DaThox

2004-2009

„Pure logic is the ruin of the spirit."

— **Antoine de Saint-Exupéry** (1900-1944)

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Part I

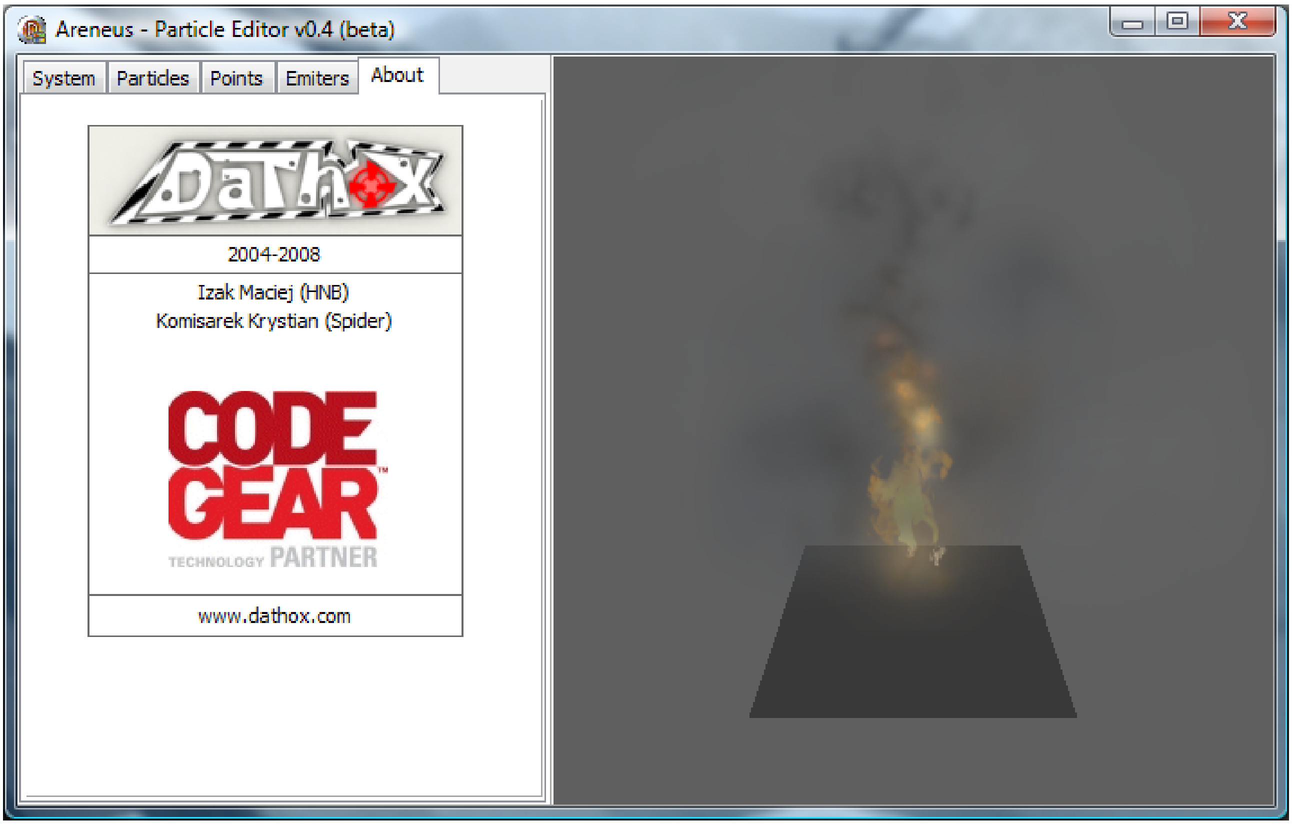
Best Tools & CODE

Areneus

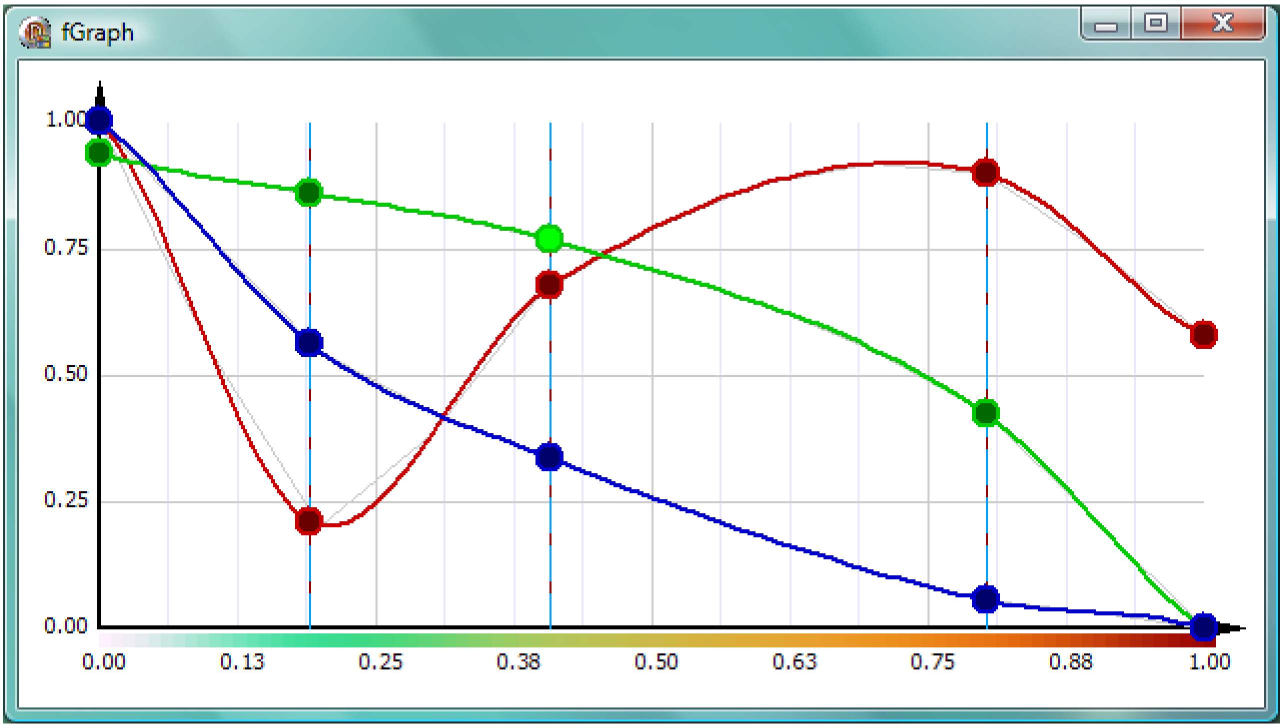
Particle Editor

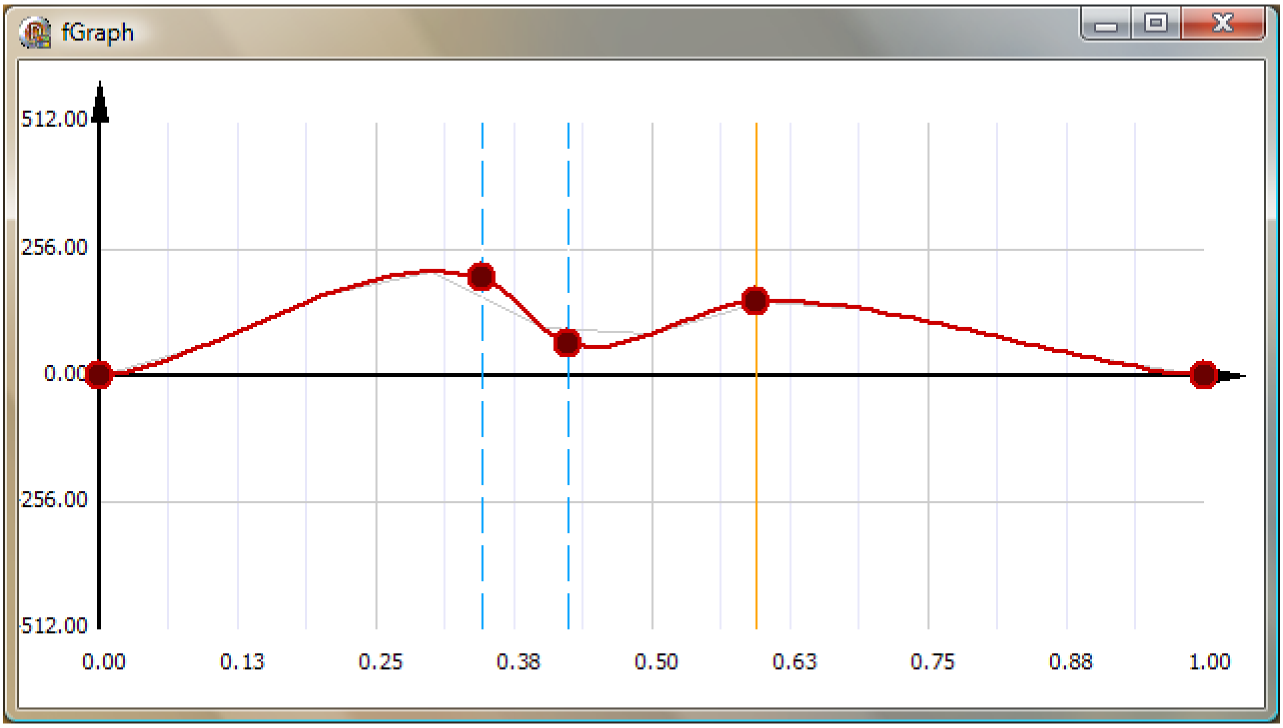
It allows creating a various effects for computer games such as fire, rain, explosions etc. We wanted to make editor very comprehensive. Creating effects is possible from the code's level and by the editor's help as well (we wanted to make it as easy as possible).

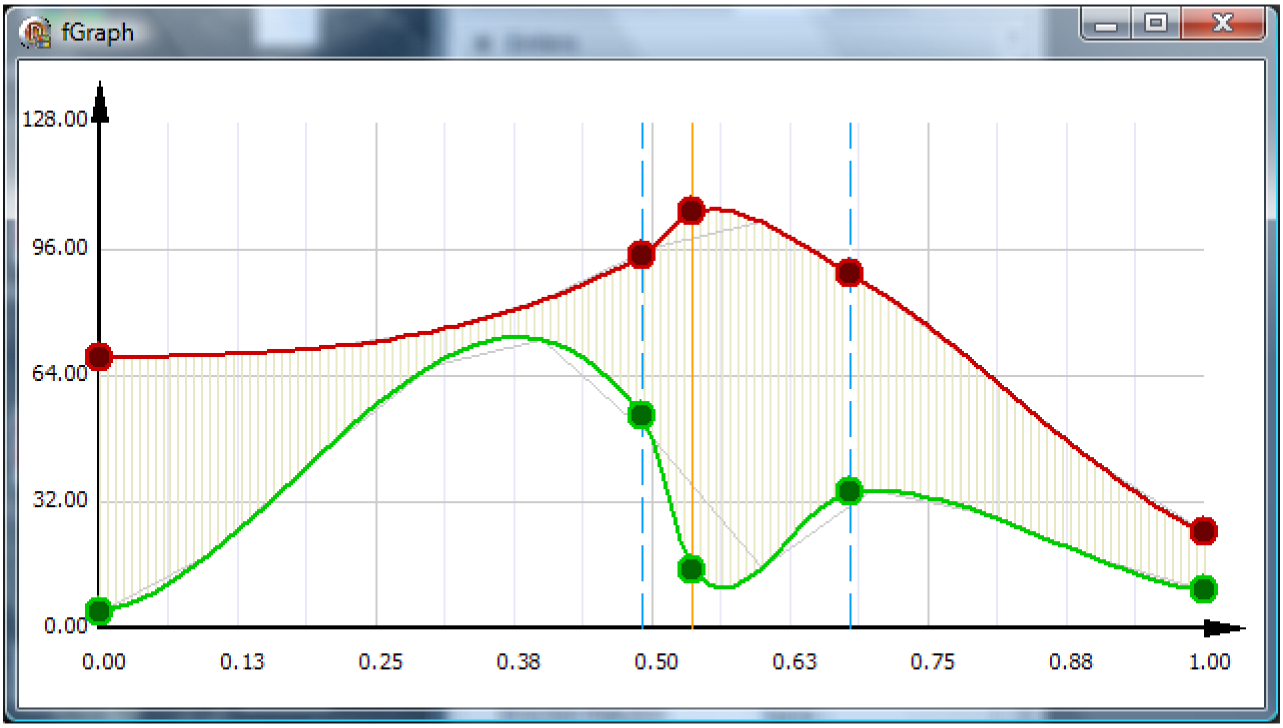
Systems created in game can be easily exported or imported in program. In addition every "point" or "emiter" has it's own GUID. Thanks to this elements created once can be used multiple times.



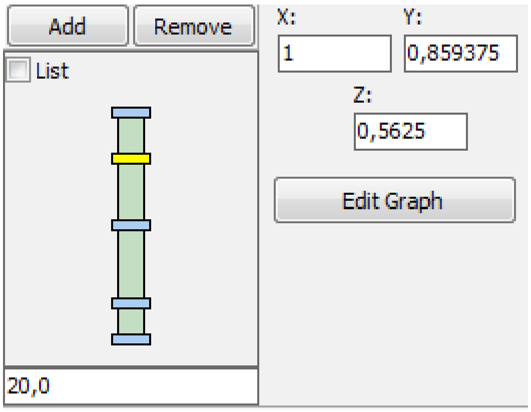
Also editor allows to create few components that will make editing of graphs much easier (this is due to fact that "Areneus" is created in "Turbo Delphi" and components were converted to "Frames"). Thanks to the components presented below, editing such attributes like changing colour over time, size or rotation is very easy.







There is also a different component, written as an alternative for graphs (his destination aren't graphs only - it also allows to attach every list, where percentage composition is located on TList).



