

Web 2.0



Žilina
17.12. 2009

Mgr. Juraj Michálek
SinusGear

Twitter: <http://twitter.com/georgiksk>
Blog: <http://georgik.sinusgear.com>

Čo rozoberieme?

Testy

Rich Internet App – RIA

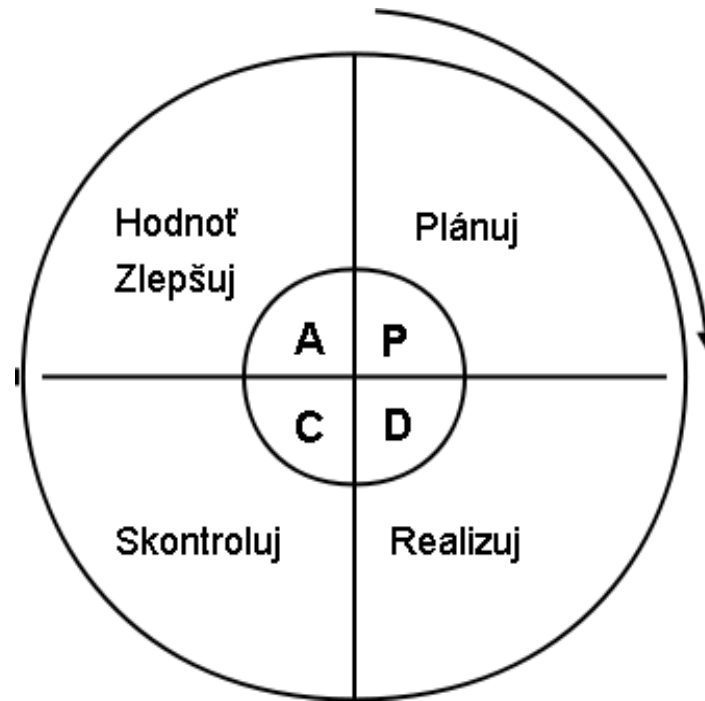
Google App Engine

Amazon Web services

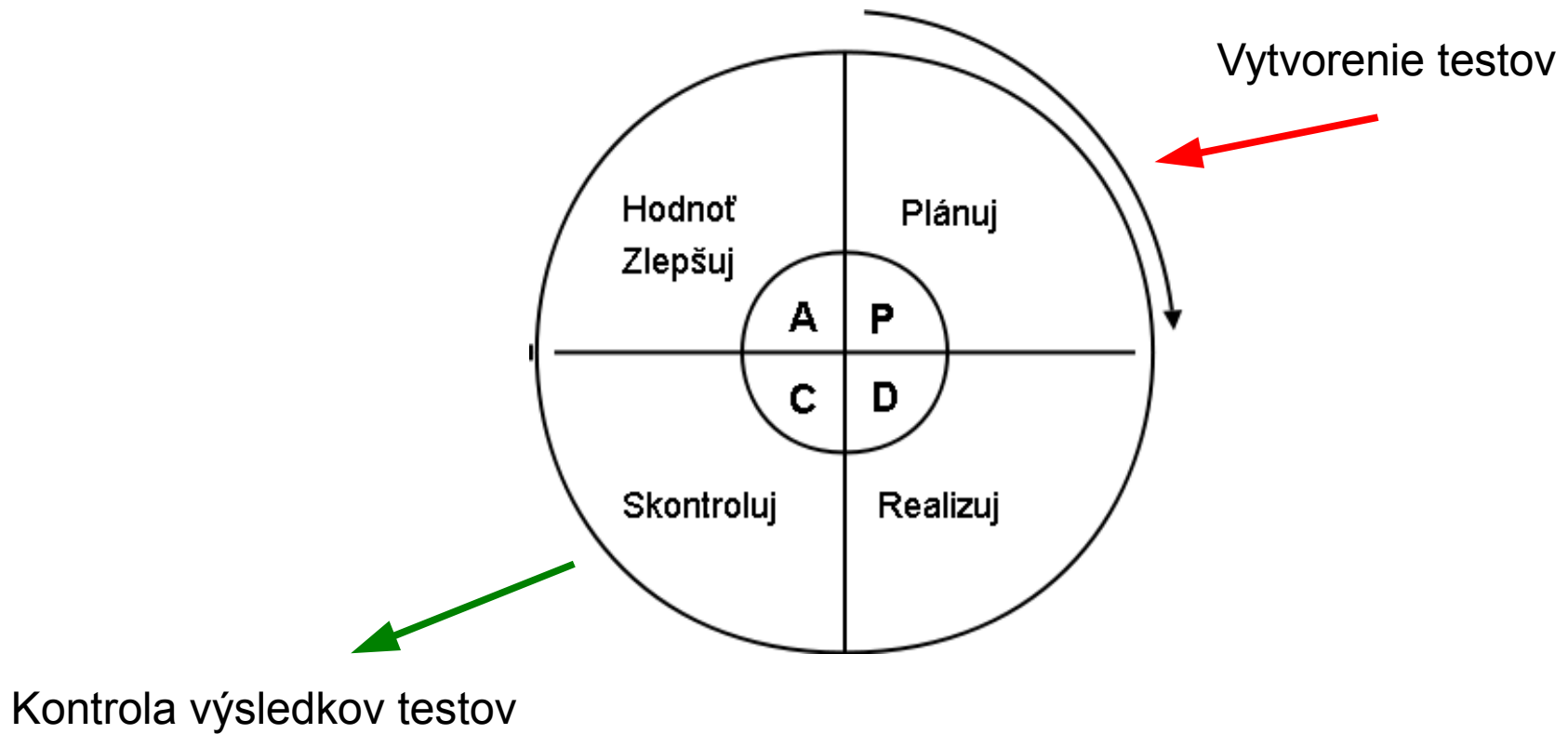
Základ dobrého vývoja 2.0

TESTY

Plan – Do – Check - Act



Testy hneď v prevej fáze



Je to zložitěééééé



Nie, nie, netestujeme je to zložitě...

Mňáá to zdržuje!

„Písanie testov zdržuje od reálneho kódu.“

„Musím rýchlo písať kód, šéf chce po mne funkcie“

„Testy som vypoľ, lebo neustále padali.“



OMG !



Vývojár si neuvedomuje, že

nepísaním testov:

Predraňuje svoju prácu.

Oneskoroje dodávku produktu.

Poškodzuje ostatných vo firme.

Znižuje možnosť ďalšieho rozšírenia produktu.

Neposkytuje dokumentáciu k svojmu kódu.

PHPUnit - je to tak jednoduché!

Easy to learn to write.

Easy to write.

Easy to read.

Easy to execute.

Quick to execute.

Isolated.

Composable.

