response time', 'Median
response time', 'Average response time', 'Maximum response time'];
sleep 1
worksheet.Range("A2:D2").value = [5.2, 10, 8, 20];
sleep 1
worksheet.Rows(1).Font.Bold = true
sleep 1
worksheet.Range('A1:D1').EntireColumn.AutoFit
sleep 1
```

```

worksheet.Range('A10').value = ['Inserted values']
sleep 1
worksheet.Range('A11').value = ['Autofitted columns']
sleep 1
worksheet.Range('A12').value = ['Heading row set to bold']
sleep 1
worksheet.Range('A2:D2').HorizontalAlignment = -4108
sleep 1
worksheet.Range('A13').value = ['Data row set to centered']
sleep 1
worksheet.Range("A1:D1").Interior['ColorIndex'] = 15
sleep 1
worksheet.Range("A2").Interior['ColorIndex'] = 4
sleep 1
worksheet.Range("B2").Interior['ColorIndex'] = 6
sleep 1
worksheet.Range("C2").Interior['ColorIndex'] = 5
sleep 1
worksheet.Range("D2").Interior['ColorIndex'] = 3
sleep 1
worksheet.Range('A14').value = ['Added some colour']

# 06-database.rb
require 'dbi'
require 'win32ole'

file = "C:\\sigist\\RubyODBC.xls"
if File.exists?(file)
  File.delete(file)
end

spreadsheet = WIN32OLE.new('Excel.Application')
spreadsheet.visible = TRUE
workbook = spreadsheet.Workbooks.Add();
worksheet = workbook.Worksheets(1);
begin
  dbh = DBI.connect("dbi:odbc:sigist", "", "")
  query = 'SELECT ShipCountry, COUNT(ShipCity) AS Cities FROM Orders
GROUP BY ShipCountry ORDER BY COUNT(ShipCity) DESC'
  sth=dbh.prepare(query)
  sth.execute
  numOfCols = sth.fetch.size
  columns = sth.column_names.to_a
  worksheet.range(worksheet.cells(1, 1), worksheet.cells(1,
numOfCols)).value = columns
  line = '2'
  sth.each do |data|
    worksheet.range(worksheet.cells(line, 1), worksheet.cells(line,
numOfCols)).value = [data.to_a] # or,
    line.succ!
  end
  sth.finish
rescue DBI::DatabaseError => e
  puts "An error occurred"
  puts "Error code: #{e.err}"
end

```

```

    puts "Error message: #{e.errstr}"
  ensure
    dbh.disconnect if dbh
  end

worksheet.saveas "C:\\sigist\\RubyODBC.xls"
workbook.saved = TRUE
spreadsheet.ActiveWorkbook.Close(1)
spreadsheet.quit
spreadsheet = nil
GC.start

# 07-win32.rb
require 'Win32API'

def user32(name, param_types, return_value)
  Win32API.new 'user32', name, param_types, return_value
end

find_window = user32 'FindWindow', ['P', 'P'], 'L'

system 'start "" "C:/WINDOWS/Notepad.exe"'

sleep 0.2 while (main_window = find_window.call nil, 'Untitled -
Notepad') <= 0

puts "The main window's handle is #{main_window}."

sleep 2

keybd_event = user32 'keybd_event', ['I', 'I', 'L', 'L'], 'V'

KEYEVENTF_KEYDOWN = 0
KEYEVENTF_KEYUP = 2

"this is some text".upcase.each_byte do |b|
  keybd_event.call b, 0, KEYEVENTF_KEYDOWN, 0
  sleep 0.05
  keybd_event.call b, 0, KEYEVENTF_KEYUP, 0
  sleep 0.05
end

# 08-web.rb
require 'watir'

ie = Watir::IE.new
ie.goto("file:///C:\\sigist\\testApp\\test_me_no_db.html")

ie.speed = :slow
ie.text_field(:name, 'name').flash
ie.text_field(:name, 'name').set('Walter Kruse')
ie.text_field(:name, 'company').flash
ie.text_field(:name, 'company').set('IndigoCube')
ie.text_field(:name, 'position').flash
ie.text_field(:name, 'position').set('Tester')

```