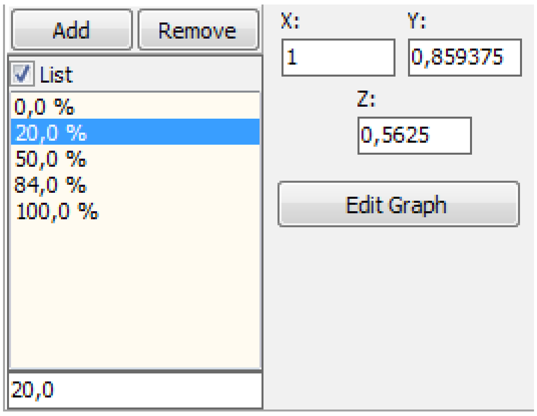
□ List

X: 1

Y: 0,859375

Z: 0,5625

20,0



☑ List

0,0 %
20,0 %
50,0 %
84,0 %
100,0 %

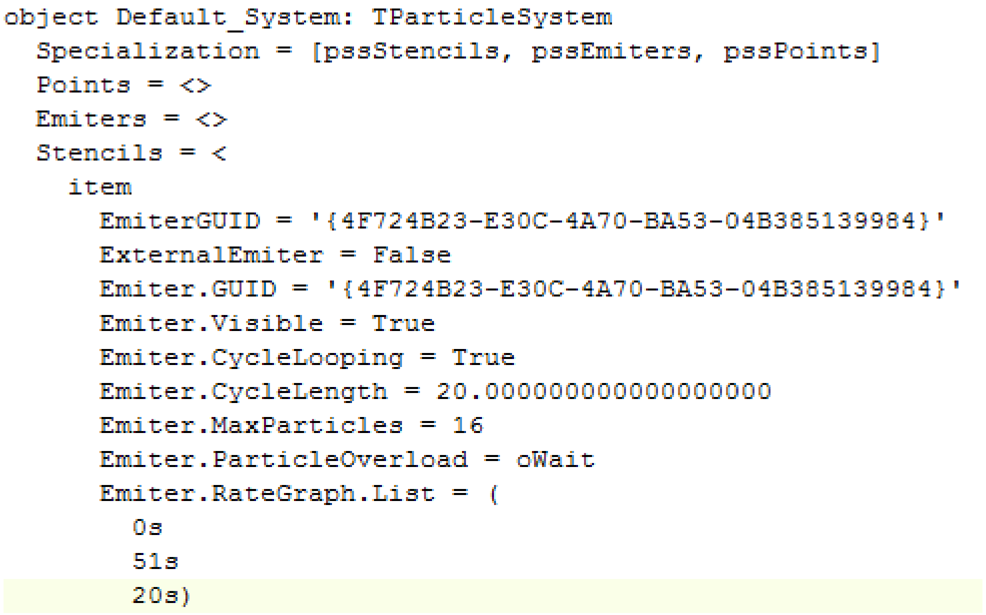
X: 1

Y: 0,859375

Z: 0,5625

20,0

Editor is using a serialization of classes in Delphi as main method of saving system's particles to file (known view from *.dfm files), which allows modifications without using editor.



```
object Default_System: TParticleSystem
  Specialization = [pssStencils, pssEmiters, pssPoints]
  Points = <>
  Emiters = <>
  Stencils = <
    item
      EmiterGUID = '{4F724B23-E30C-4A70-BA53-04B385139984}'
      ExternalEmiter = False
      Emiter.GUID = '{4F724B23-E30C-4A70-BA53-04B385139984}'
      Emiter.Visible = True
      Emiter.CycleLooping = True
      Emiter.CycleLength = 20.000000000000000000
      Emiter.MaxParticles = 16
      Emiter.ParticleOverload = oWait
      Emiter.RateGraph.List = (
        0s
        51s
        20s)
```

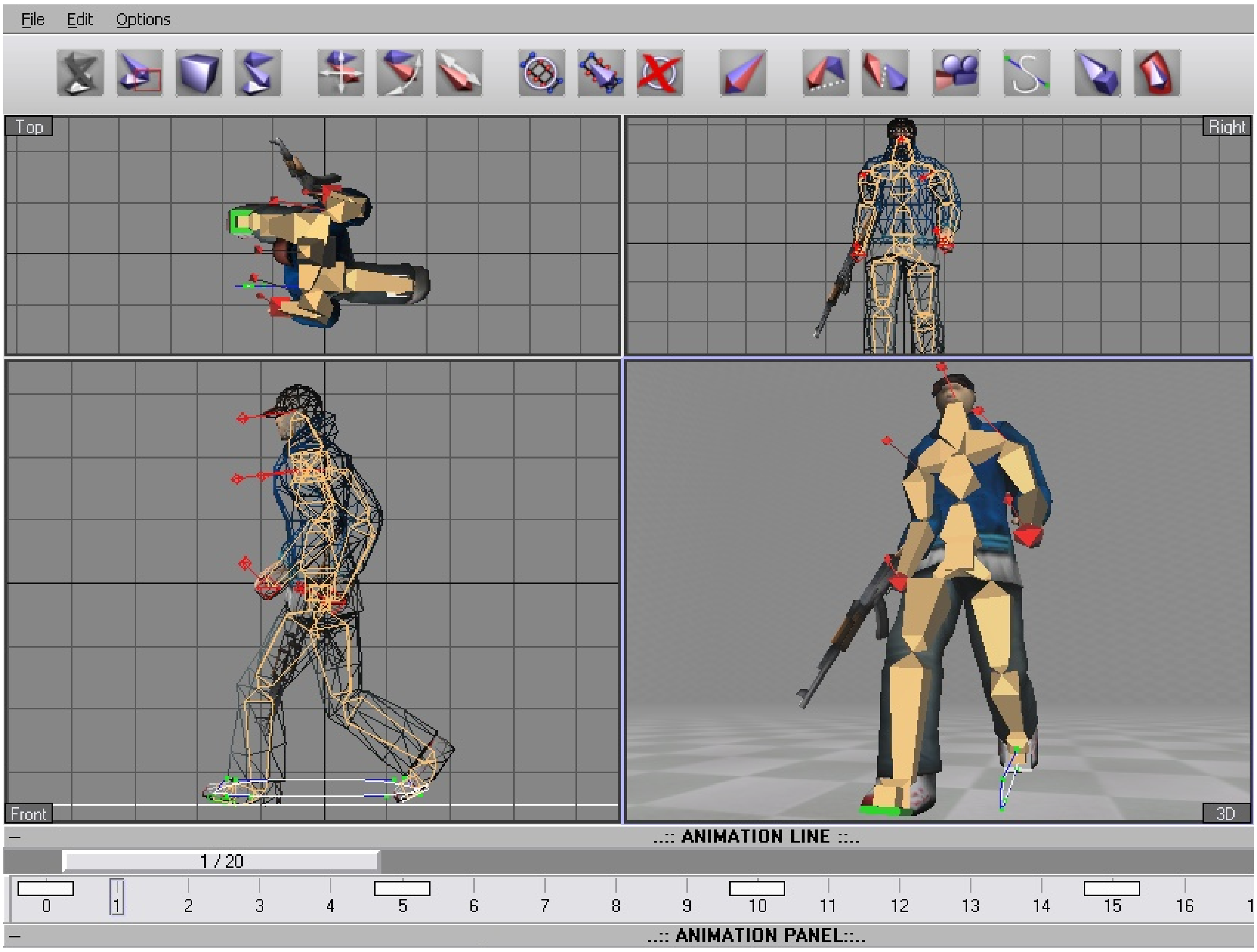
LongLeg

Editor for animations of the 3D characters

Fully functional application for 3D mesh animations.

Main features:

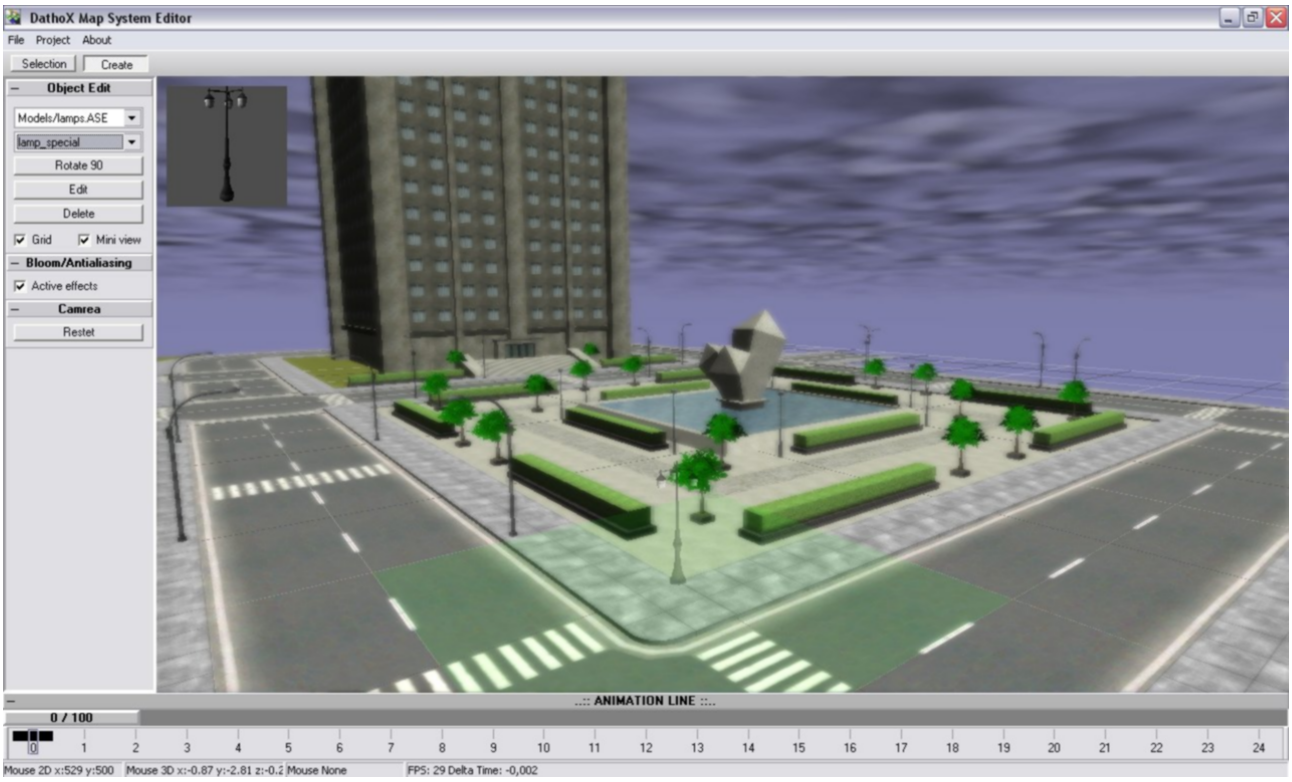
- bones animation
- bones connected inverse kinematics
- mesh skinning
- mesh stretching
- key frames interpolation
- interpolation of independent animations in every time
- interaction of bones in a separated skeletons
- comfortable interface
- easy to use



Map System

City Editor

Editor for maps, used in one of the demo applications (structure of city's mesh and not only)



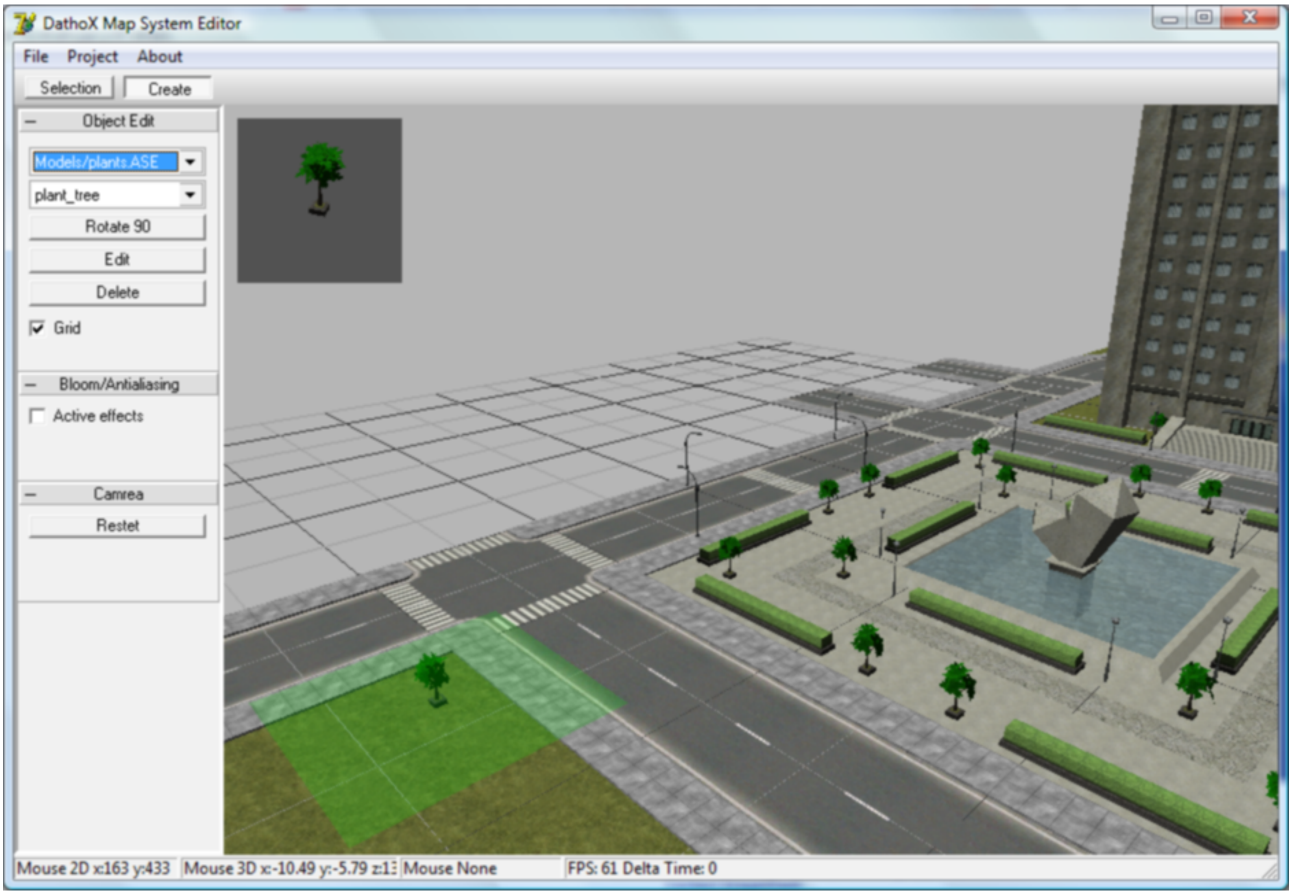
Models/lamps.ASE

lamp_special

☑ Grid ☑ Mini view

☑ Active effects

Mouse 2D x:529 y:500 | Mouse 3D x:-0.87 y:-2.81 z:-0.2 | Mouse None | FPS: 29 Delta Time: -0,002



Models/plants.ASE

plant_tree

☑ Grid

☐ Active effects

Mouse 2D x:163 y:433 | Mouse 3D x:-10.49 y:-5.79 z:1 | Mouse None | FPS: 61 Delta Time: 0

DaThoX 2D File

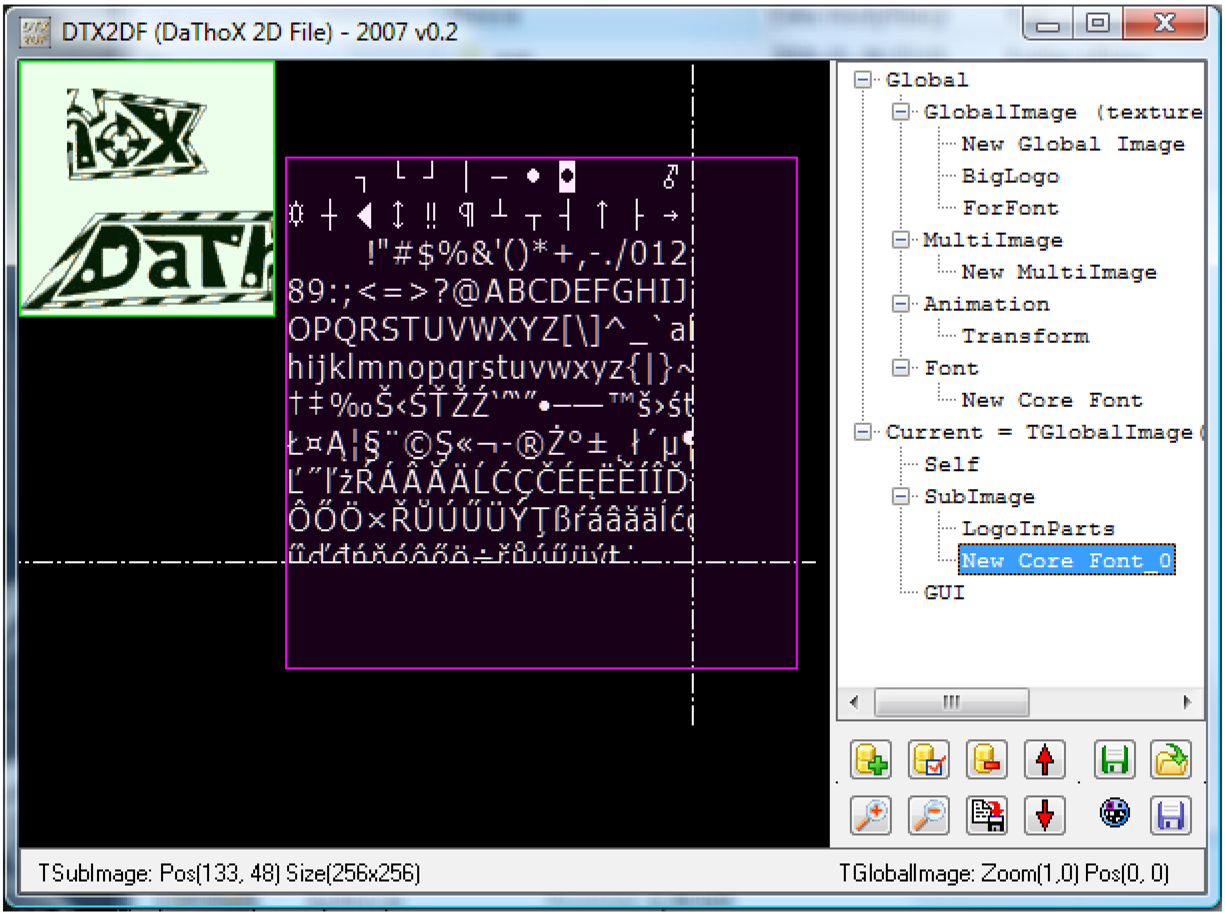
File Format & Editor

Editor of our own 2D graphic format, built for 3D engine use.