Príklad z PHPUnit

```
<?php
require_once 'PHPUnit/Framework.php';

class StackTest extends PHPUnit_Framework_TestCase
{
    public function testPushAndPop()
    {
        $stack = array();
        $this->assertEquals(0, count($stack));

        array_push($stack, 'foo');
        $this->assertEquals('foo', $stack[count($stack)-1]);
        $this->assertEquals(1, count($stack));

        $this->assertEquals('foo', array_pop($stack));
        $this->assertEquals(0, count($stack));
    }
}
?>
```

Spustenie testu

```
(georgik@traper:pts/10)-----(/tmp)
(1:14:59: )--- phpunit test.php --- (Št, okt15)
PHPUnit 3.4.1 by Sebastian Bergmann.

.

Time: 1 second

OK (1 test, 5 assertions)
```

Statická analýza kódu

```
<?php  
$fh = fopen($myFile, 'r');  
print fread($fh);  
fclose($fh)  
?>
```

Security hole

RATS

```
(georgik@traper:pts/10)-----(/tmp)
(15:13:z)--- rats -l php security-hole.php -----(Št,okt15)
Entries in perl database: 33
Entries in python database: 62
Entries in c database: 336
Entries in php database: 55
Analyzing security-hole.php
security-hole.php:2: High: fopen
Argument 1 to this function call should be checked to ensure that it
does not
come from an untrusted source without first verifying that it contain
s nothing
dangerous.

Total lines analyzed: 6
Total time 0.000150 seconds
39999 lines per second
```

Švajčiarský nožík - NetCat

Welcome to the official GNU Netcat project homepage

The GNU Netcat project

test.txt:

GET /index.html HTTP/1.1

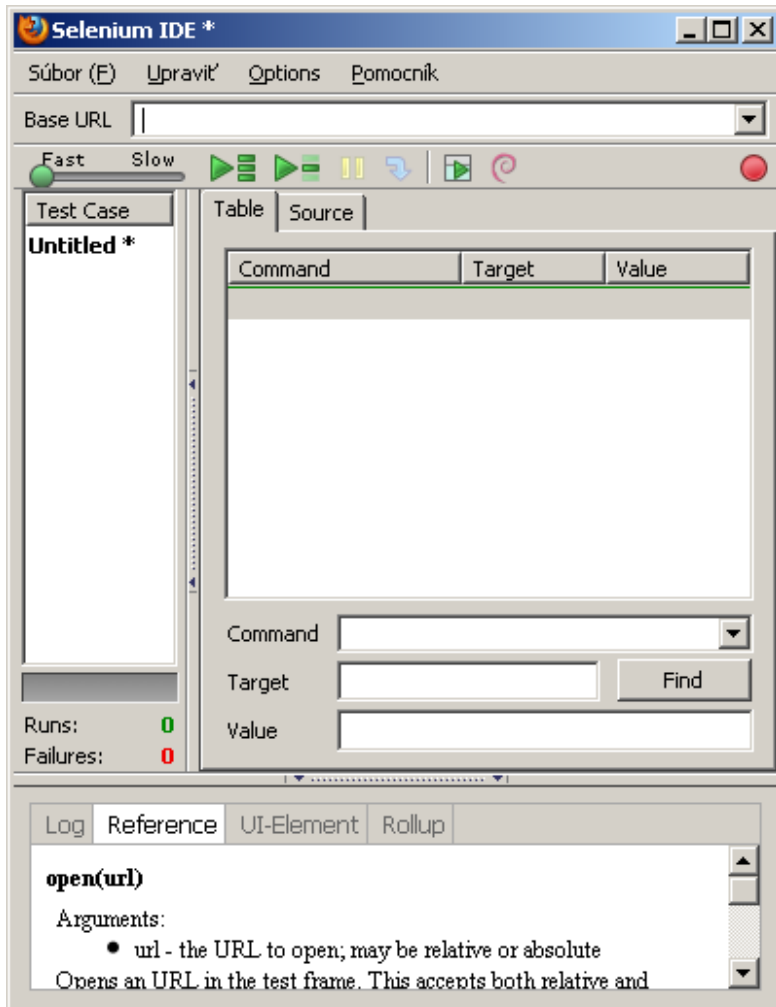
Host: localhost

Connection: close

prázdny riadok

nc localhost 80 <test.txt

Selenium



<http://seleniumhq.org>

Selenium vo vašom jazyku

Export skriptu do:

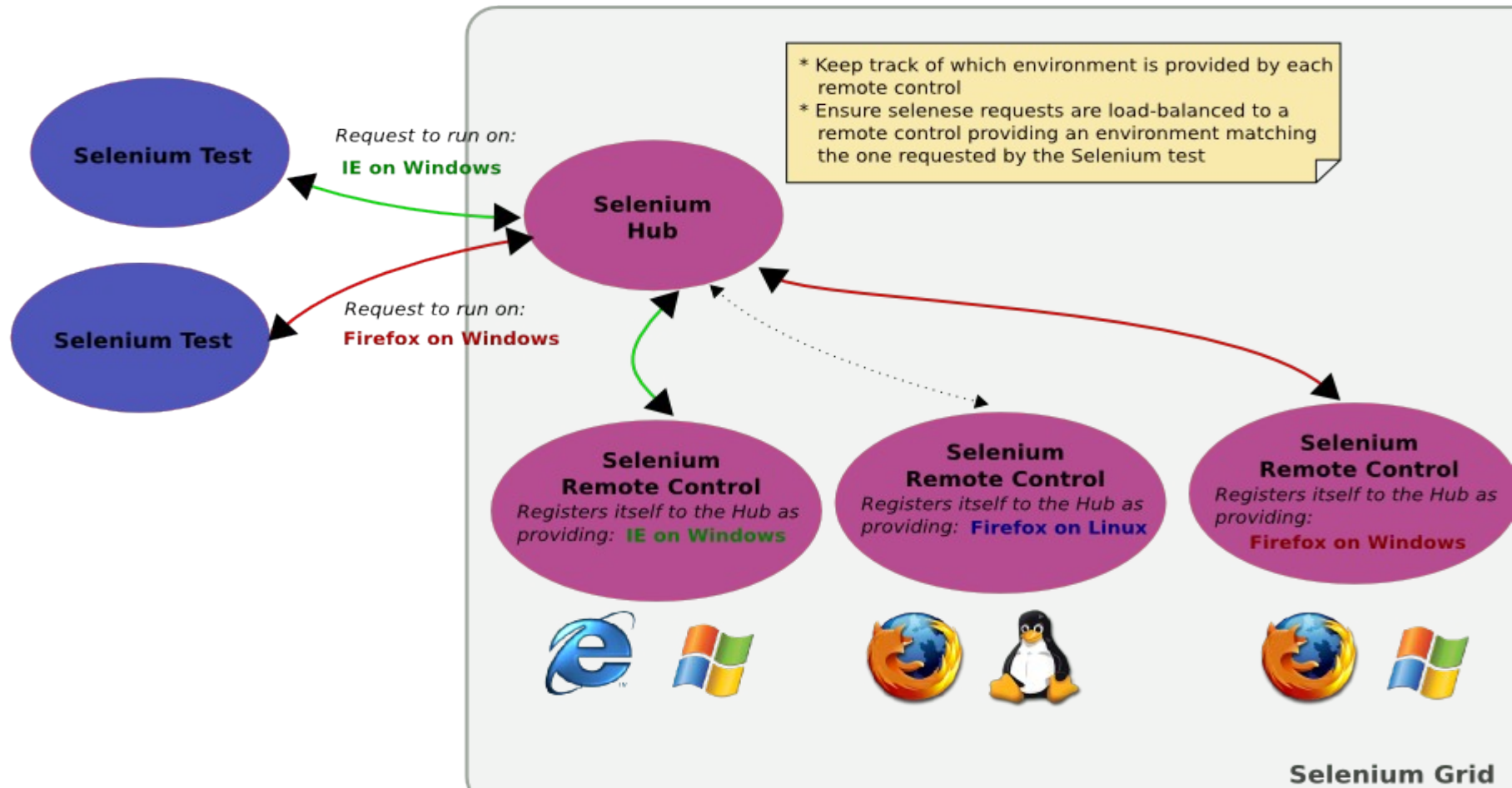
- C#
- Java
- Perl
- PHP
- Python
- Ruby





