

haXe @ head

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Motion-Twin
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The Web Technologies

Platform	Flash Player 6-8	Flash Player 9-10	PHP on Server	Web Browser	NekoVM
Language	AS2	AS3	PHP	JavaScript	Neko
Compiler	FlashIDE / MTASC	mxmle / asc	--	--	nekoC
File Format	.swf	.swf (v9)	.php	.js	.n

The Web Technologies

Platform	Flash Player 6-8	Flash Player 9-10	PHP on Server	Web Browser	NekoVM
Language	haXe				
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History

A bit of History...

- 2003 : ActionScript 2
 - ... and its bugs...
- I like to improve my tools
- 1st Tool : ASML
 - additional AS2 typing
 - speed up development
- Limited by the AS2 syntax

A bit of History...

- 2003-2004 : Motion-Types
 - custom syntax
 - at first generates AS1
 - .. then compiles to SWF
- Pro/Cons :
 - it worked for us
 - tricky
 - buggy
 - not ready for prime time

A bit of History...

- 2004-2005 : MTASC
 - full-fledge AS2 compiler
 - adapted from Motion-Types
 - works for you !
 - ...not for us
- OpenSourceFlash.org
- ... until AS3 was announced

A bit of History...

- Why not MTASC for AS3 ?
- Server-side Motion-Types
 - using the NekoVM
- AJAX rise, need for Flash/JS communications
- Possibility for better features
 - and open source technology

A bit of History...

- 2006-2008 haXe :
 - Announced at OFLA on 22 October 2005
 - Alpha version at Spark Europe on 15 Nov.05
 - 1st Beta released on 4 February 2006
 - 1.0 on 2 May 2006
 - 2.0 on 28 July 2008
- What haXe does ?

haXe ?

What haXe does ?

- haXe is a compiler :
 - from .hx to .swf – for Flash 6-10
 - from .hx to .js
 - from .hx to .php (*)
 - from .hx to .n – for NekoVM
- haXe is limited by the platform features :
 - it can't do more
 - it don't do less either

A quick example :

```
class Hello {  
  
    static function main() {  
        trace("Hello World !");  
    }  
  
}
```

- Compiles to Flash :

```
haxe -swf hello.swf -main Hello
```

A quick example :

```
class Hello {  
  
    static function main() {  
        trace("Hello World !");  
    }  
  
}
```

- Compiles to Javascript :
haxe -js hello.js -main Hello

A quick example :

```
class Hello {  
  
    static function main() {  
        trace("Hello World !");  
    }  
  
}
```

- Compiles to PHP :

```
haxe -php www -main Hello
```

A quick example :

```
class Hello {  
  
    static function main() {  
        trace("Hello World !");  
    }  
  
}
```