Allows to create and storage:

- Fonts
- GUI elements
- Animation
- Rotation
- Multipics

It also allows exporting format to XML file and PNG.



DTX2DF (DaThoX 2D File) - 2007 v0.2

```
Global
    GlobalImage (texture
        New Global Image
        BigLogo
        ForFont
    MultiImage
        New MultiImage
    Animation
        Transform
    Font
        New Core Font
Current = TGlobalImage(
    Self
    SubImage
        LogoInParts
        New Core Font_0
    GUI
```

TSubImage: Pos(133, 48) Size(256x256)

TGlobalImage: Zoom(1,0) Pos(0, 0)

Our resources

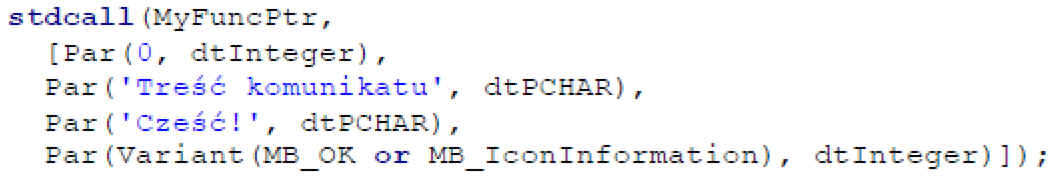
Simply, the code

It is a collection from the few years of coding, lectures of different books and our own innvations as well. Our engine contains the following elements such as:

- Physics 2D/3D
- 3D graphics engine
- 2D graphics engine
- expanded mathematics

Some of our resources are shared with community (for example: mathematics, part of physics and virtual files system).

Besided the gamedev we are also interested in scrypt languages/compilers (we have our own system of parshers) thanks to this you can find in our engine different useful systems. For example: support of the external code from program/DLL libraries to scrypt languages (something like ObjAuto but also for functions, not only for methods compiled with $METHODINFO).



```
stdcall(MyFuncPtr,
  [Par(0, dtInteger),
  Par('Treść komunikatu', dtPCHAR),
  Par('Cześć!', dtPCHAR),
  Par(Variant(MB_OK or MB_IconInformation), dtInteger)]);
```

We are doing all those things just for better game programming! In the end, games match many types of programming.

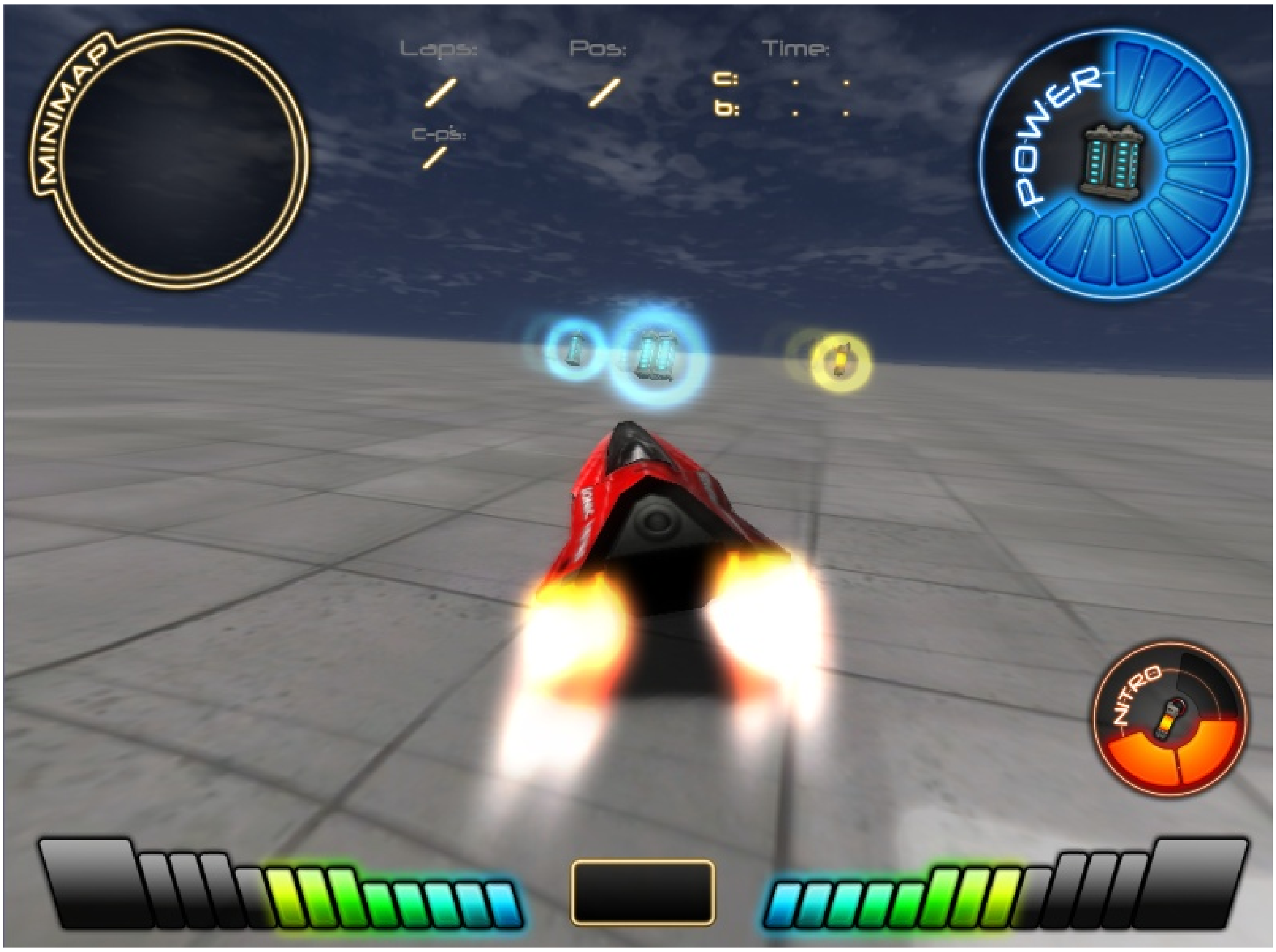
Part II

Demo

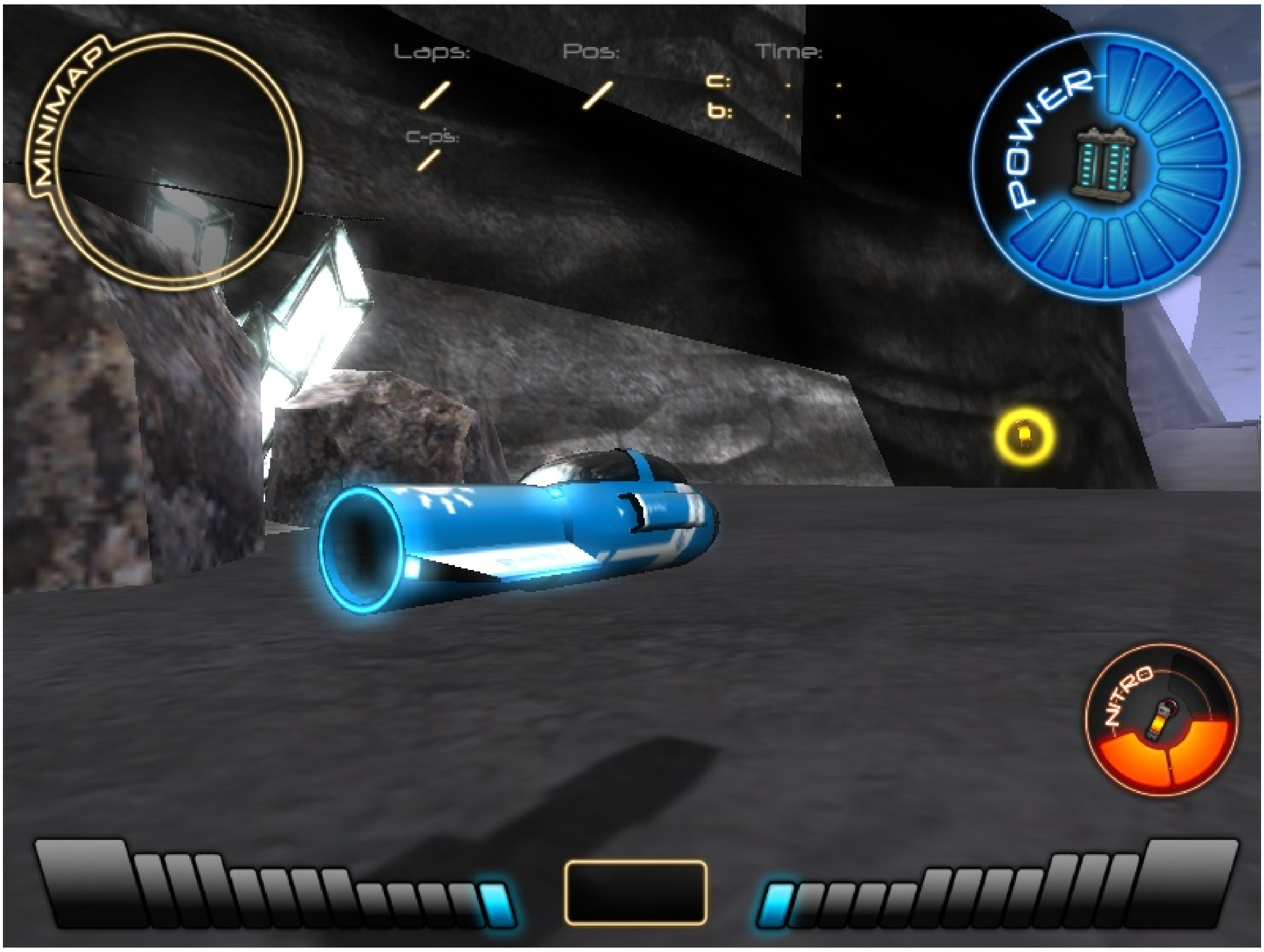
DaThoX

Delphi Game Development

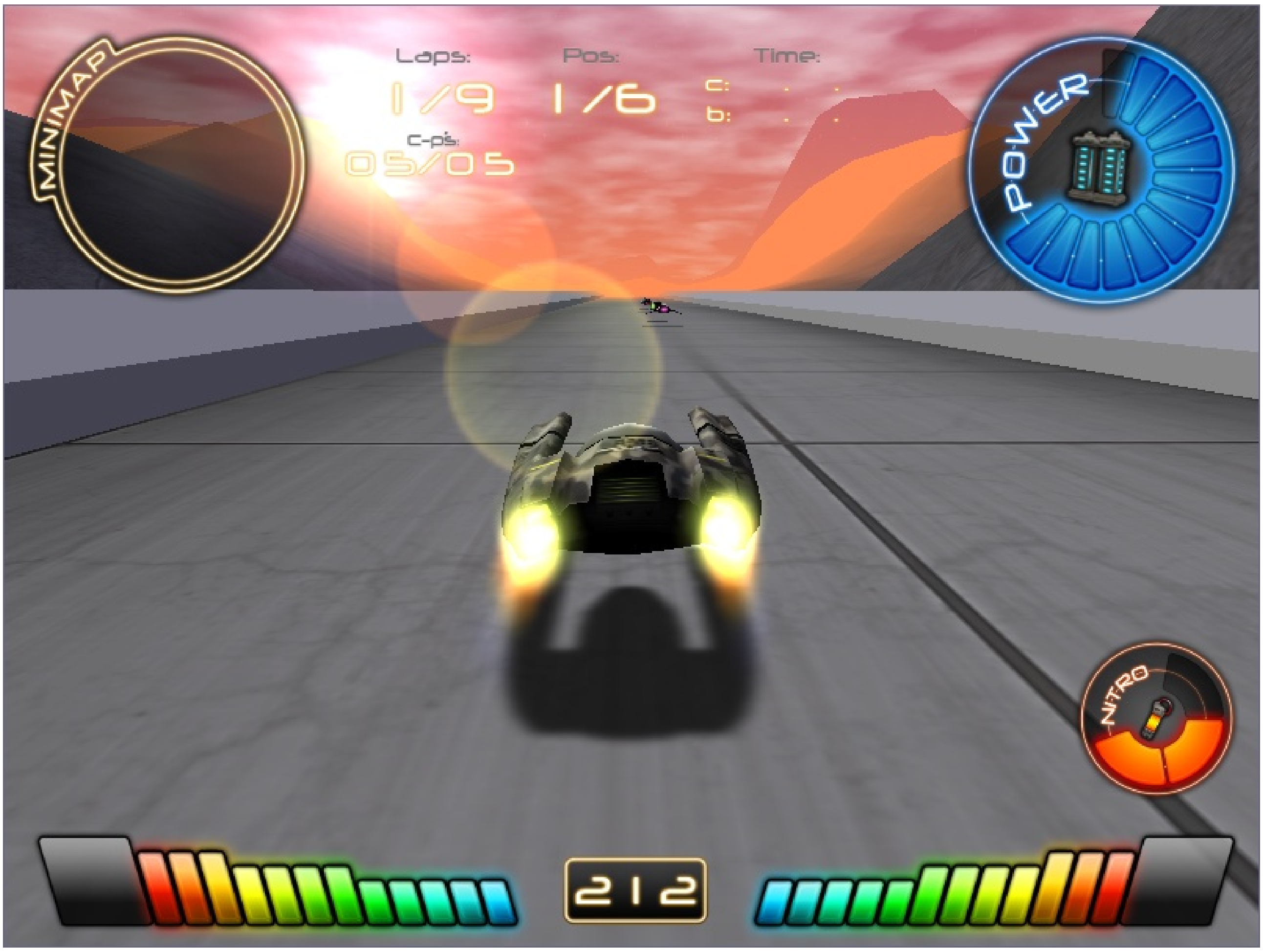
The following pages are showing screenshots from our demonstrations and games presenting how physics and graphics would work. They show features of our engine. First three are presenting our current game we are working on. Have a nice watching!