Selenium Grid

Selenium Grid : Requesting a Specific Environment



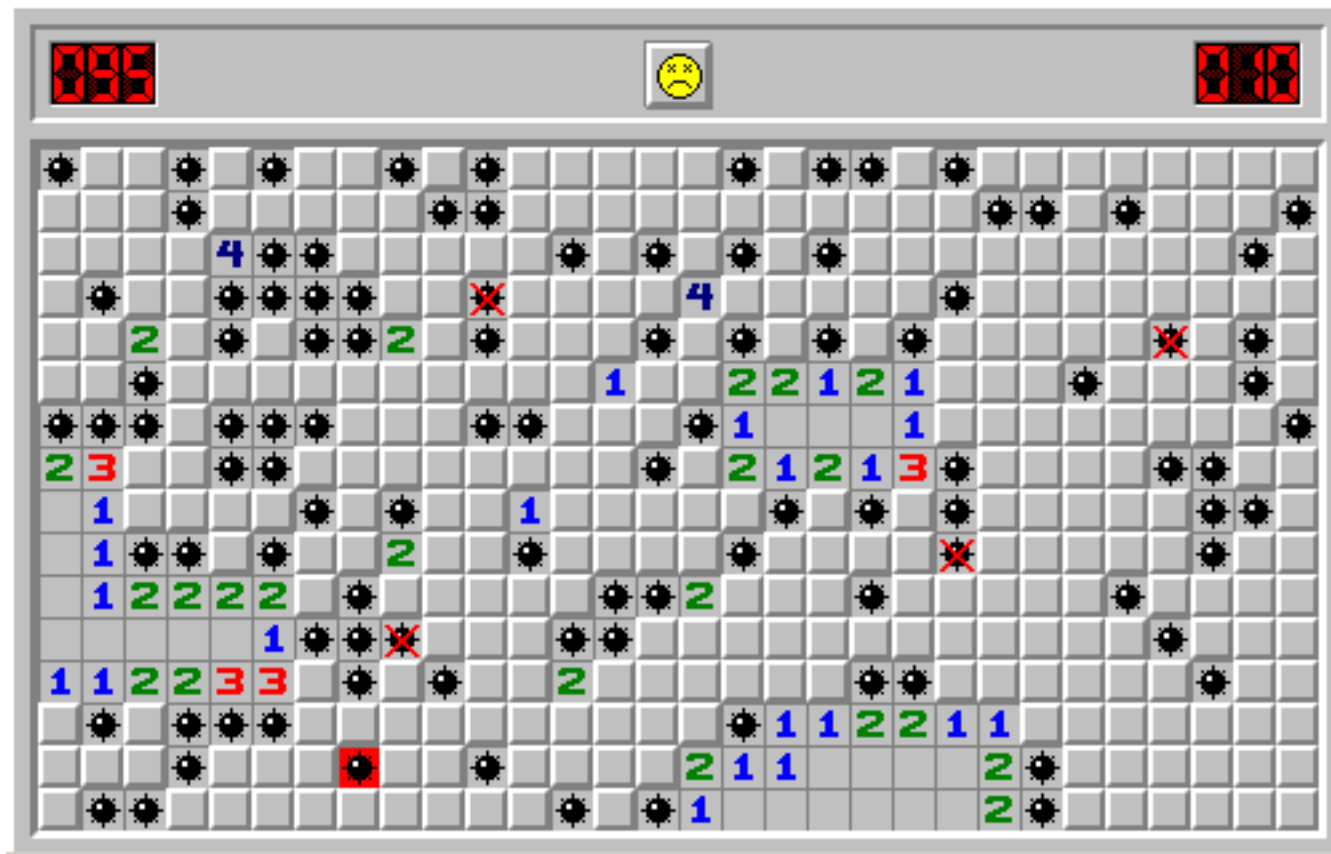
Vývoj web 2.0 - RIA

Posun v paradigme

Server - Terminál

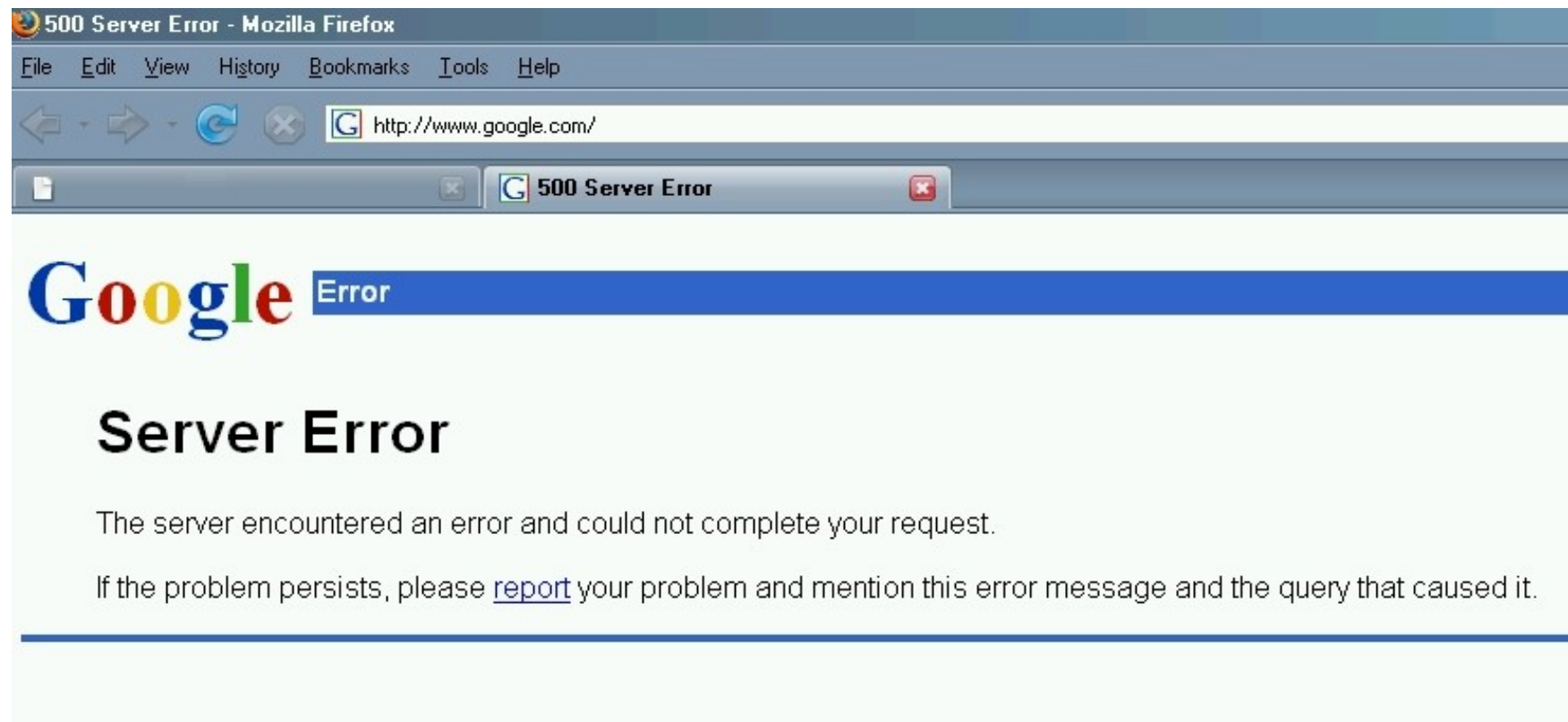
```
(georgik@traper:pts/3)~  
(16:52:%) apt-get moo (Pi,okt05)  
      ( )  
      (oo)  
 /-----\  
/ | | | \  
* /\---/\  
  ~ ~ ~  
...."Have you mooed today?"...  
(georgik@traper:pts/3)~  
(16:52:%) █ (Pi,okt05)
```