```

ie.select_list(:id , "selCombo").flash
ie.select_list(:id , "selCombo").select("Java")
ie.select_list(:id , "selCombo").flash
ie.select_list(:id , "selCombo").select("Python")
ie.select_list(:id , "selCombo").flash
ie.select_list(:id , "selCombo").select("Ruby")
ie.selectBox(:name,"menu").select('Modular')
ie.selectBox(:name,"menu").select('Model-based')
ie.checkbox(:name , 'tools').flash
ie.checkbox(:name , 'tools').set
ie.checkbox(:name , 'tools').clear
ie.checkbox(:name , 'vendor').flash
ie.checkbox(:name , 'vendor').set
ie.radio(:value , 'AutomatedQA').flash
ie.radio(:value , 'Compuware').flash
ie.radio(:value , 'Mercury').flash
ie.radio(:value , 'Rational').flash
ie.radio(:value , 'Silk').flash
ie.radio(:value , 'Rational').set
ie.button(:value , 'Clear all fields').flash
ie.button(:value , 'Clear all fields').click
sleep 3

ie.maximize
sleep 1
ie.restore
sleep 1
ie.minimize
sleep 1
ie.restore
sleep 1

ie.speed = :zippy
ie.text_field(:name , 'name').set('Walter Kruse')
ie.text_field(:name , 'company').set('IndigoCube')
ie.text_field(:name , 'position').set('Tester')
ie.select_list(:id , "selCombo").select("Java")
ie.select_list(:id , "selCombo").select("Python")
ie.select_list(:id , "selCombo").select("Ruby")
ie.selectBox(:name,"menu").select('Modular')
ie.selectBox(:name,"menu").select('Model-based')
ie.checkbox(:name , 'tools').set
ie.checkbox(:name , 'tools').clear
ie.checkbox(:name , 'vendor').set
ie.radio(:value , 'Rational').set
ie.button(:value , 'Submit details').click
popup = Watir::IE.attach(:title , 'Confirmation dialog')
popup.button(:value , "Close window").flash
popup.button(:value , "Close window").click
ie.button(:value , 'Close window').flash
ie.close

# 09-performance.rb
require 'rwb'

```

```

urls = RWB::Builder.new()
urls.add_url(100, "file:///C:\\sigist\\testApp\\test_me_no_db.html")
tests = RWB::Runner.new(urls, 10_000, 500)
tests.run
tests.report_header
tests.report_overall([0.5, 0.9, 0.99, 0.999])

# list.rb
list = Array.new
Dir.chdir('C:\\sigist\\')
Dir.pwd
files = Dir.glob('*.*rb')
files.each do |file|
  list << file.to_s
end
File.new('C:\\sigist\\programs.txt', "w").puts(list)

# check-envs.rb
require 'net/http'

def get_server(host, server, port)
  begin
    t = Net::HTTP.new(server, port)
    resp, data = t.get('/login.jsp', nil)
    resp.each do |key, val|
      if key == 'server'
        printf host + ' : ' "%-6s = %-40.40s\n", key, val
      end
    end
  rescue StandardError => e
    puts host + ' : ' + e
  end
end

get_server('DEV01 (GlassFish)', '192.168.0.1', 8080)
get_server('DEV02 (GlassFish)', '192.168.0.2', 8080)
get_server('TST01 (Jboss)', '192.168.0.3', 8080)
get_server('TST02 (GlassFish)', '192.168.0.3', 8081)
get_server('INT01 (GlassFish)', '192.168.0.4', 8080)

# output:
# DEV01 (GlassFish) : server = Sun Java System Application Server 9.1_0
# DEV02 (GlassFish) : server = Sun Java System Application Server 9.1_0
# TST01 (Jboss) : server = Apache-Coyote/1.1
# TST02 (GlassFish) : server = Sun Java System Application Server 9.1_0
# INT01 (GlassFish) : No connection could be made because the target
# machine actively refused it. - connect(2)

```