- Compiles to Neko :

```
haxe -neko hello.n -main Hello
```

Libraries

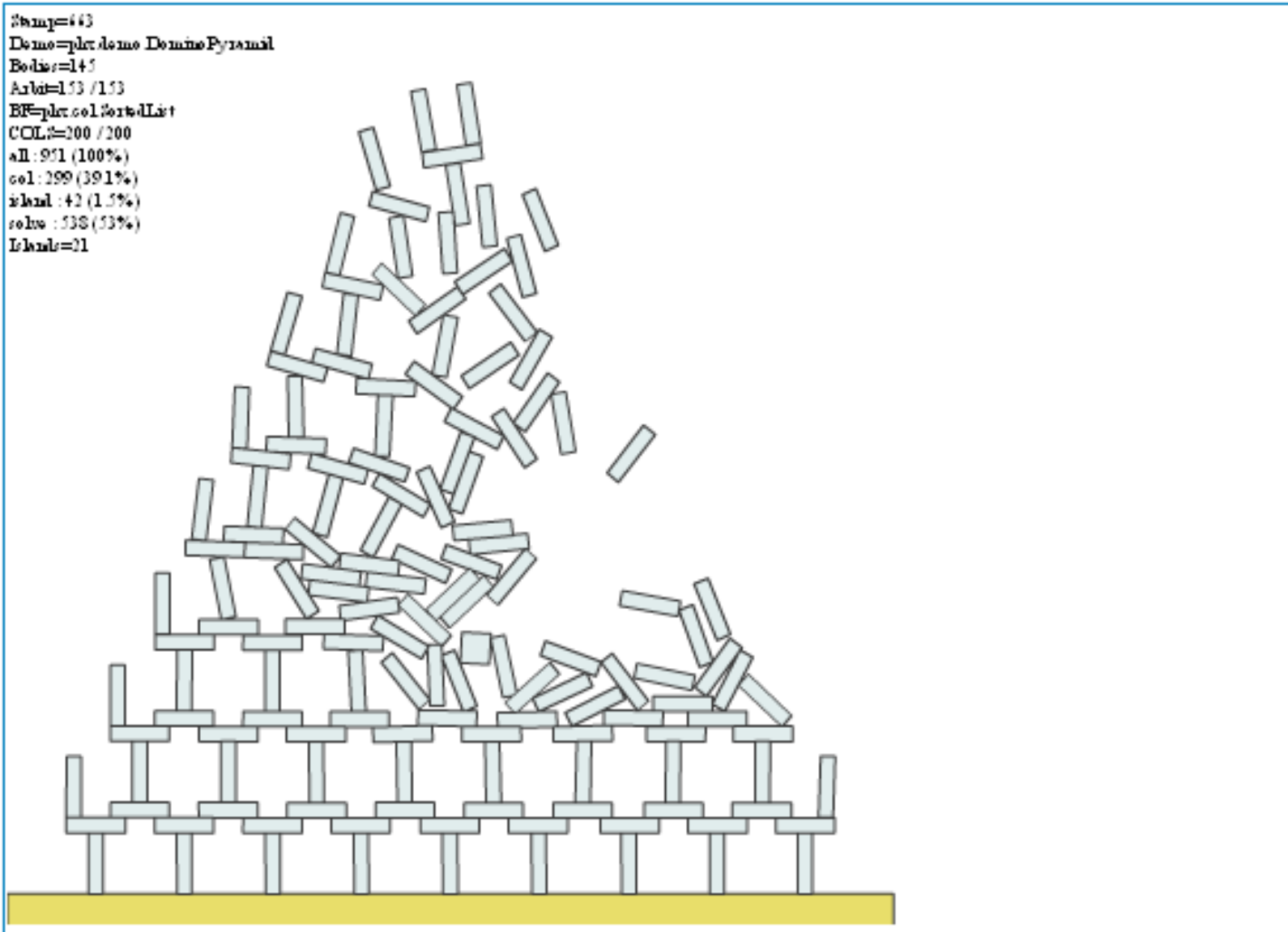
- haXe Standard Library :
 - Array
 - Math
 - Date
 - Xml
 - Reflect / Type
 - ...
- Platform-specific Library
 - everything the platform can do

Works

Works

Physaxe

```
#Steps=63  
Demo=plr demo DominoPyramid  
Bodies=145  
Arbit=153 /153  
BF=plr.col.sortedList  
COLS=200 /200  
all: 951 (100%)  
col: 299 (391%)  
island: 42 (1.5%)  
solve: 538 (53%)  
Islands=21
```



Works

DinoRPG.com

The screenshot displays the user interface for DinoRPG.com. At the top center, the site's logo "DINO RPG" is prominently featured. The main content area is dedicated to the player "NUNUCHE" from the town of "Dinoville".

Player Profile: The player's name "NUNUCHE" is shown in a decorative banner above a character illustration of a dinosaur. Below the name, there are buttons for "[HEAL]", "[ADD FX]", and "[FICHE ADMIN]".

Statistics and Information: The "INFORMATIONS" section shows various resource counts: 0 gold, 0 gems, 5 blue crystals, 6 lightning bolts, and 0 clouds. The player's name "NUAGOZ" is also listed.