Desktop



Boom: 199x

Web



Boom: 1998-200x



please don't hurt the web
use open standards

Aplikácie Web 2.0

The image displays a composite of three web-related interfaces. At the top left is the 'Experience Telcom' website, featuring a navigation bar with the logo and a 'Welcome, Flex User | Logout' link. Below the navigation is a product grid of Nokia mobile phones. The grid includes models like the Nokia 3220, 3650, 6820, 6670, 6620, 3220 Silver, 3220 Bronze, 6630, 7610 black, 7610 white, and 6600, each with a small image, features list, and price. On the left side of the website, there are filters for 'Price Range' (Minimum: \$0, Maximum: \$630) and 'Features' (Camera, Video, Triband). Overlaid on the right side of the website is the 'Flex Style Explorer' tool. This tool has a central 'STYLE CONTROLS' panel with various sliders and dropdowns for styling elements like 'Border Style', 'Header Height', 'Background Alpha', 'Text Indent', 'Open Duration', 'Highlight Alpha', and 'Fill Colors'. To the right of the controls is a 'SAVINGS' panel showing three red header options labeled 'Option 1', 'Option 2', and 'Option 3'. Further right is a 'CSS' panel displaying the corresponding CSS code for the selected element. At the bottom of the image is a gallery viewer showing a large image of the Acropolis on Calton Hill in Edinburgh. Below the image is the caption 'Acropolis on Calton Hill in Edinburgh' and the credit 'Acropolis: Matt Chittin'. At the very bottom, there is a 'Thumbnail (20 Photos)' strip with a grid of small image thumbnails.

Experience Telcom®

Welcome, Flex User | Logout

Price Range:
Minimum: \$0
Maximum: \$630

Features:
 Camera
 Video
 Triband

Model	Features	Price
Nokia 3220	Camera	\$159.99
Nokia 3650	Camera Video	\$199.99
Nokia 6820	Triband Camera	\$299.99
Nokia 6670	Camera Video	\$309.99
Nokia 6620	Camera Video	\$329.99
Nokia 3220 Silver	Camera Video	\$369
Nokia 3220 Bronze	Camera Video	\$369
Nokia 6630	Camera Video	\$339.99
Nokia 7610 black	Camera Video	\$399.99
Nokia 7610 white	Camera Video	\$399.99
Nokia 6600	Camera Video	\$509

Flex Style Explorer

STYLE CONTROLS

Border Style: [Dropdown]
Border Thickness: [Slider]
Header Height: [Slider]
Background Alpha: [Slider]
Text Indent: [Slider]
Open Duration: [Slider]
Highlight Alpha: [Slider]
Fill Alpha: [Slider]
Fill Color: [Color Picker]

SAVINGS

Option 1
Option 2
Option 3

CSS

```
Accordion {  
  headerHeight: 29;  
  backgroundAlpha: 1;  
  textIndent: 7;  
  highlightAlpha: 0.3, 0.08;  
  fillColor: #f0f0f0, #e1e1e1,  
  #fff, #e1e1e1;  
  selectedFillColor: #3498,  
  #e1e1e1;  
  themeColor: #990000;  
  backgroundColor: #fff;  
  borderColor: #990000;  
  selectedColor: #fff;  
  captionColor: #fff;  
  headerStyleName:  
  "resAccordionHeader";  
}  
  
resAccordionHeader {  
  letterSpacing: 0;  
  color: #fff;  
  fontFamily: Arial;  
  fontSize: 14;  
  fontWeight: normal;  
}
```

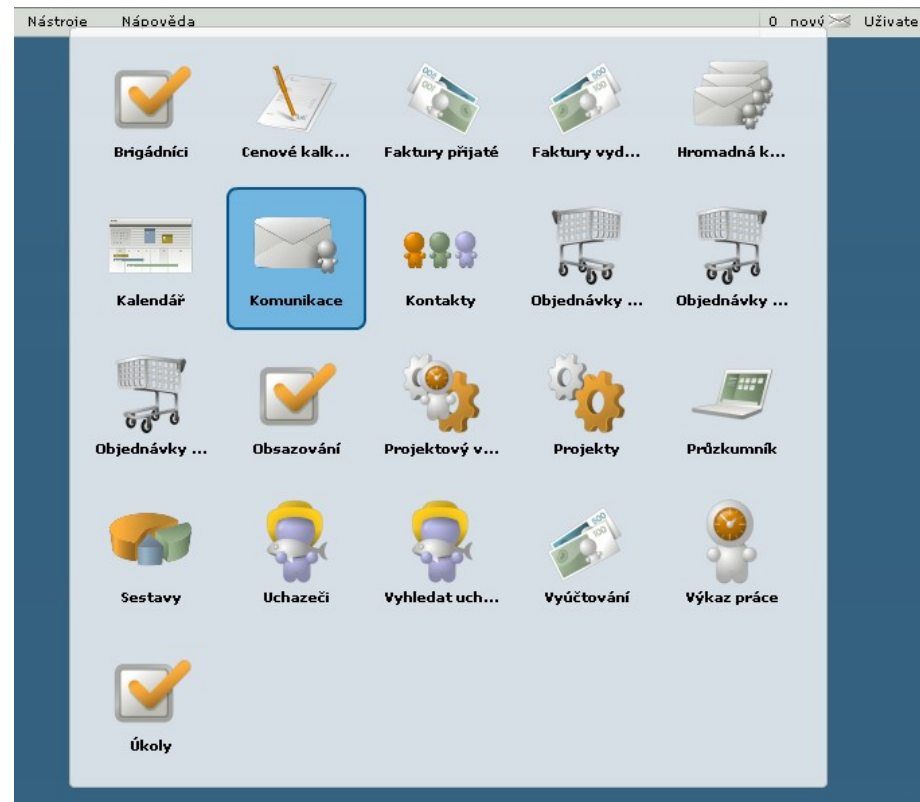
Acropolis on Calton Hill in Edinburgh

Acropolis: Matt Chittin

Thumbnail (20 Photos)

Flex aplikácie

- Systémy: Linux, Mac OS, Windows
- spustenie aplikácie
 - web prehliadač
 - Flash Player

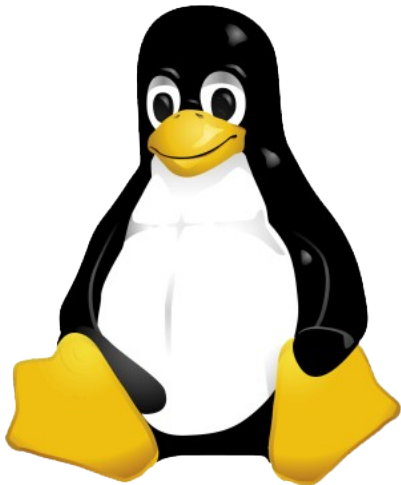


Atollon CRM/HR Lagoon - <http://www.atollon.com>

Adobe a komunita

Úspech!