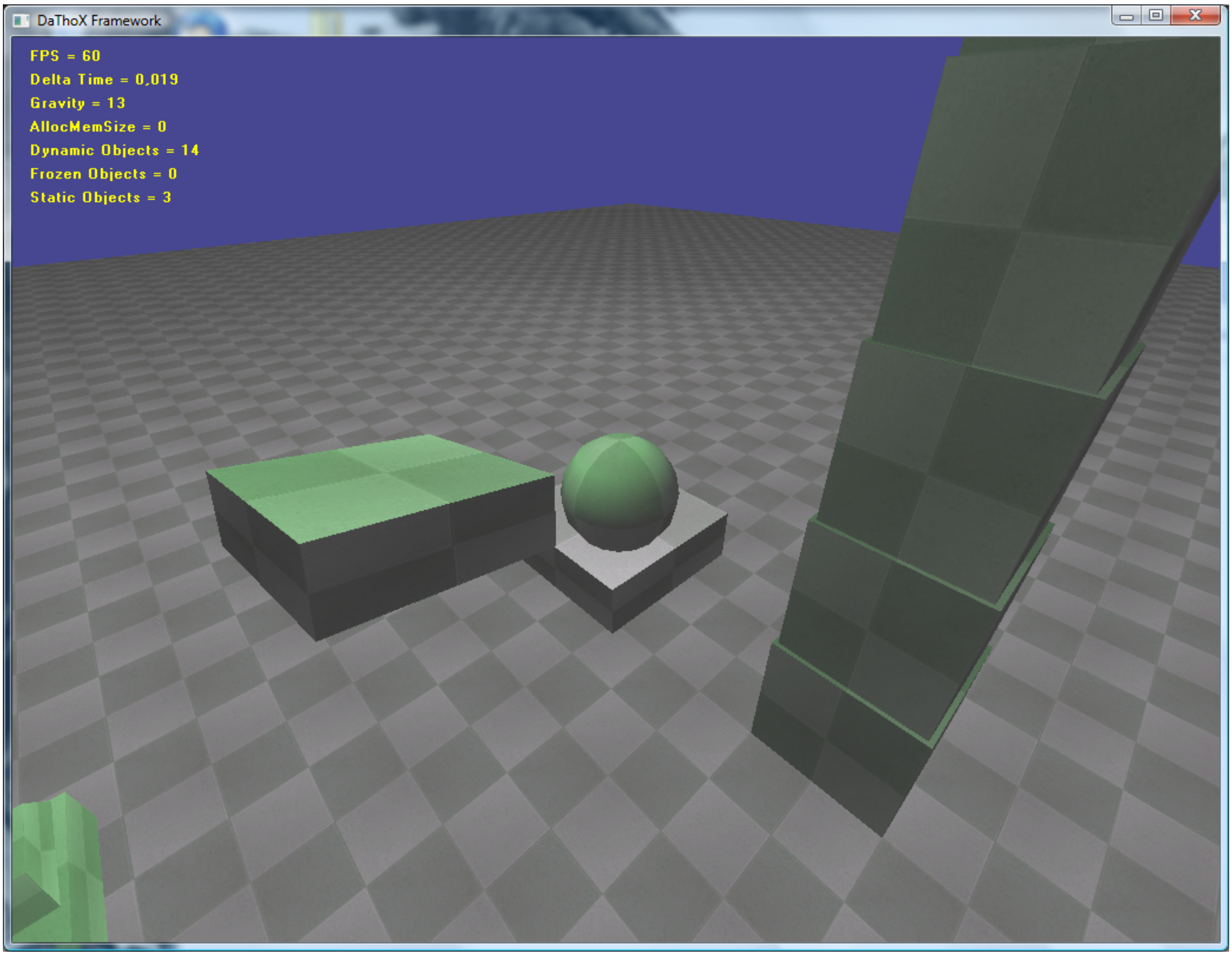
Duel The Final pic. 1



Duel The Final pic. 2

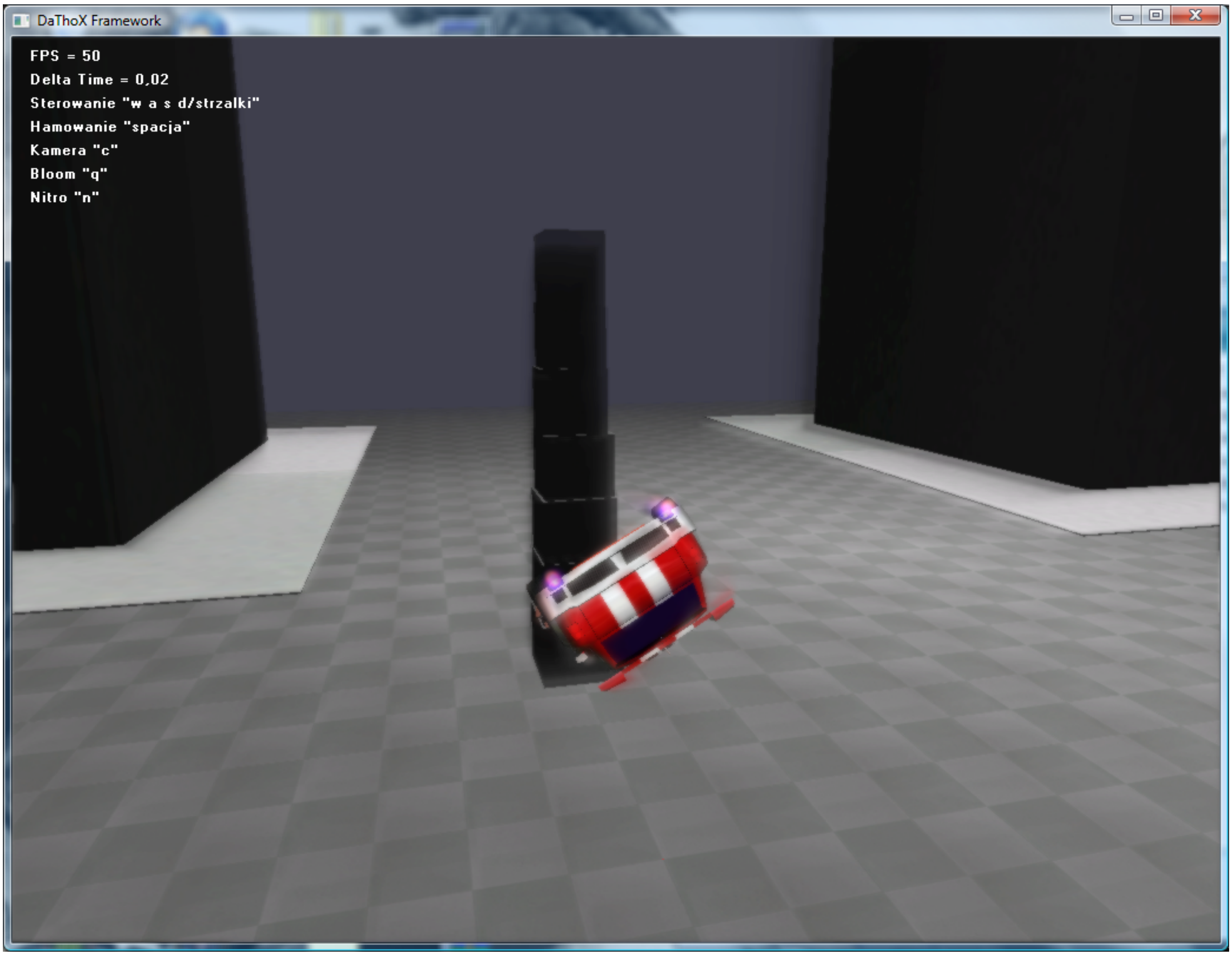


Duel The Final pic. 3



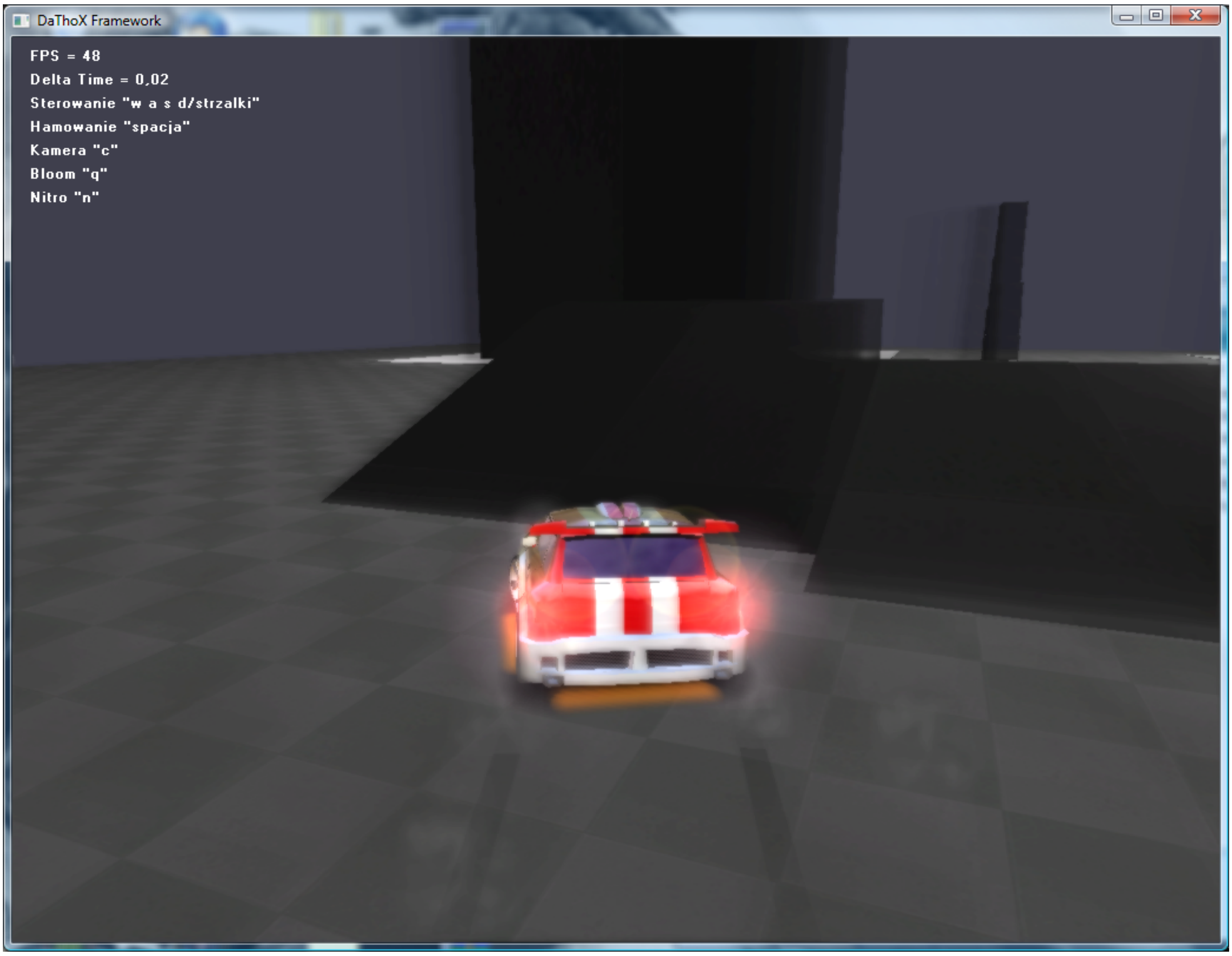
```
FPS = 60
Delta Time = 0,019
Gravity = 13
AllocMemSize = 0
Dynamic Objects = 14
Frozen Objects = 0
Static Objects = 3
```

Phylum 3D



```
FPS = 50
Delta Time = 0,02
Sterowanie "w a s d/strzalki"
Hamowanie "spacja"
Kamera "c"
Bloom "q"
Nitro "n"
```

Car I Demo pic. 1



```
FPS = 48
Delta Time = 0,02
Sterowanie "w a s d/strzalki"
Hamowanie "spacja"
Kamera "c"
Bloom "q"
Nitro "n"
```