Combat and Equipment: The "EQUIPEMENT DE COMBAT" section is currently empty, showing a placeholder for a combat equipment window.

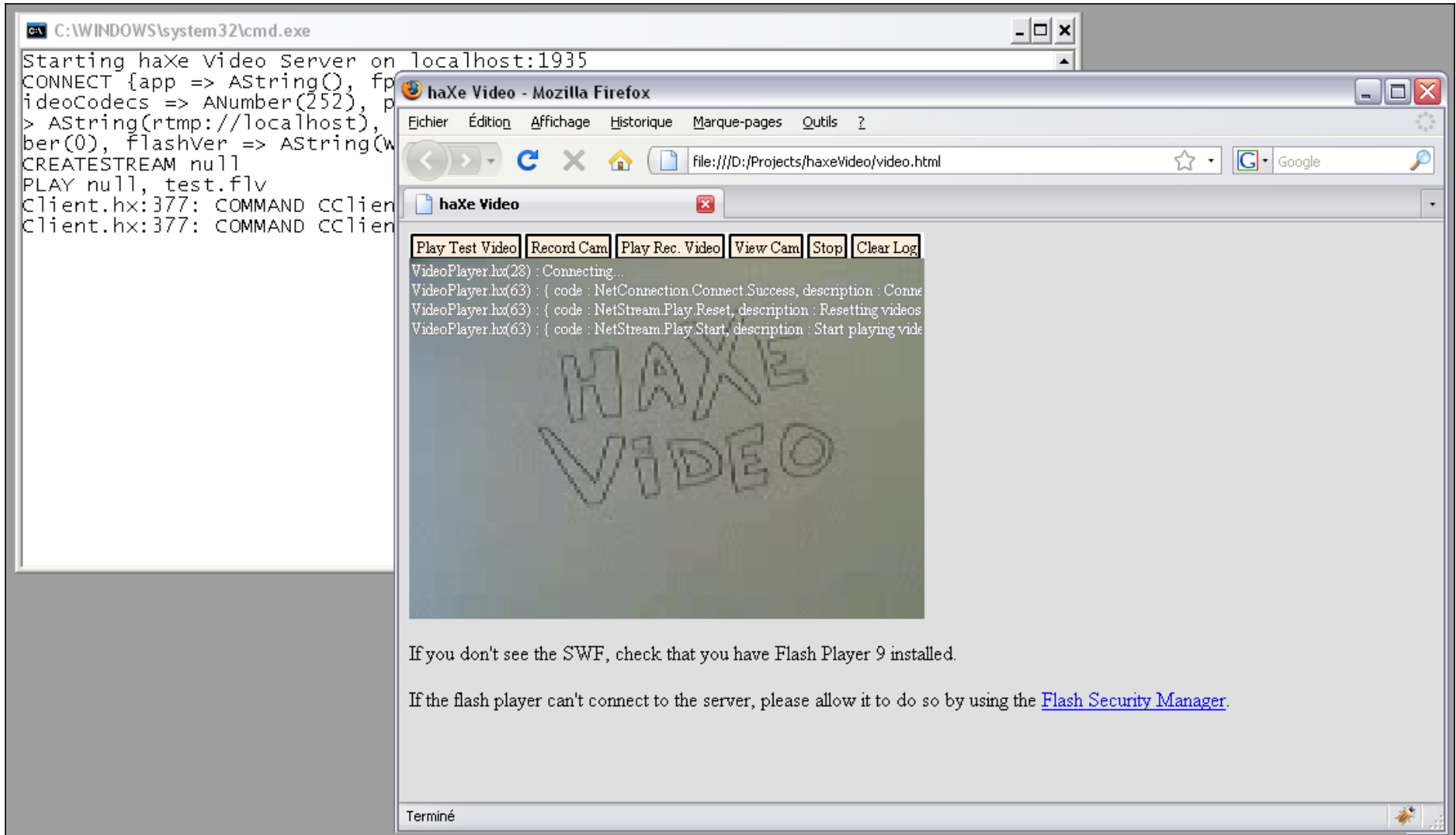
Actions and Map: The "ACTIONS" menu on the left includes "SE DÉPLACER", "COMBATTRE", "SE REPOSER", and "LEGUIDE MICHEL". Below this is a map view of "Dinoville" with tabs for "CARTE", "INVENTAIRE", and "DÉTAILS".