Písanie znakov z diakritikou pod Linuxom.
FlashPlayer 10.1





ADOBE™ AIR™

Goalscape

The screenshot displays the Goalscape application interface. At the top, there is a navigation bar with the 'Goalscape' logo, a 'Get Started' tab, a 'New Goal' tab, and a search icon. The main area features a large circular goal map with a central yellow circle labeled 'Get started with Goalscape'. The map is divided into several segments, including 'Templates', 'Learn goal setting', 'How to reach your goals', 'Basic layout', 'Adding goals', 'Deleting goals', 'Adjusti...', 'Tracki...', 'Learn Goalscape', 'Moving goals', 'Focus view', 'Collapse a...', 'Color goals', 'Export and Print', 'Much more...', 'Improve Teamwork', 'Work - Life Balance', 'Create Great Presentations', and 'Sailing In Successful'. A tooltip titled 'Two ways to get started' is overlaid on the map, providing instructions on how to use the application. To the right of the map, there is a 'Responsible' field with a user icon, a 'Notes' field with a plus sign, and a text area containing instructions on how to use the application. At the bottom right, there is a checkbox labeled 'Don't show this goalscape upon startup.' with a note: 'You can find it in the help menu for reference.'

Two ways to get started

1. Jump straight into an empty goalscape to develop your own Goal by clicking on the "New Goal" tab above.
2. Check out the "Get started" goalscape below to learn how to use Goalscape or to access a template.

close tip close tip and don't show again

Responsible [User Icon]

Notes [Pencil Icon] [Plus Icon]

To make the most of Goalscape you might want to take a little time to learn about the ideas behind it. You can also take a tour through the UI and the major functions to see how they support the Goalscape concept and workflow.

Once you understand the concepts in these subgoals you can check them off - or even delete them from this goalscape.

On the other hand you might just want to jump straight in and start building your own goalscapes! If so, you can either start from scratch by selecting the New Goal or "+" tab; or use one of the

Don't show this goalscape upon startup.
You can find it in the help menu for reference.

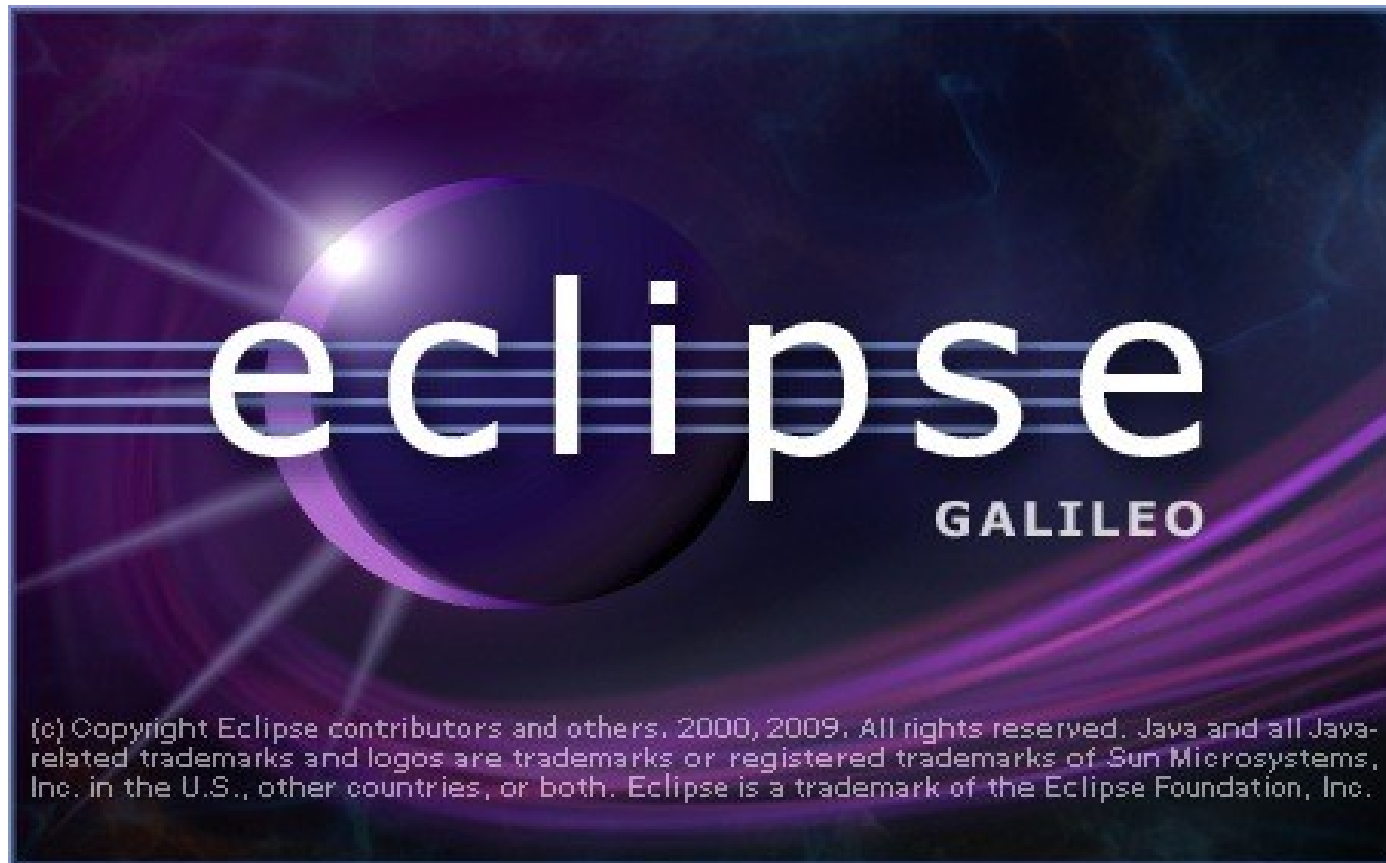
- <http://www.goalscape.com>

Flex aplikácie - desktop

- AIR runtime
- AIR balík (.air)
 - zip súbor
 - Flex aplikácia
 - xml manifest
- inštalátor - badge
 - pre Linux, Mac aj Windows



Flash Builder 4



- <http://labs.adobe.com/technologies>

Tofino - Flex pre Visual Studio

ensemble

- <http://www.ensemble.com/products/tofino.shtml>
- plug-in je zdarma
- zatiaľ podporuje len Visual Studio 2008
 - Standard a Professional

Koncepty

- MXML
- ActionScript3
- GUI Layout
- GUI a CSS
- Event listener
- Garbage collection

MXML

Rýchle, výborné pre dizajnérov.
GUI dizajn.