Car I Demo pic. 2

Car II Demo pic. 1

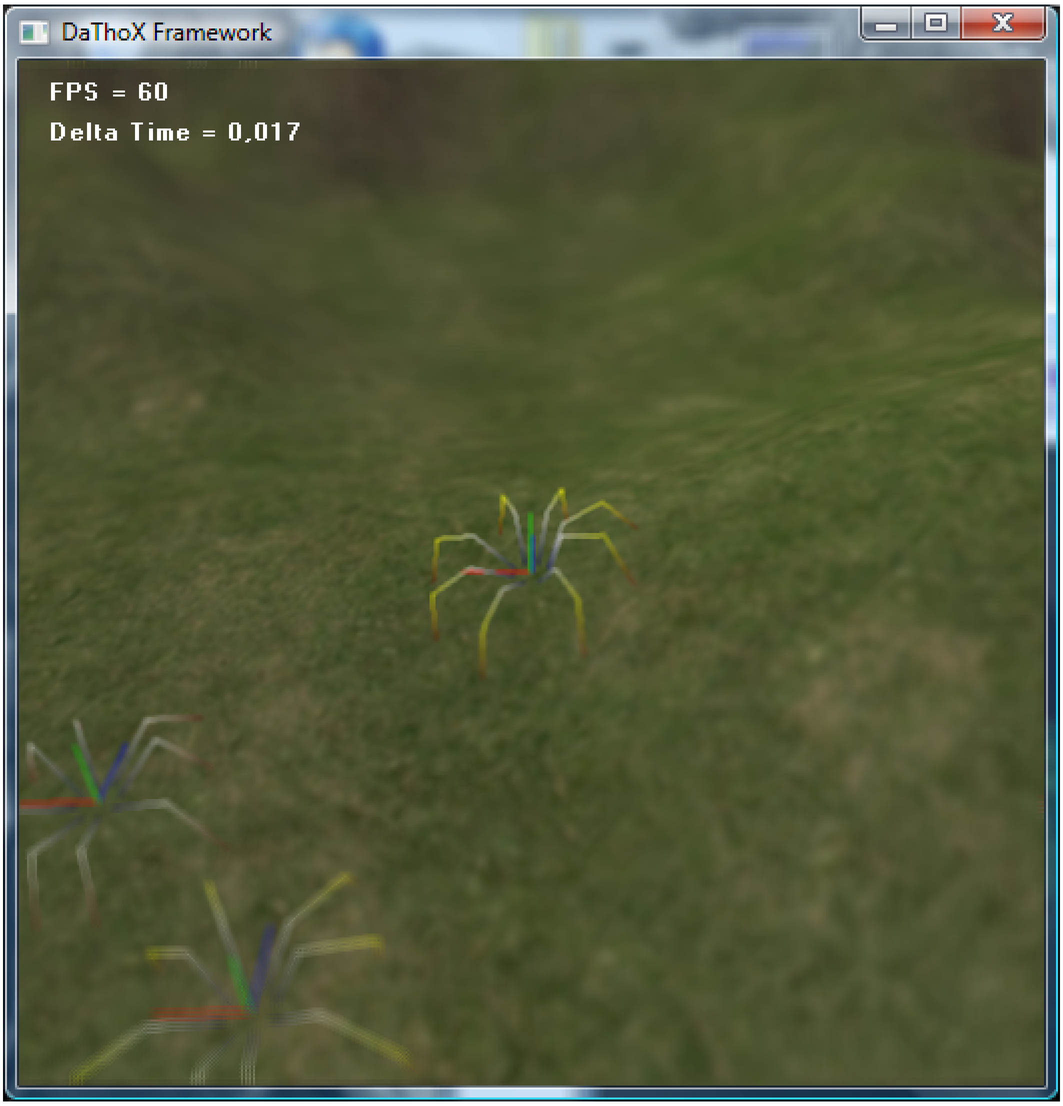
Car II Demo pic. 2

Car II Demo pic. 3

Car II Demo pic. 4

Car II Demo pic. 5

Car II Demo pic. 6

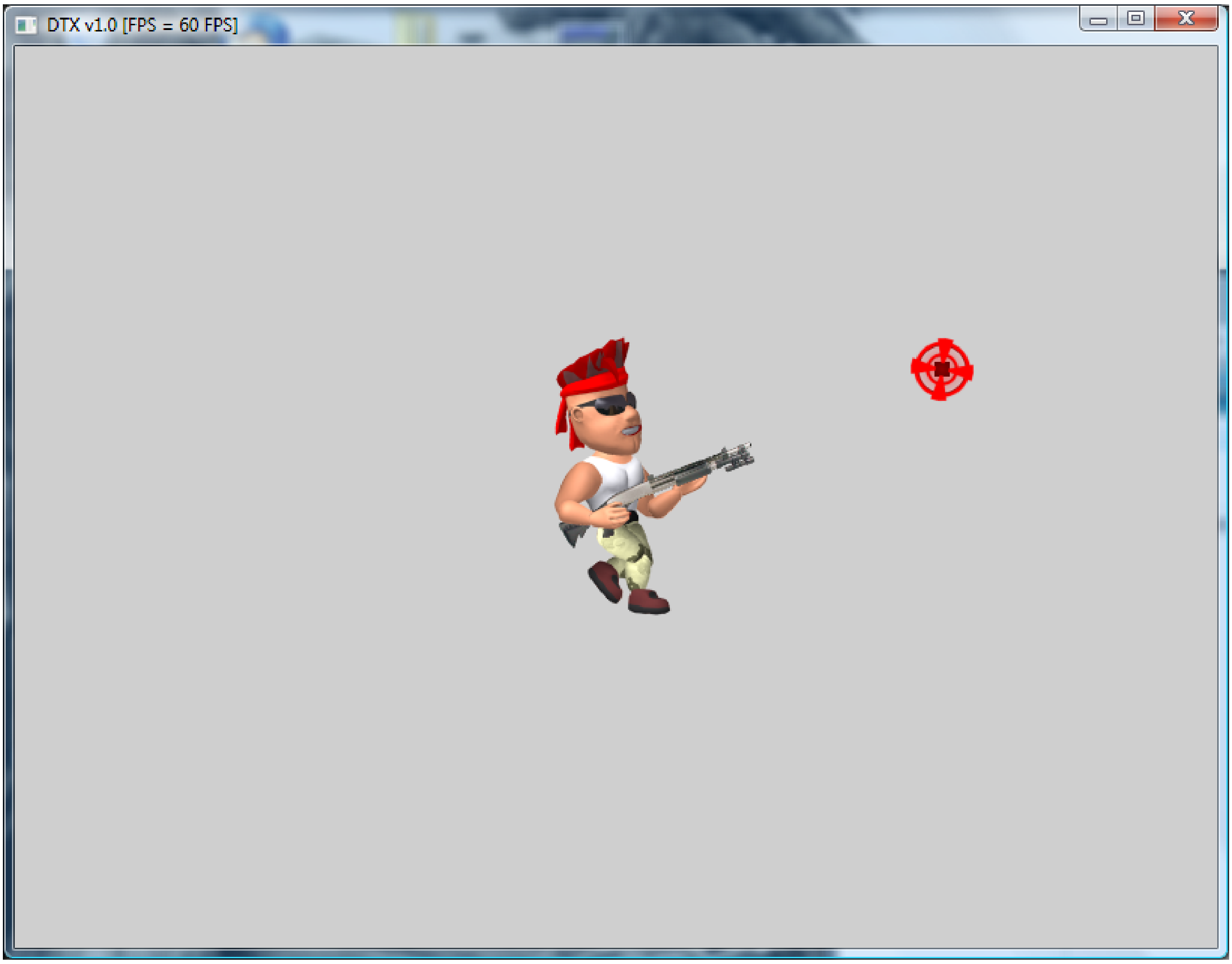


DaThoX Framework

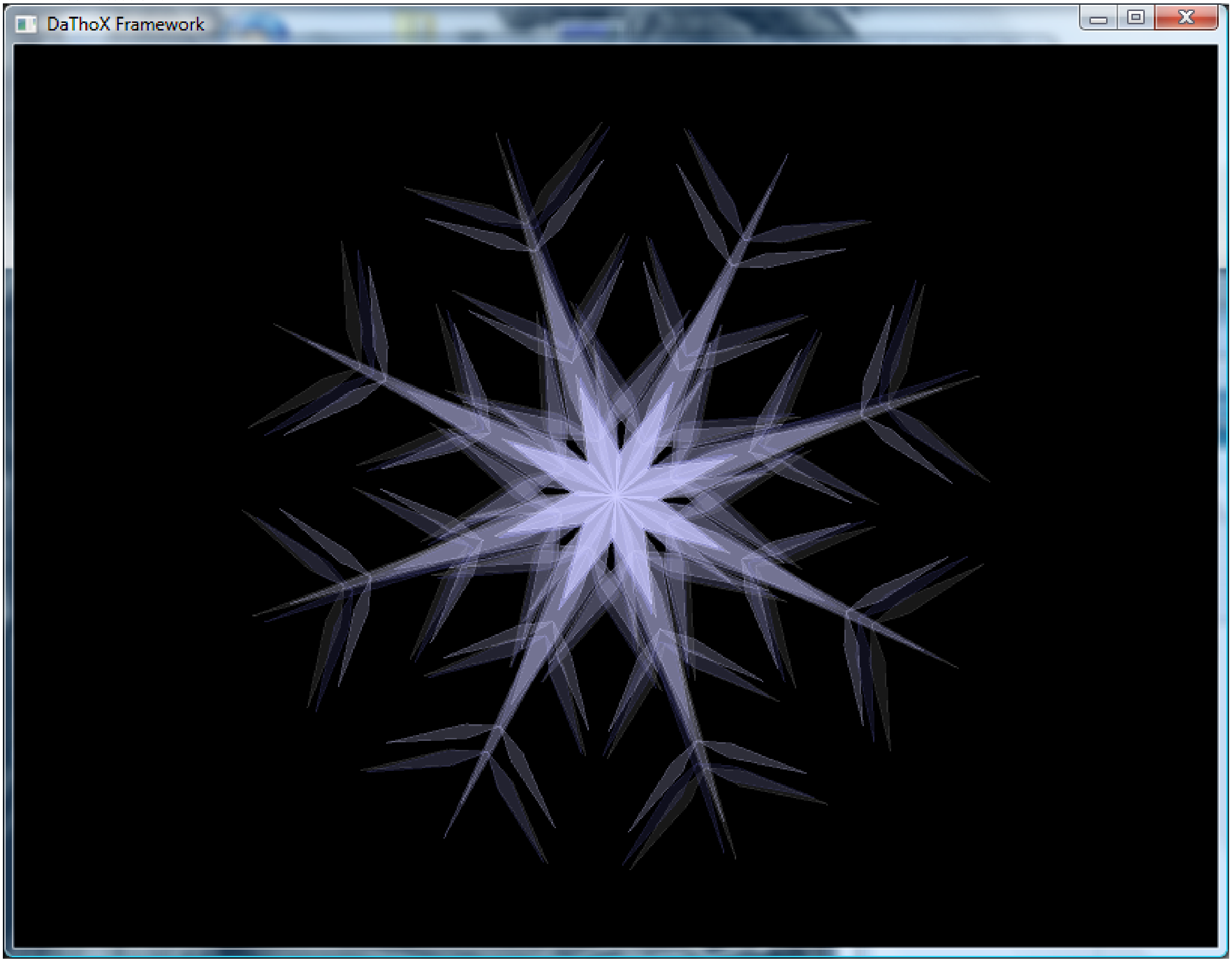
FPS = 60

Delta Time = 0,017

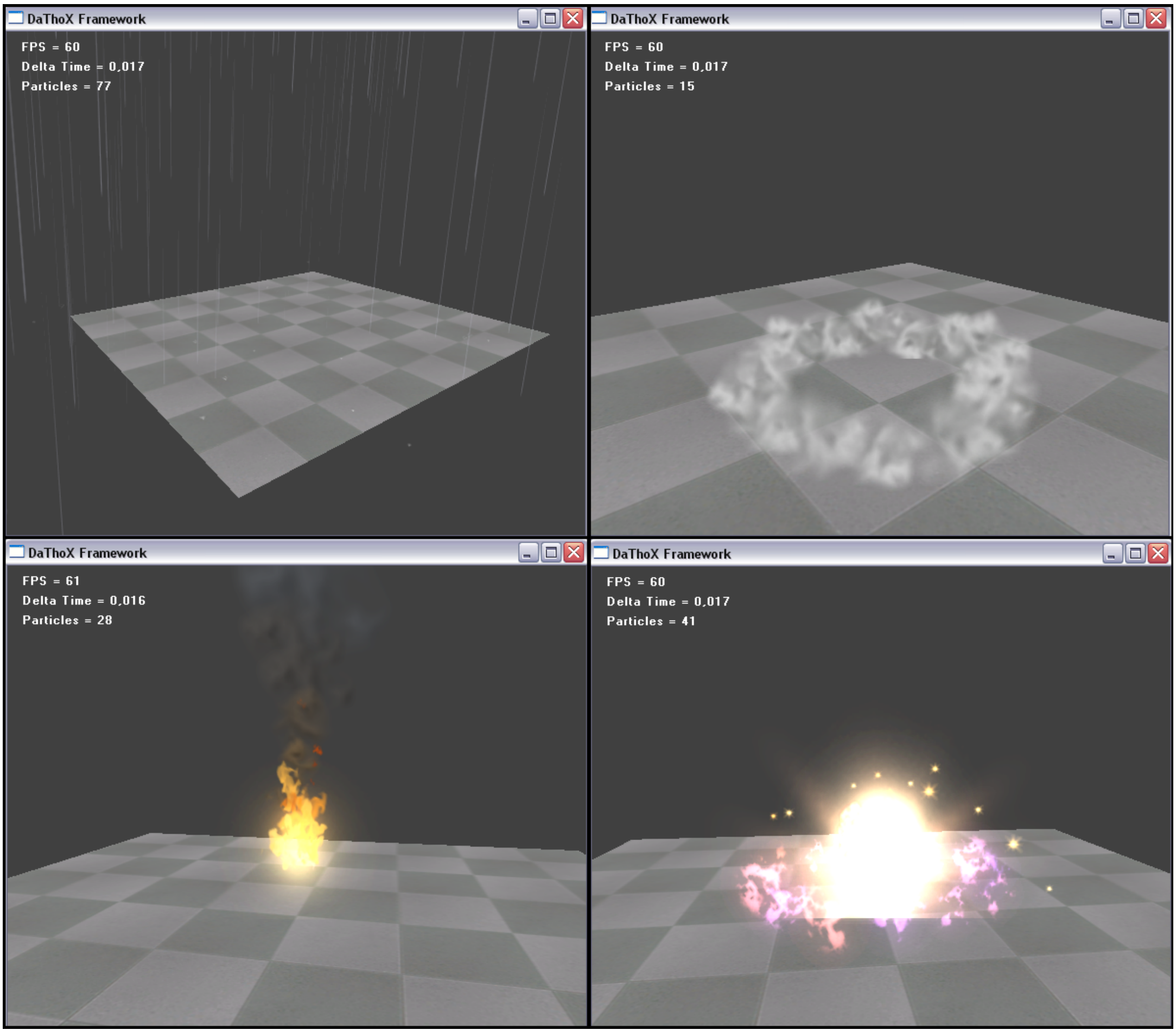
Spiders Terrain



IK Animation



Snowflake



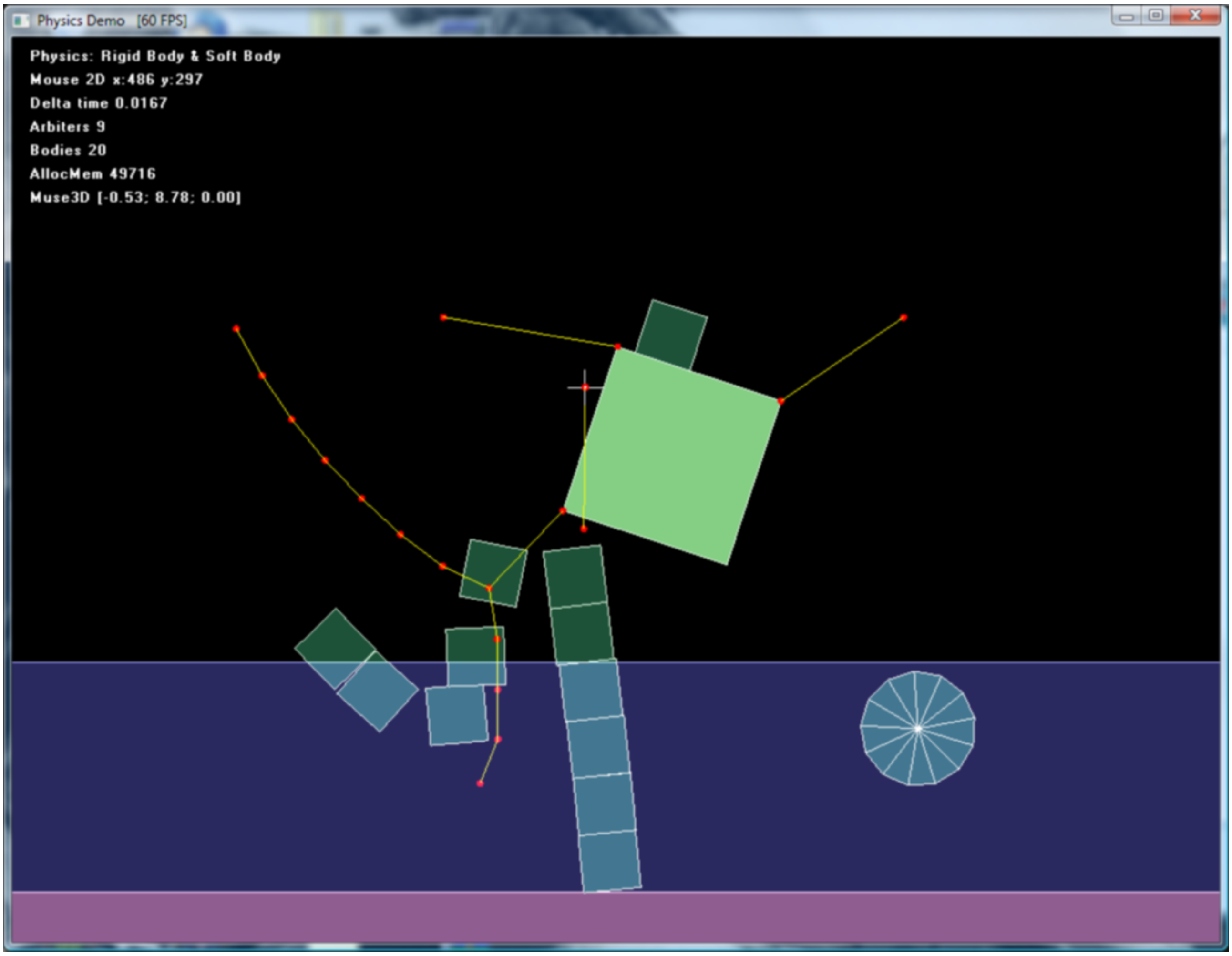
```
FPS = 60
Delta Time = 0,017
Particles = 77
```

```
FPS = 60
Delta Time = 0,017
Particles = 15
```

```
FPS = 61
Delta Time = 0,016
Particles = 28
```

