

haXe @ head

Nicolas Cannasse
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

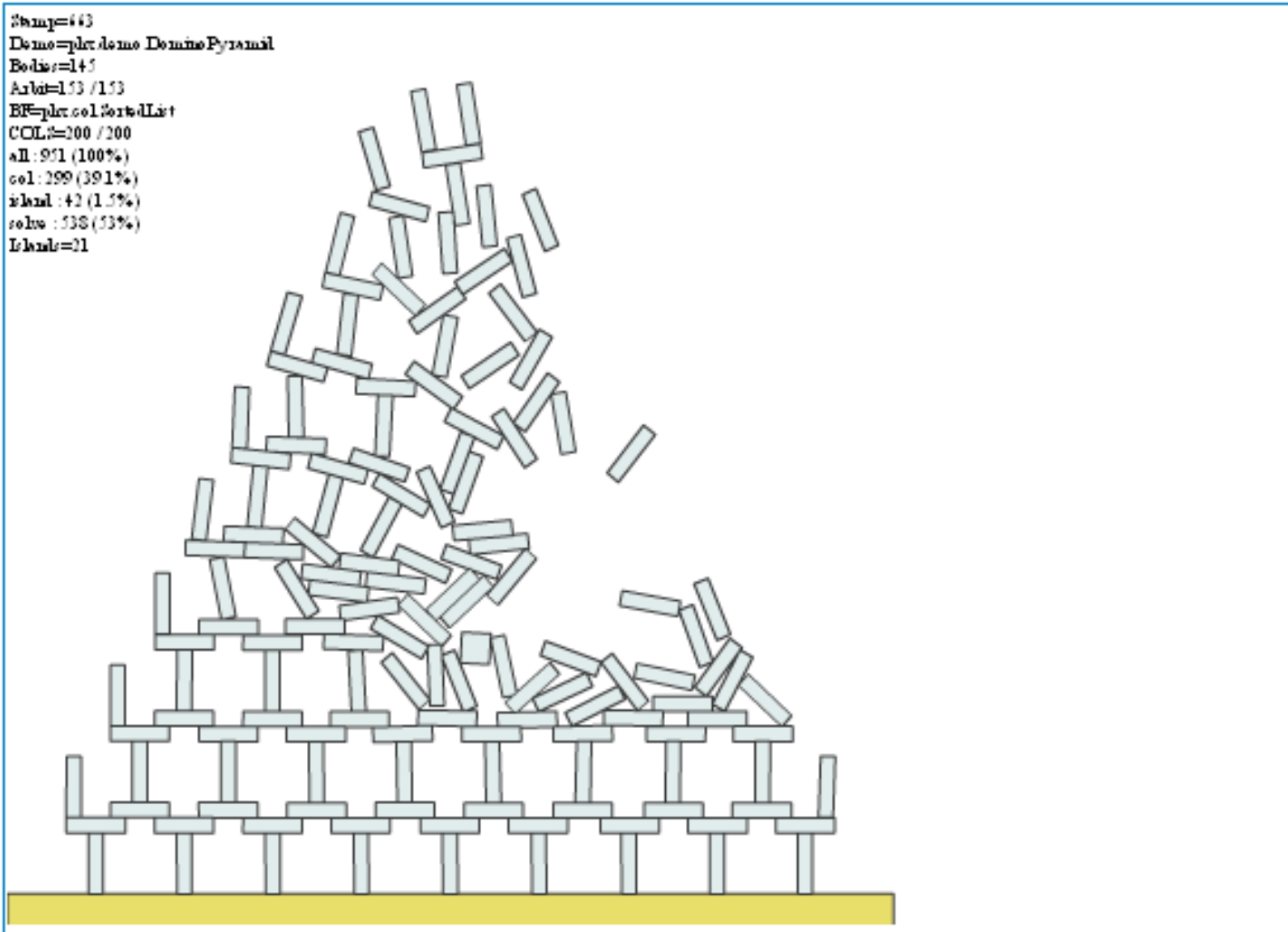
- haXe Standard Library :
 - Array
 - Math
 - Date
 - Xml
 - Reflect / Type
 - ...
- Platform-specific Library
 - everything the platform can do