MXML

```
<?xml version="1.0" encoding="utf-8"?>  
<mx:Application xmlns:mx="http://www.adobe.com/2006/mxml"  
layout="absolute">  
    <mx:Button label="Ahoj Žilina!" />  
</mx:Application>
```

ActionScript

Základný jazyk pre Adobe nástroje

mal nahradit'
JavaScript (ECMA3)

....
mal

Základy Actionscriptu

Základ ActionScriptu

- objektovo orientovaný

```
var obj:Object = new Object();
```

```
obj.name = „janko“;
```

```
obj.surname = „hrasko“;
```

```
trace(obj.name + „ „ + obj.surname);
```

Programujeme

- Trieda
- Get
- Set
- extends

Trieda

```
public class DominoTehlicka
{
    public var hornePolicko:int;
    public var dolnePolicko:int;

    /**
     * Konstruktory – vytvorenie tehlicky.
     */
    public function DominoTehlicka()
    {
        this.hornePolicko = 1;
        this.dolnePolicko = 5;
    }
}
```

Použitie domino tehličky

```
var mojaTehlicka:DominoTehlicka =  
    new DominoTehlicka();
```

```
trace(„Mam domino:“  
    + mojaTehlicka.hornePolicko  
    + mojaTehlicka.dolnePolicko);
```



```
public class DominoTehlicka
{
    private var _hornePolicko:int;

    /**
     * Nastavenie hodnoty horneho policka
     * s kontrolou hodnoty
     *
     * @param value Hodnota policka.
     */
    public function set hornePolicko(value:int)
    {
        if (value < 0 || value > 6)
        {
            // nepovolena hodnota
            return;
        }
        this._hornePolicko = value;
    }
}
```

Získanie hodnoty - Get

```
public class DominoTehlicka
{
    private var _hornePolicko:int;

    /**
     * Zistenie hodnoty horneho policka.
     */
    public function get hornePolicko():int
    {
        return this._hornePolicko;
    }
}
```

Extends

```
class Vila extends Dom
{
    public var pocetOkien:int;

    /**
     * Konstruktor – postavime vilu
     */
    public function Vila()
    {
        super();
        this.pocetOkien = 42;
    }
}
```

Events

- Listener
- Dispatcher
- Vlastné triedy udalostí

Spustenie alarmu

```
mojDom.spustiAlarm();
```

```
new Event(„narusitel“);
```

security

agency



Dom s alarmom

```
public class Dom extends EventDispatcher
{
    public function spustiAlarm():void
    {
        this.dispatchEvent(new Event(„narusitel“));
    }
}
```

Bezpečnostná agentúra

```
public class BezpecnostnaAgentura
{
    public function vysliHliadku(event:Event):void
    {
        trace(„Hliadka je na ceste“);
    }
}
```

Zaregistrovanie

```
var mojDom:Dom = new Dom();  
var security:BezpecnostnaAgentura = new BezpecnostnaAgentura();  
  
// sledovanie domu  
mojDom.addEventListener(„narusitel“, security.vysliHliadku);
```


Odregistrovanie

```
// odregistrovanie  
mojDom.removeEventListener(„narusitel“, agency.vysliHliadku);
```

Triedy udalostí

```
import flash.events.Event;  
import flash.events.MouseEvent;  
  
import mx.rpc.events.ResultEvent;  
import mx.rpc.events.FaultEvent;
```

SecurityEvent

```
public class SecurityEvent extends Event
{
    public var dom:Dom;

    public function SecurityEvent(typ:String, dom:Dom...)
    {
        // Dom, kde doslo k udalosti
        this.dom = dom;
    }
}
```

Dom s alarmom

```
public class Dom extends EventDispatcher
{
    public var adresa:String;
    public function spustiAlarm():void
    {
        this.dispatchEvent(new SecurityEvent(„narusitel“,
            this));
    }
}
```

Bezpečnostná agentúra

```
public class BezpecnostnaAgentura
{
    public function vysliHliadku(event:SecurityEvent):void
    {
        trace(„Hliadka je na ceste“);
        trace(„Do domu: „ + event.dom.adresa);
    }
}
```

Dizajn GUI pomocou CSS

ActionScript 3, MXML, CSS

GUI Layout

- layout
 - absolute (opatrne!)
 - horizontal
 - vertical
- Container
 - `this.addChild(butonek);`

CSS

```
h1
{
  color:white;
  background: black;
  border: 1px solid black
}
```

```
body
{...
```


MXML

```
<mx:Button id="countDownButton" label="FlexGarden" />
<mx:TabNavigator>
  <mx:VBox label="FlexGarden">
    <mx:Label text="Projekt Flexgarden.net" />
  </mx:VBox>
  <mx:VBox label="Adobe" >
    <mx:Label text="Slávi 25 rokov od založenia" />
  </mx:VBox>
</mx:TabNavigator>
```

Výsledok

FlexGarden on-line seminár začne za 21 dní, 00:59:50

Flex...

Adobe

Projekt Flexgarden.net

CSS na triedy

```
<mx:Style>
  Button {
    color: green;
  }
  TabNavigator {
    border-thickness: 4px;
  }
</mx:Style>
```

Výsledok

FlexGarden on-line seminár začne za 21 dní, 00:44:29

FlexGarden

Adobe

Slávi 25 rokov od založenia

FlexGarden on-line seminár začne za 21 dní, 00:59:50

Flex...

Adobe

Projekt Flexgarden.net

styleName

```
.info {  
  color: red;  
  font-size: 25;  
  font-weight: bold;  
}
```

```
...  
<mx:Label styleName="info"  
text="Projekt Flexgarden.net" />
```

Výsledek



FlexGarden on-line seminár začne za 21 dní, 00:38:12

FlexGarden Adobe

Projekt Flexgarden.net

The image shows a screenshot of a web interface. At the top, there is a green-bordered box containing the text "FlexGarden on-line seminár začne za 21 dní, 00:38:12". Below this, there are two tabs: "FlexGarden" and "Adobe". The "FlexGarden" tab is active. Below the tabs, there is a large red-bordered box containing the text "Projekt Flexgarden.net" in a bold, red font.

Zložitejší štýl

```
Button {  
    backgroundColor: #cecec7;  
    barColor: #cecec7;  
    borderColor: #cecec7;  
    cornerRadius: 0;  
    dropShadowEnabled: false;  
    paddingBottom: 20;  
    paddingLeft: 10;  
    paddingRight: 10;  
    paddingTop: 20;  
    horizontalAlign: right;  
}
```