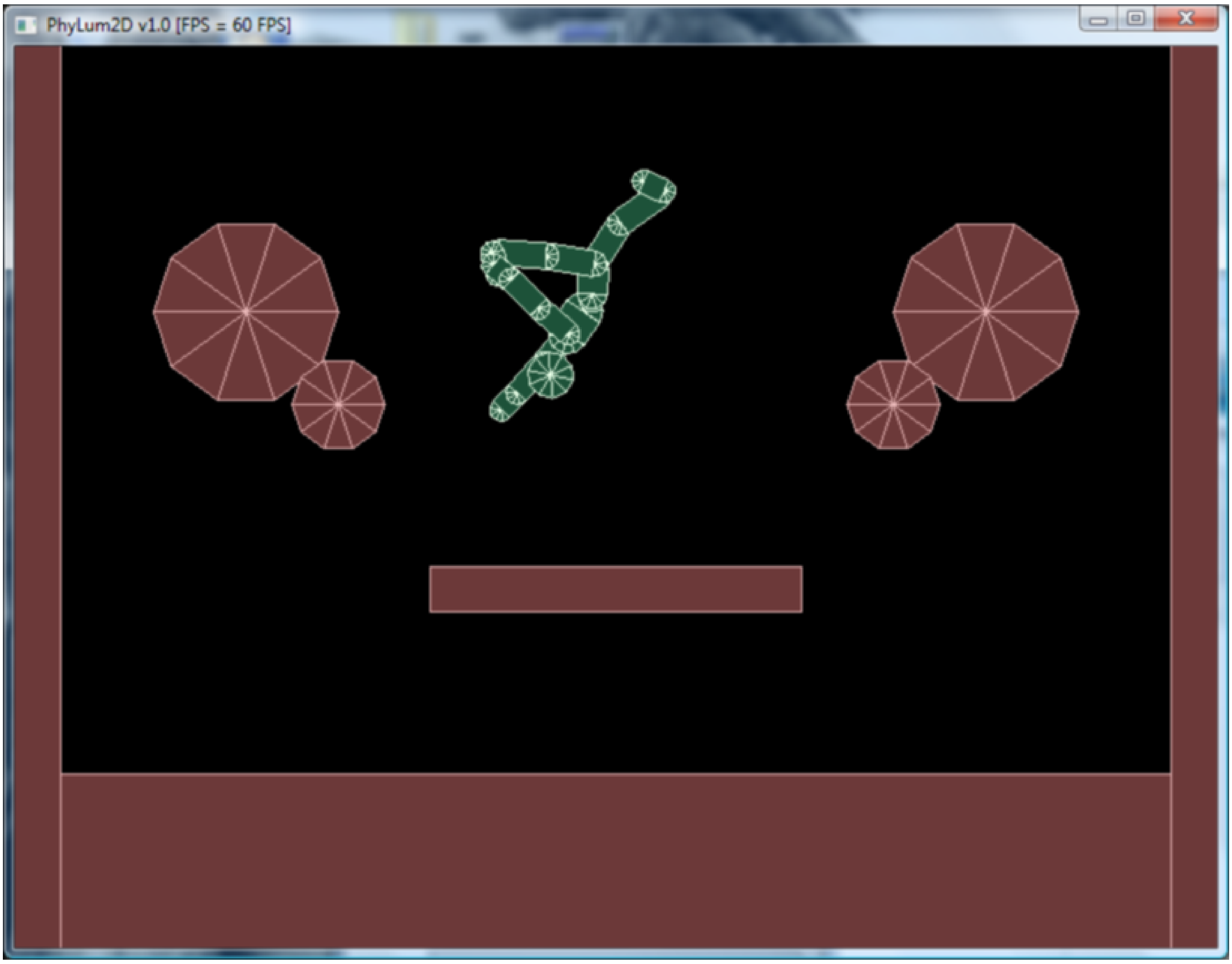
```
FPS = 60
Delta Time = 0,017
Particles = 41
```

Particle Demo

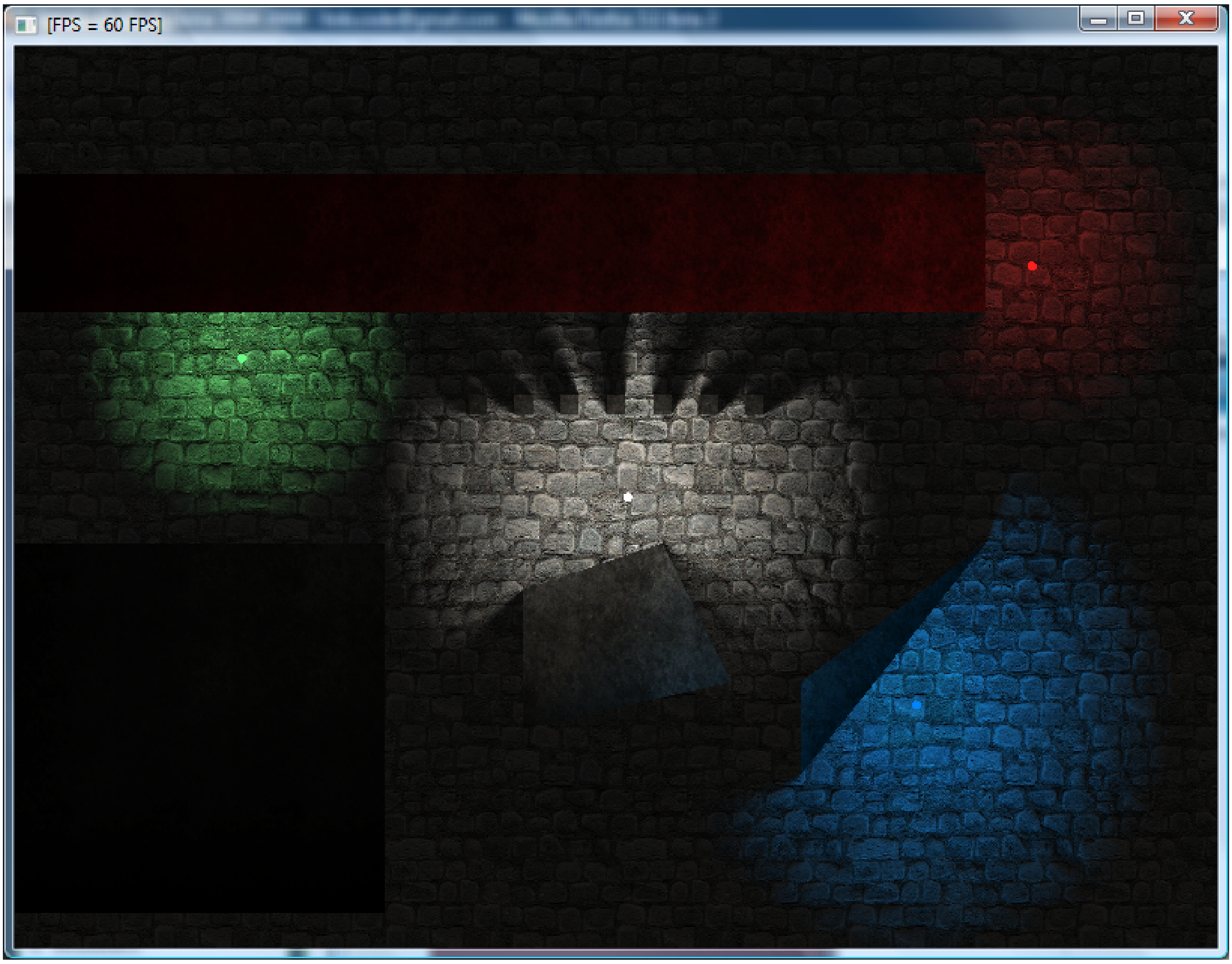


```
Physics: Rigid Body & Soft Body
Mouse 2D x:486 y:297
Delta time 0.0167
Arbiters 9
Bodies 20
AllocMem 49716
Muse3D [-0.53; 8.78; 0.00]
```