Left Sidebar: This area contains the player's gold amount (402.165), buttons for "OBTENIR DE L'OR" and "BOUTIQUE", a preview of a landscape, and a list of nearby players including "NUNUCHE" and "REDRED".

Right Sidebar: This sidebar provides navigation links for "NOUVEAUTÉS", "CLASSEMENT", "CLANS", "MESSAGERIE", "INGRÉDIENTS", "MON COMPTE", and "FORUM". It also features a "DÉCONNEXION" button and a "AIDE DU JEU" button. At the bottom, it shows the current time (11:32) and the number of connected users (1379).

Works

haXeVideo



The screenshot shows a Windows command prompt window titled "C:\WINDOWS\system32\cmd.exe" with the following output:

```
Starting haXe Video Server on localhost:1935
CONNECT {app => AString(), fr
ideoCodecs => ANumber(252), p
> AString(rtmp://localhost),
ber(0), flashVer => AString(w
CREATESTREAM null
PLAY null, test.flv
Client.hx:377: COMMAND CClient
Client.hx:377: COMMAND CClient
```

Overlaid on the command prompt is a Mozilla Firefox browser window titled "haXe Video - Mozilla Firefox". The address bar shows "file:///D:/Projects/haxeVideo/video.html". The browser content area displays a video player interface with the following controls: "Play Test Video", "Record Cam", "Play Rec. Video", "View Cam", "Stop", and "Clear Log". Below the controls, the video player shows a dark screen with the text "HAXE VIDEO" in a stylized, outlined font. The browser's status bar at the bottom indicates "Terminé".

If you don't see the SWF, check that you have Flash Player 9 installed.

If the flash player can't connect to the server, please allow it to do so by using the [Flash Security Manager](#).

Features

haXe Features

- Enums :

```
enum Color {
    Red;
    Green;
    Blue;
    Gray( amount : Int );
}

var x = Red;
var y = Gray(127);
// ...
var color = switch( y ) {
case Red: 0xFF0000;
case Green: 0x00FF00;
case Blue: 0x0000FF;
case Gray(m): (m << 16) | (m << 8) | m;
}
```

haXe Features

- Type Inference :

```
var x = "HELLO";  
var y = x.substr(1);  
var z = y.split("L");
```

haXe Features

- Type Parameters :

```
class UserList {  
    var users : Array<User>;  
    public function init() {  
        users = new Array();  
    }  
    public function add(u) {  
        users.push(u);  
    }  
    public function count() {  
        return users.length;  
    }  
    public function get(i) {  
        return users[i];  
    }  
}
```


haXe Features

- Type Parameters + Type Inference :

```
var a = [1,2,3,4,5];  
var b = new Array();  
b.push(a[2]);  
var sum = 0;  
for( x in a )  
    sum += x;
```

Advantages

- One single Language
 - perfect for single or team work
 - opens possibilities
- Good features
 - and performances
- Open Source
- Relevant
 - will adapt to future platforms

Cases for Cross-Compilation

- Blog Realtime preview (PHP+JS)
- Client/Server communications
- hxASM : SWF generation
- NME : Flash or Desktop
- ... depends on your needs

Open Source Community

- haxe.org :
 - open wiki (in haXe)
- lib.haxe.org :
 - 90+ open source libraries for haXe
- IDE support :
 - Flash Develop Plugin
 - TextMate Bundle
 - ... more (check haxe.org)

Thank you !

Questions ?

haxe.org