Výsledok

FlexGarden on-line seminár začne za 21 dní, 00:33:12

FlexGarden

Adobe

Projekt Flexgarden.net

FlexGarden on-line seminár začne za 21 dní, 00:59:50

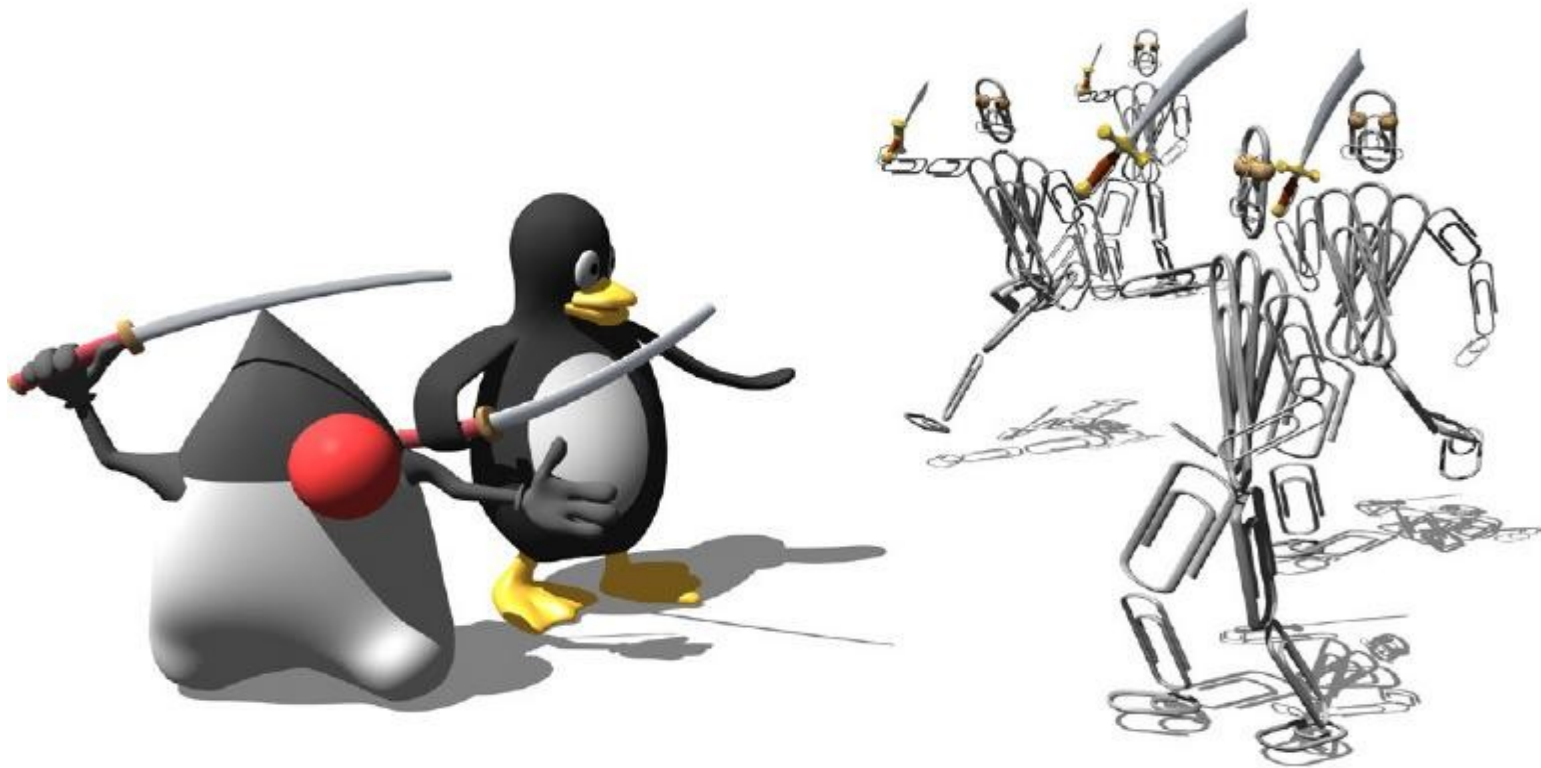
Flex...

Adobe

Projekt Flexgarden.net

Give more memory to Java

-Xms128M -Xmx256M



Flexgarden.net



<http://www.flexgarden.net>

Adobe User Group

video návody a záznamy z on-line seminárov

Silverlight



<http://www.silverlight.net>

Linux – Moonlight



implementácia pre Linux

Pozor! Je implementovaná len verzia Silverlight 2

Google App Engine



<http://code.google.com/intl/sk/appengine/>

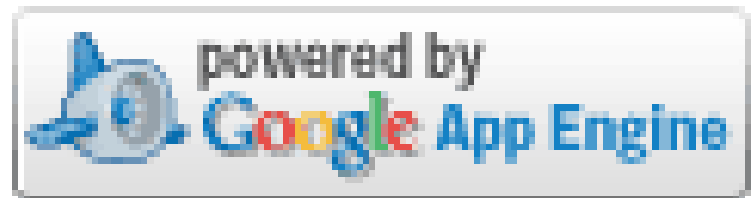
Ďalší posun paradigmy

Škálovateľnosť
Škálovateľnosť
Škálovateľnosť

Beží vaša aplikácia dlho?

Nie je náhodou ZLE napísaná?

Huh?



Motto Google App Engine

Run your web apps on Google's infrastructure.

Easy to build, easy to maintain, easy to scale.

Priestor pre aplikácie

<http://appspot.com>

App Gallery

```
1533123 x 65416513
-----
9198738
 7665615
 6132492
 1533123
   9198738
    7665615
     1533123
      4599369
-----
100291560660099
```

<http://my-calc.appspot.com/>

<http://appgallery.appspot.com/>

Správa aplikácie

Main

Dashboard

[Quota Details](#)

[Logs](#)

[Cron Jobs](#)

[Task Queues](#)

Data

[Datastore Indexes](#)

[Datastore Viewer](#)

[Datastore Statistics](#)

[Blob Viewer](#)

Administration

[Application Settings](#)

[Developers](#)

[Versions](#)

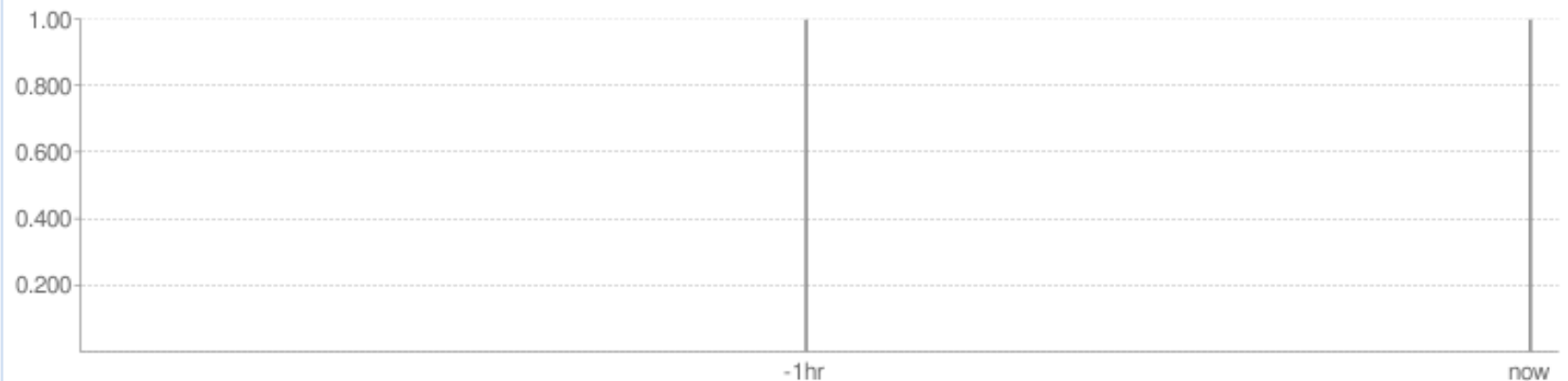
[Admin Logs](#)

Billing

Charts [?](#)

Requests/Second ▾

all 24 hr 12 hr 6 hr



Billing Status: Free - [Settings](#)

Quotas reset every 24 hours. Next reset: 12 hrs [?](#)

Resource	Usage		
CPU Time	<div style="width: 0%;"></div>	0%	0.00 of 6.50 CPU hours
Outgoing Bandwidth	<div style="width: 0%;"></div>	0%	0.00 of 1.00 GBytes
Incoming Bandwidth	<div style="width: 0%;"></div>	0%	0.00 of 1.00 GBytes
Total Stored Data	<div style="width: 0%;"></div>	0%	0.00 of 1.00 GBytes
Recipients Emailed	<div style="width: 0%;"></div>	0%	0 of 2000

Python 2.5

App Engine podporuje aplikácie pre Python 2.5

Pozor! Bez C modulov.