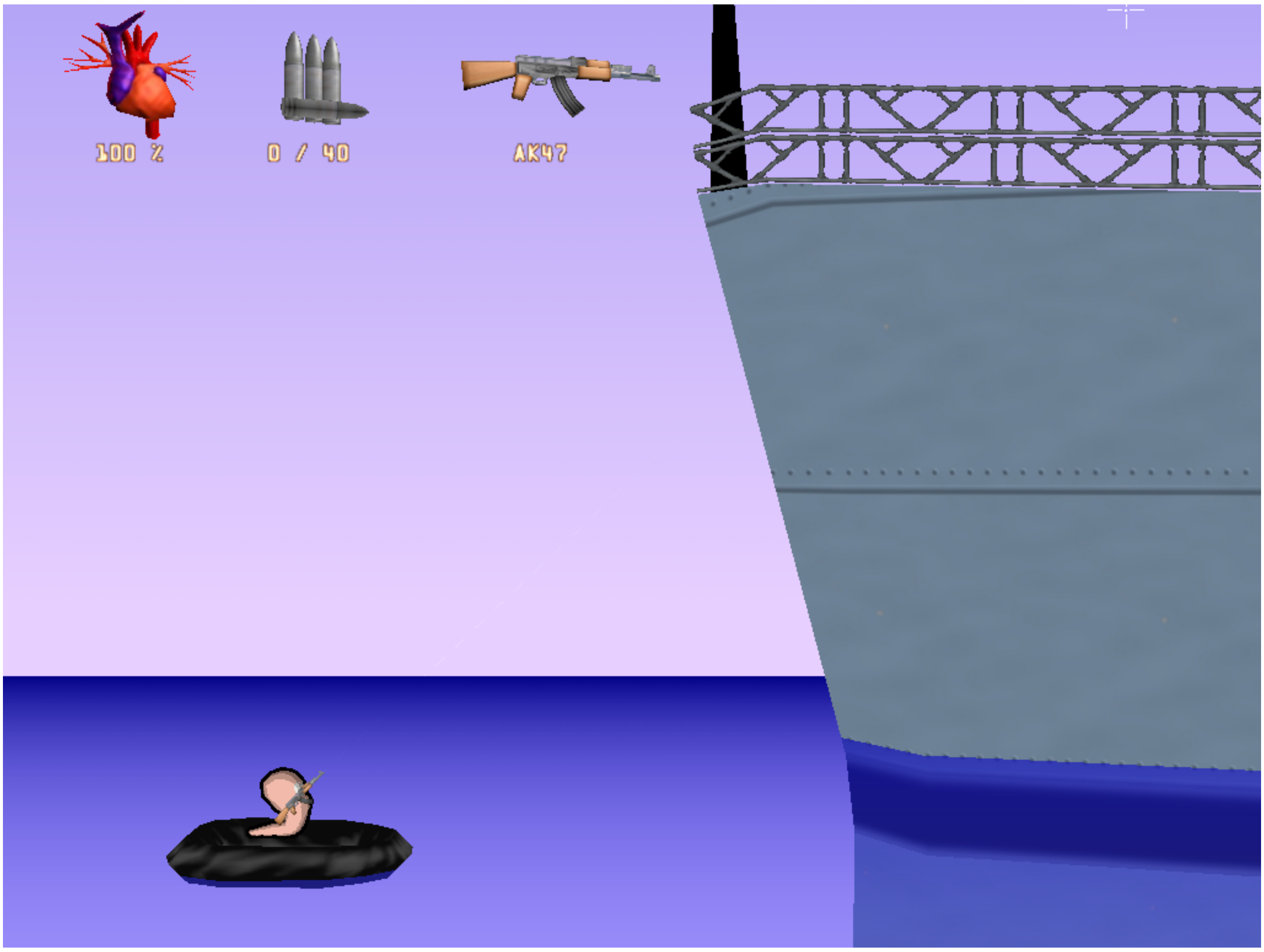
Phylum 2D



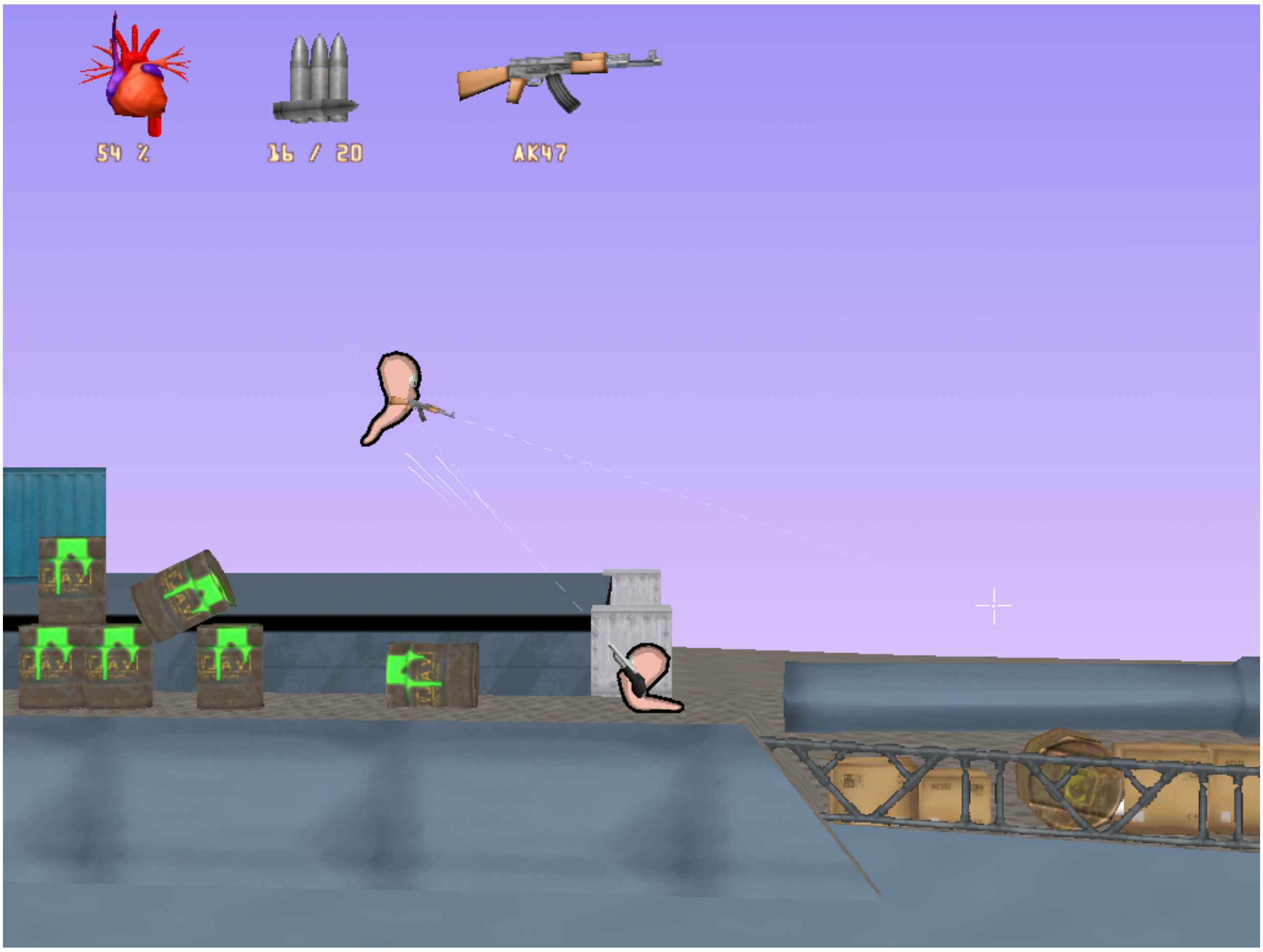
Phylum 2D rag doll



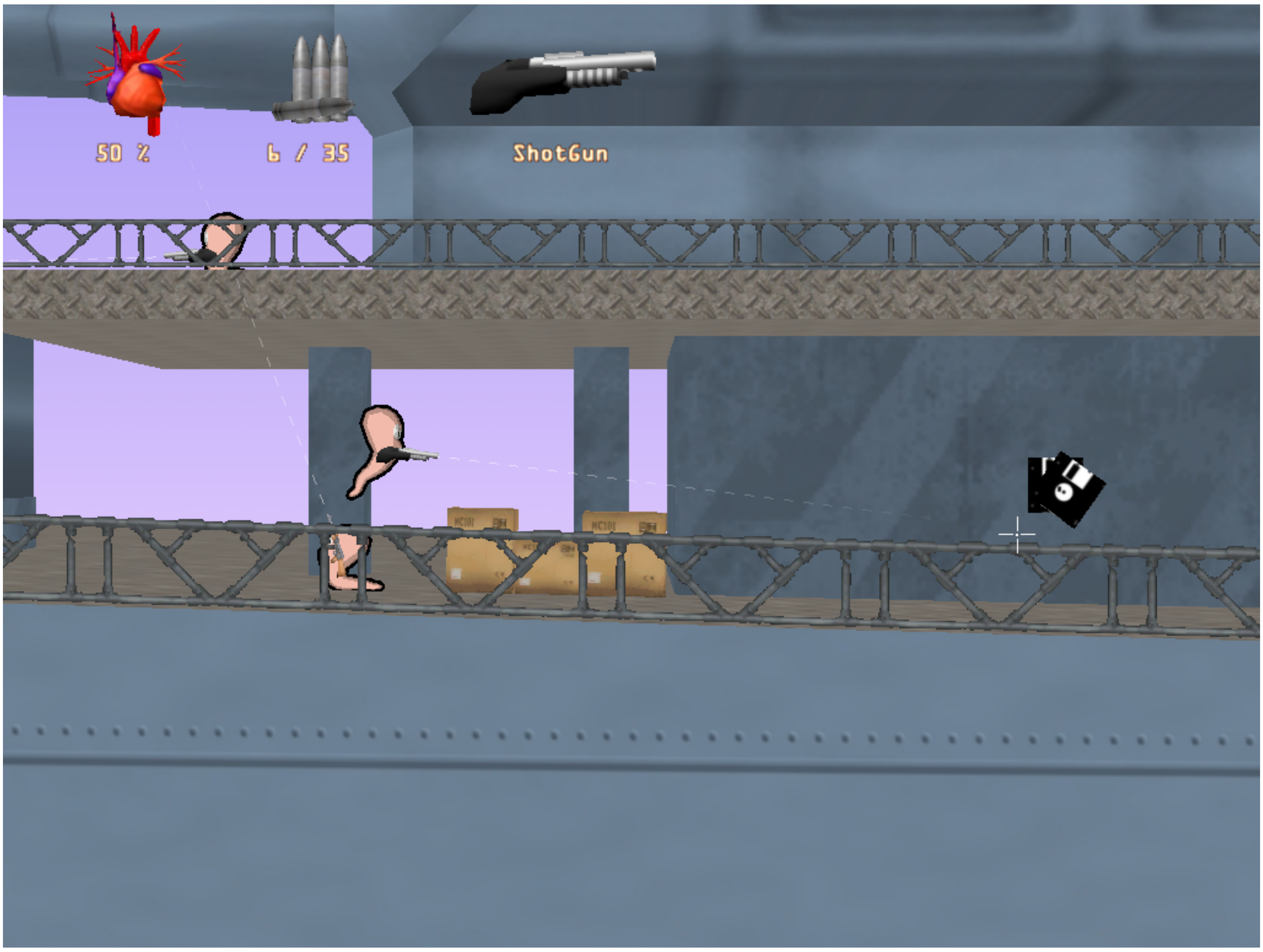
Soft shadows bump



Wormsylvania game pic. 1



Wormsylvania game pic. 2



Wormsylvania game pic. 3

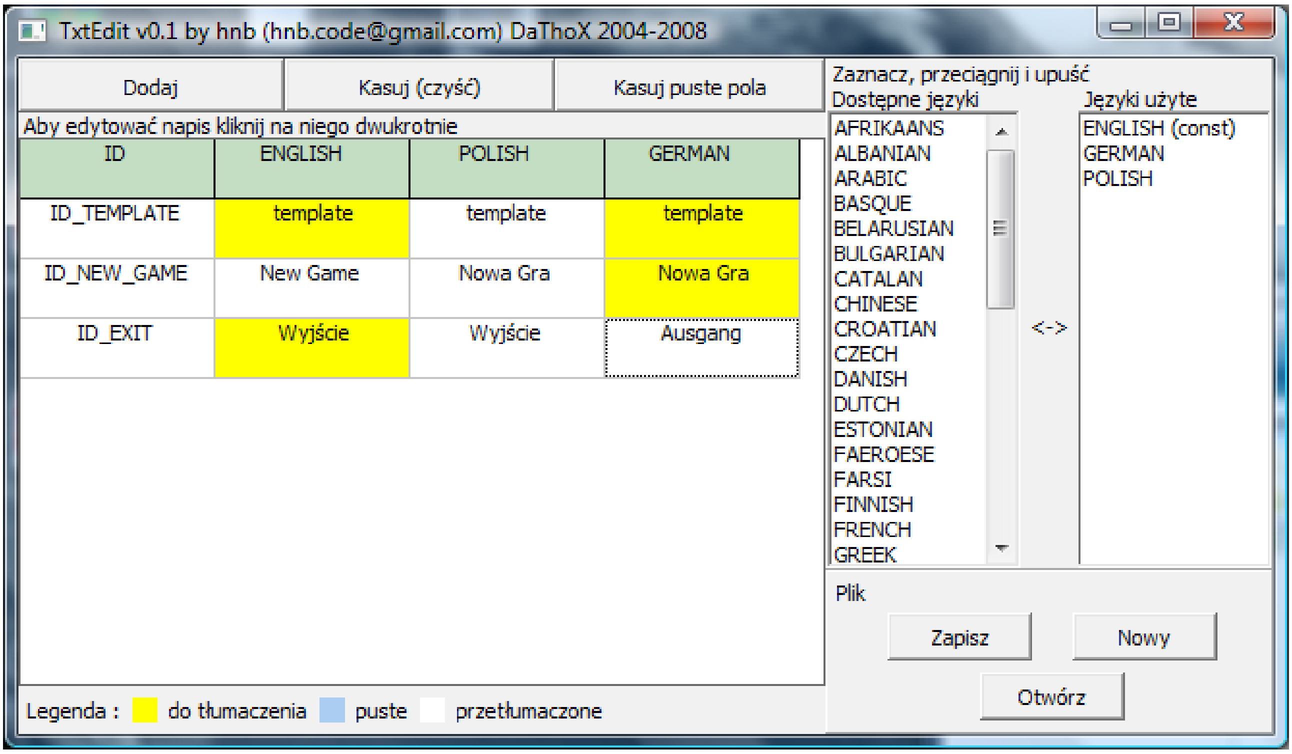
Part III

Other Tools

TxtEdit

Translation tool

Easy and useful system for translating languages, also containing an editor and generator of modules in Object Pascal language. This system has a very useful library allowing autmatisation of using different languages (with detecting default language).



Aby edytować napis kliknij na niego dwukrotnie

ID	ENGLISH	POLISH	GERMAN
ID_TEMPLATE	template	template	template
ID_NEW_GAME	New Game	Nowa Gra	Nowa Gra
ID_EXIT	Wyjście	Wyjście	Ausgang

Legenda : 🟨 do tłumaczenia 🟦 puste ⬜ przetłumaczone

Zaznacz, przeciągnij i upuść

Dostępne języki

AFRIKAANS
ALBANIAN
ARABIC
BASQUE
BELARUSIAN
BULGARIAN
CATALAN
CHINESE
CROATIAN
CZECH
DANISH
DUTCH
ESTONIAN
FAEROESE
FARSI
FINNISH
FRENCH
GREEK

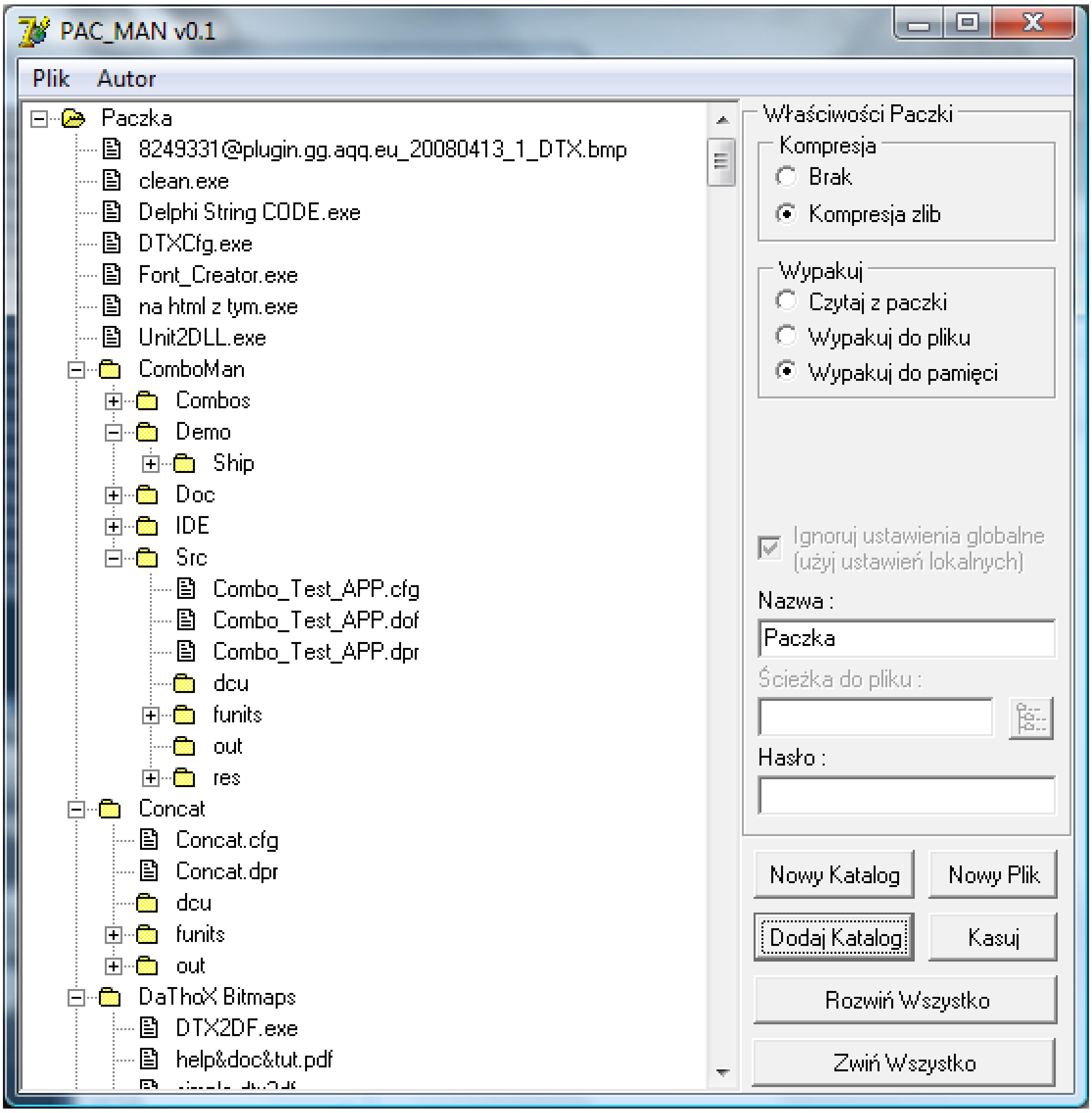
Języki użyte

ENGLISH (const)
GERMAN
POLISH

PacMan

Virtual File System

A system of virtual files with an editor. It allows a data compression (zlib) and few other useful features.



```
⊟ Paczka
    8249331@plugin.gg.aqq.eu_20080413_1_DTX.bmp
    clean.exe
    Delphi String CODE.exe
    DTXCfg.exe
    Font_Creator.exe
    na html z tym.exe
    Unit2DLL.exe
  ⊟ ComboMan
      ⊞ Combos
      ⊟ Demo
          ⊞ Ship
      ⊞ Doc
      ⊞ IDE
      ⊟ Src
          Combo_Test_APP.cfg
          Combo_Test_APP.dof
          Combo_Test_APP.dpr
          dcu
          ⊞ funits
          out
          ⊞ res
  ⊟ Concat
      Concat.cfg
      Concat.dpr
      dcu
      ⊞ funits
      ⊞ out
  ⊟ DaThoX Bitmaps
      DTX2DF.exe
      help&doc&tut.pdf
```

Właściwości Paczki

Kompresja
○ Brak
● Kompresja zlib

Wypakuj
○ Czytaj z paczki
○ Wypakuj do pliku
● Wypakuj do pamięci

☑ Ignoruj ustawienia globalne (użyj ustawień lokalnych)

Nazwa : Paczka

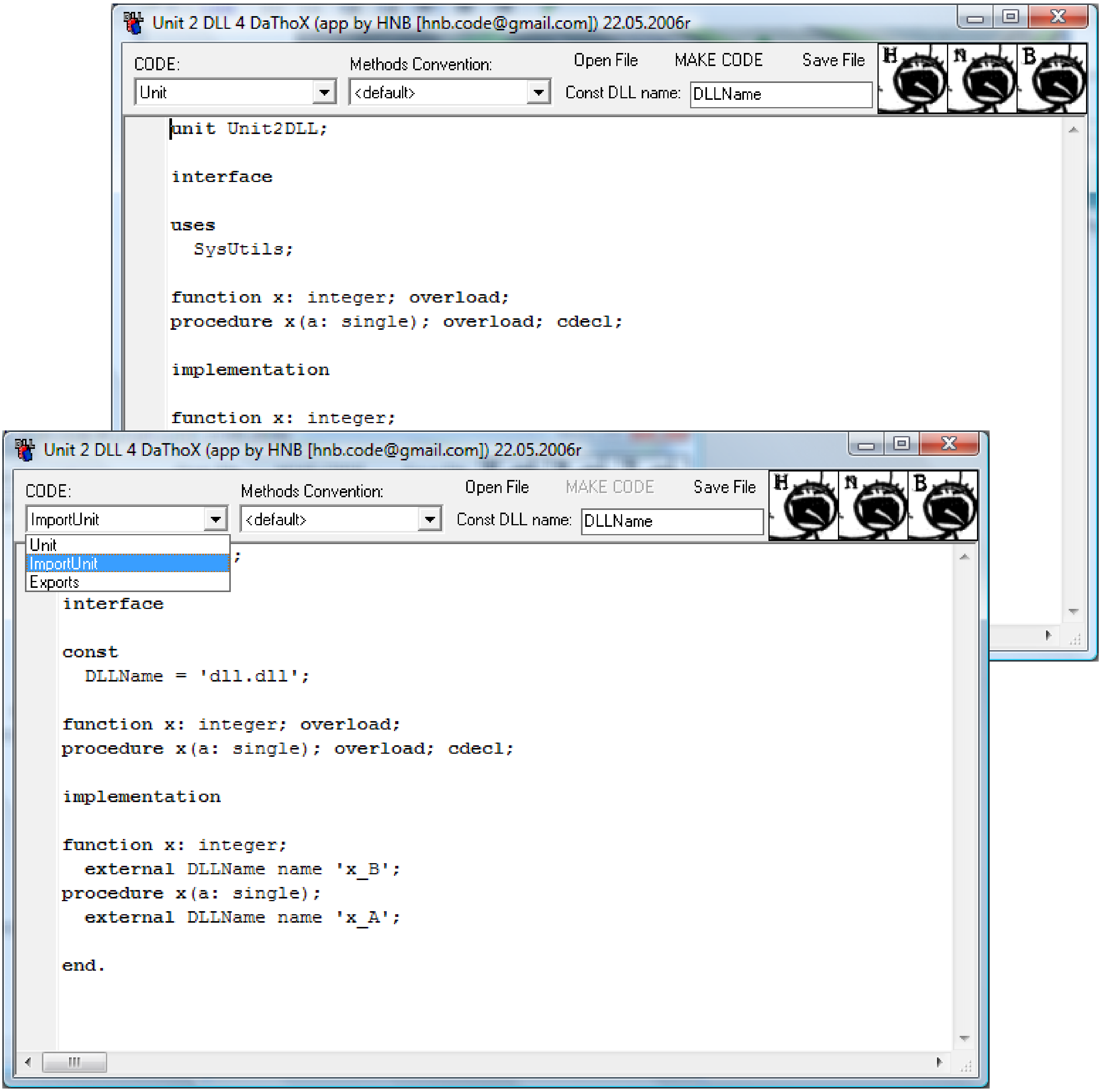
Ścieżka do pliku :

Hasło :

Unit2DLL

For creating DLL

Small and smart tool which can analise the code of Object Pascal. It can generate the code for creating the DLL libraries.