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
```



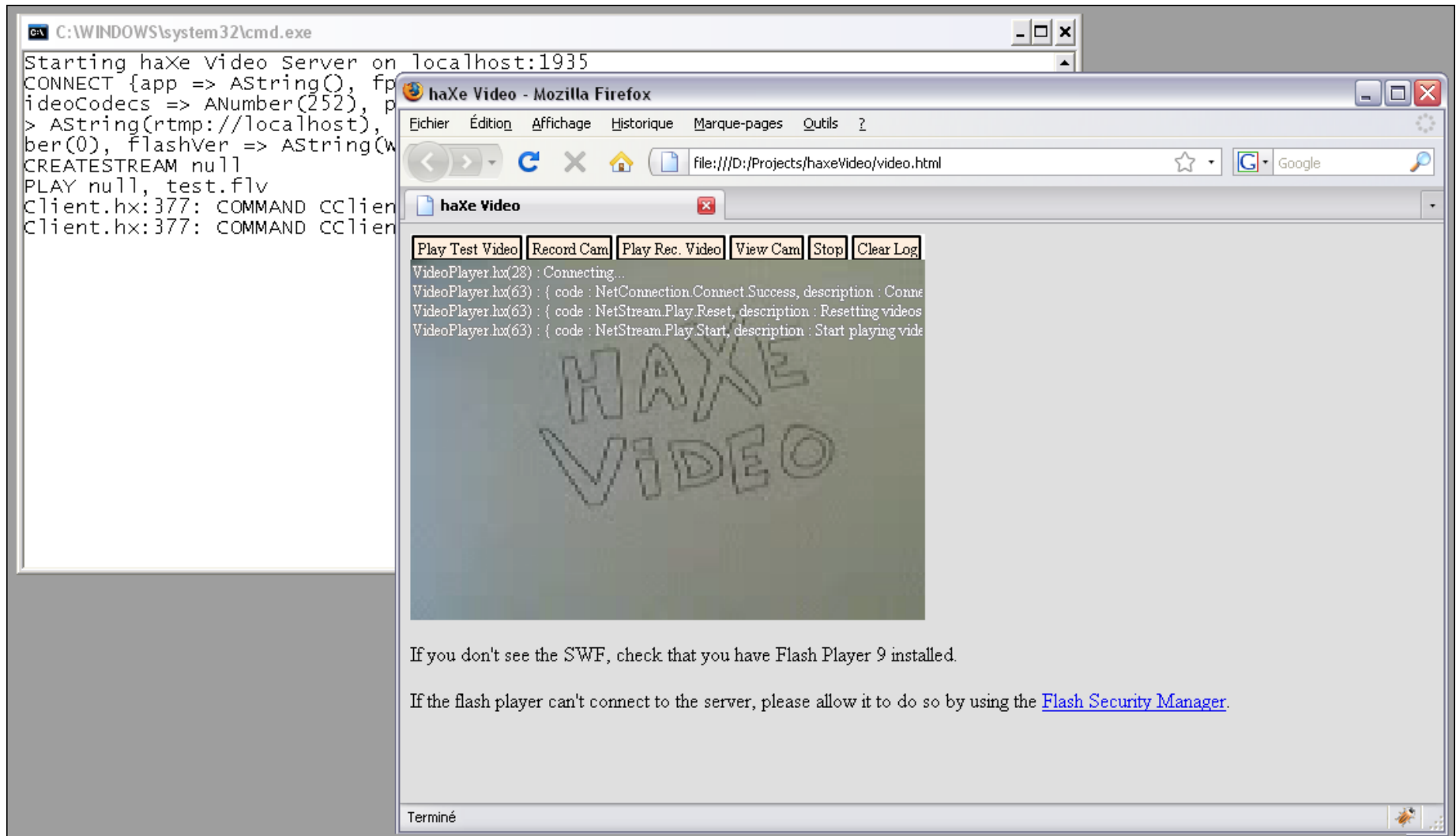
Works

DinoRPG.com

The screenshot displays the DinoRPG.com website interface. At the top center, the logo "DINO RPG" is prominently displayed. The main content area features a player profile for "NUNUCHE" located in "Dinoville". The profile includes a character illustration of a dinosaur-like creature, a level indicator of 10, and various status bars for HP, MP, and XP. The interface is divided into several sections: "INFORMATIONS" showing resources like gold (0), gems (0), and other items (5, 6, 0); "STATUTS" with a red cross icon; "EQUIPEMENT DE COMBAT" with a grid for equipment; and "MISSIONS EN COURS". A sidebar on the left contains navigation buttons such as "OBTENIR DE L'OR", "BOUTIQUE", and "ACHETER UN DINOZ !", along with a list of nearby players like "NUNUCHE" and "REDRED". A right sidebar provides links for "NOUVEAUTÉS", "CLASSEMENT", "CLANS", "MESSAGERIE", "INGRÉDIENTS", "MON COMPTE", "FORUM", and "DÉCONNEXION", along with a "7 AIDE DU JEU" button and a connection status of "11:32 1379 connectés". At the bottom, a map view shows the location of "Dinoville" in a lush, green landscape with a river and trees.

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