Django



<http://www.djangoproject.com>

BSD license

Java

Tiež podporovaná

Musím používať Google?

Nie.

App Engine si spustíte aj na hriankovači.
(ak podporuje Python)

GQL

Derivát z SQL.

Primárne zameraný na výkon.

Plugin pre Eclipse



Google Web Toolkit + Google App Engine

Amazon Web Services



Zmena paradigmy...



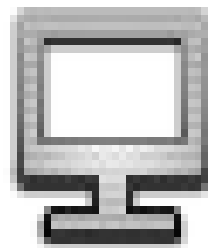
Idú Vianoce



Ľudia kupujú darčeky



A kupujú ich skutočne veľa!



ON-LINE

Rýchlo nové stroje!



... o mesiac neskôr



AWS

Nemusíte vlastniť server.

Proste si ho prenajmete.

24 procesorov?

Uch, taký stroj nekúpim!

Proste si ich prenajmete na výpočet.

www.maptiler.org



Elastic Compute Cloud - EC2

Vyberte si svoj OS:
Redhat, Gentoo, Debian, Ubuntu
Oracle Linux, OpenSolaris
Windows Server 2003/2008

Image – tzv. ami

<http://aws.amazon.com/ec2/>

EC2 – výber lokality

US – Virginia
US – California
EU - Ireland

Žiadosť o EC2

Nutné telefonické overenie.

Opísať alebo prečítať PIN.

AWS Management Console

Navigation

Region: US East ▾

- > **EC2 Dashboard**
- INSTANCES
 - > Instances
 - > Spot Requests
- IMAGES
 - > AMIs
 - > Bundle Tasks
- ELASTIC BLOCK STORE
 - > Volumes
 - > Snapshots
- NETWORKING & SECURITY
 - > Elastic IPs
 - > Security Groups
 - > Key Pairs

Amazon EC2 Console Dashboard

Getting Started

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the US East (Virginia) region.

Service Health

Current Status	Details
	Amazon EC2 (US East - N. Virginia) Service is operating normally

[View complete service health details](#)

My Resources

You are using the following Amazon EC2 resources in the US East (Virginia) [Refresh](#)

- 0 Running Instances**
- 0 Elastic IPs**
- 0 EBS Volumes**
- 0 EBS Snapshots**
- 0 Key Pairs**
- 1 Security Group**

Related Links

- > Documentation
- > All EC2 Resources
- > Forums
- > Feedback
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A čo s diskovým priestorom?



Amazon Simple Storage - S3

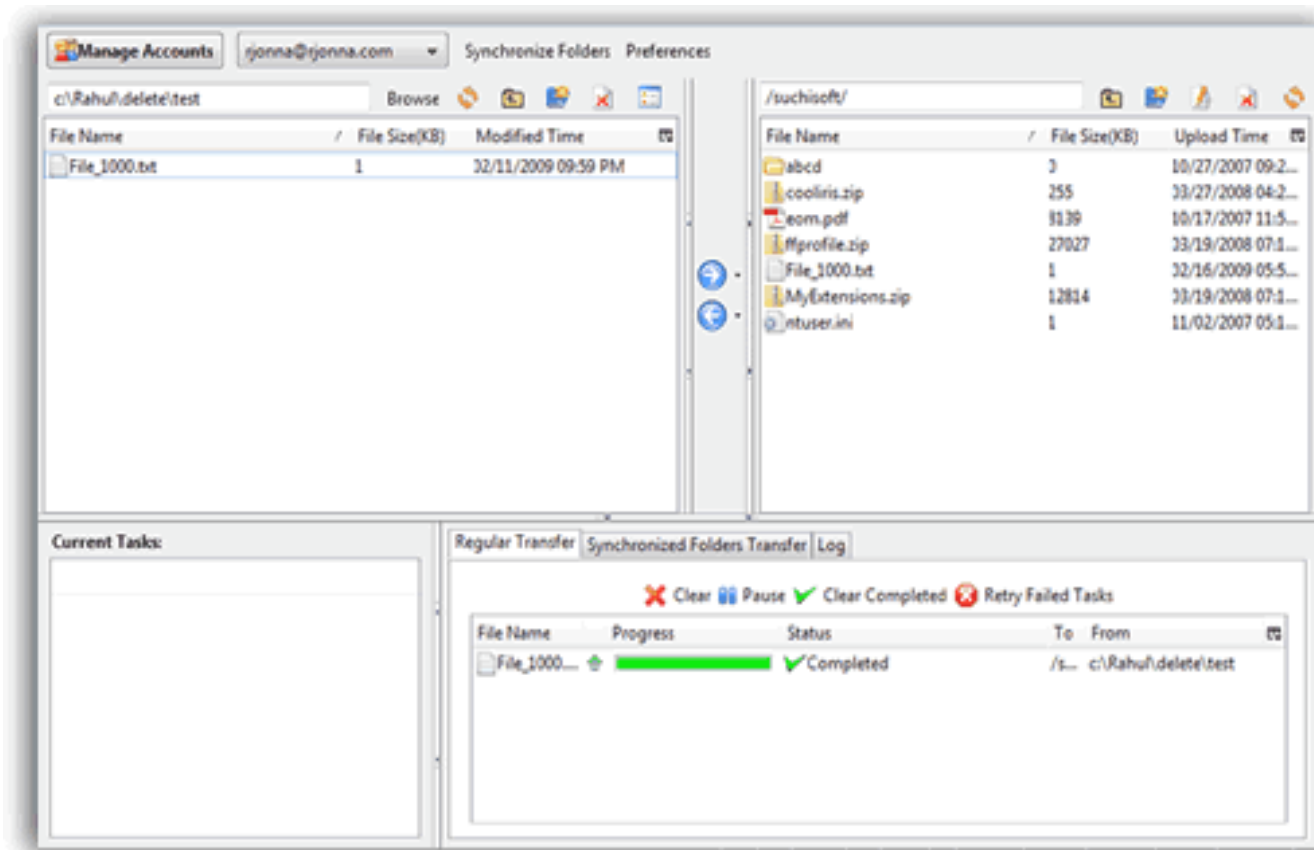
Úložisko

Bucket – Dáta

Nepodporuje adresáře.



Adresáre sa dajú nasimulovať



www.s3fox.net

Vyvíjate aplikáciu pre niekoho?

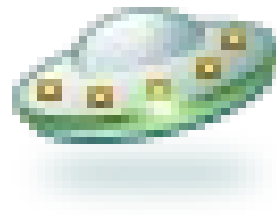


Amazon DevPay.

Billing rieši Amazon.



Pár zaujímavostí



Software Engineering Radio



<http://www.se-radio.net>

Adrenaline Junkies and Template Zombies

Vzory správania
v projektoch

*Adrenaline Junkies
and Template Zombies*



Understanding Patterns of
Project Behavior

Tom DeMarco, Peter Hruschka
Tim Lister, Steve McMenamin
James Robertson, Suzanne Robertson
Principals of the Atlantic Systems Guild

"Brilliantly insightful." —Howard Look, VP of Software, Pixar



Priestor na otázky.



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Blog: <http://georgik.sinusgear.com>

Ďakujem za pozornosť 2.0



Žilina
17.12. 2009

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