Unit 2 DLL 4 DaThoX (app by HNB [hnb.code@gmail.com]) 22.05.2006r

CODE: Unit

Methods Convention: <default>

Const DLL name: DLLName

```
unit Unit2DLL;

interface

uses
  SysUtils;

function x: integer; overload;
procedure x(a: single); overload; cdecl;

implementation

function x: integer;
```

Unit 2 DLL 4 DaThoX (app by HNB [hnb.code@gmail.com]) 22.05.2006r

CODE: ImportUnit

Methods Convention: <default>

Const DLL name: DLLName

```
                          ;

interface

const
  DLLName = 'dll.dll';

function x: integer; overload;
procedure x(a: single); overload; cdecl;

implementation

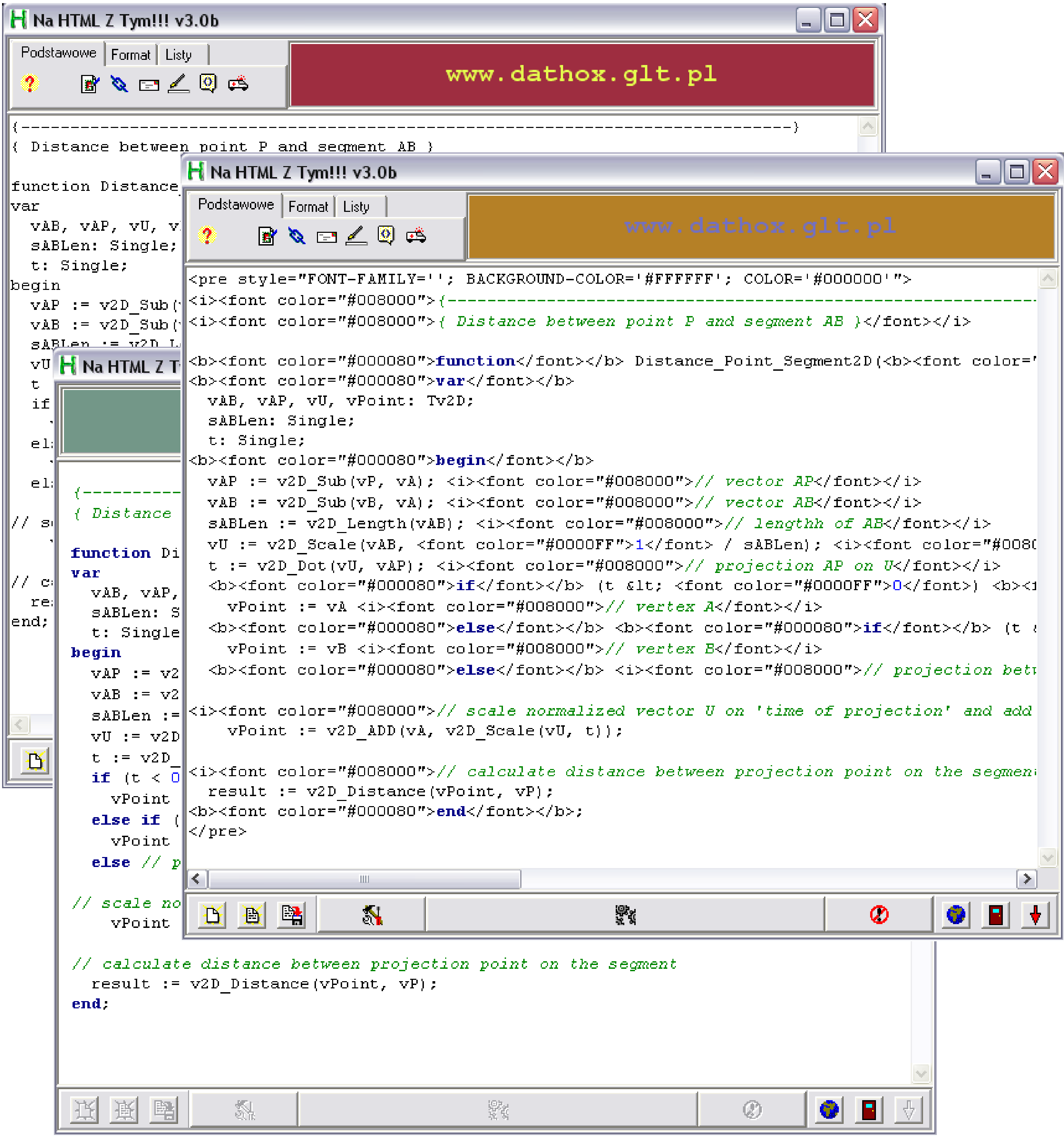
function x: integer;
  external DLLName name 'x_B';
procedure x(a: single);
  external DLLName name 'x_A';

end.
```

Na HTML Z Tym 2

Syntax highlighting

This is the tool we used for painting the syntax of Object Pascal with a selected method. Program also contains a simple, integrated HTML editor.



```
<pre style="FONT-FAMILY=''; BACKGROUND-COLOR='#FFFFFF'; COLOR='#000000'">
<i><font color="#008000">{-----------------------------------------------------------
<i><font color="#008000">{ Distance between point P and segment AB }</font></i>

<b><font color="#000080">function</font></b> Distance_Point_Segment2D(<b><font color='
<b><font color="#000080">var</font></b>
  vAB, vAP, vU, vPoint: Tv2D;
  sABLen: Single;
  t: Single;
<b><font color="#000080">begin</font></b>
  vAP := v2D_Sub(vP, vA); <i><font color="#008000">// vector AP</font></i>
  vAB := v2D_Sub(vB, vA); <i><font color="#008000">// vector AB</font></i>
  sABLen := v2D_Length(vAB); <i><font color="#008000">// lengthh of AB</font></i>
  vU := v2D_Scale(vAB, <font color="#0000FF">1</font> / sABLen); <i><font color="#008C
  t := v2D_Dot(vU, vAP); <i><font color="#008000">// projection AP on U</font></i>
  <b><font color="#000080">if</font></b> (t &lt; <font color="#0000FF">0</font>) <b><f
    vPoint := vA <i><font color="#008000">// vertex A</font></i>
  <b><font color="#000080">else</font></b> <b><font color="#000080">if</font></b> (t &
    vPoint := vB <i><font color="#008000">// vertex B</font></i>
  <b><font color="#000080">else</font></b> <i><font color="#008000">// projection betw

<i><font color="#008000">// scale normalized vector U on 'time of projection' and add
    vPoint := v2D_ADD(vA, v2D_Scale(vU, t));

<i><font color="#008000">// calculate distance between projection point on the segment
  result := v2D_Distance(vPoint, vP);
<b><font color="#000080">end</font></b>;
</pre>
```

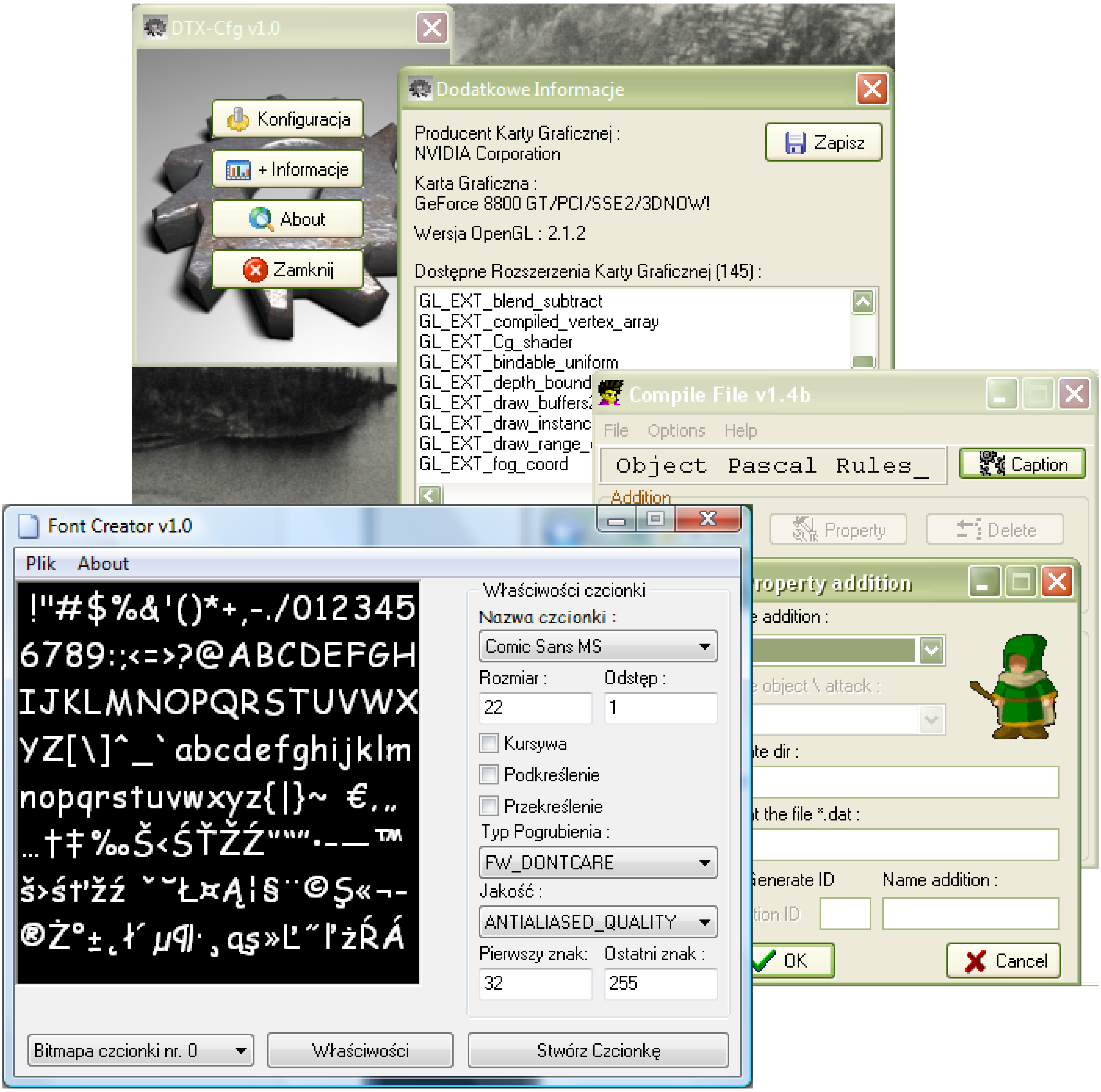
```
// calculate distance between projection point on the segment
  result := v2D_Distance(vPoint, vP);
end;
```

Other Game Tools

Fonts, Configurators, Conventers

We also created many other, small and useful tools like font generators, sky editors or applications for taking out informations about OpenGL or for configurating the games.

One of our creations was a "semi-compiler" for creating installers for addons to the popular mini-game Little Fighter 2.



Producent Karty Graficznej :
NVIDIA Corporation

Karta Graficzna :
GeForce 8800 GT/PCI/SSE2/3DNOW!

Wersja OpenGL : 2.1.2

Dostępne Rozszerzenia Karty Graficznej (145) :

```
GL_EXT_blend_subtract
GL_EXT_compiled_vertex_array
GL_EXT_Cg_shader
GL_EXT_bindable_uniform
GL_EXT_depth_bound
GL_EXT_draw_buffers
GL_EXT_draw_instanc
GL_EXT_draw_range_
GL_EXT_fog_coord
```

Object Pascal Rules_

e addition :

e object \ attack :

te dir :

t the file *.dat :

Generate ID

Name addition :

tion ID

Właściwości czcionki

Nazwa czcionki : Comic Sans MS

Rozmiar : 22

Odstęp : 1

□ Kursywa

□ Podkreślenie

□ Przekreślenie

Typ Pogrubienia : FW_DONTCARE

Jakość : ANTIALIASED_QUALITY

Pierwszy znak: 32

Ostatni znak : 255

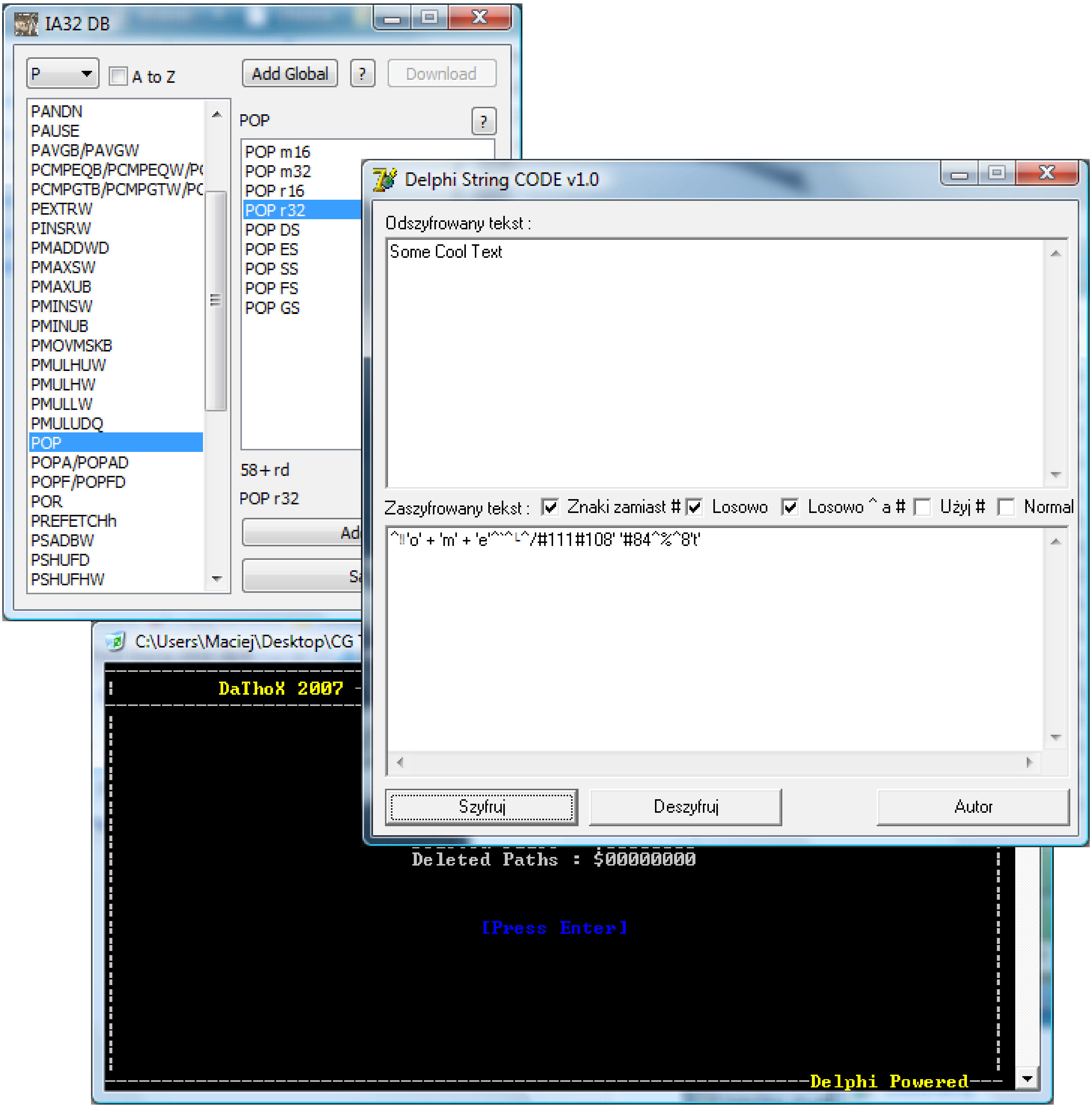
Bitmapa czcionki nr. 0

Other Tools

and so on

But Gamedev isn't everything. We've also created...

Many useful small tools.



PANDN
PAUSE
PAVGB/PAVGW
PCMPEQB/PCMPEQW/P(
PCMPGTB/PCMPGTW/P(
PEXTRW
PINSRW
PMADDWD
PMAXSW
PMAXUB
PMINSW
PMINUB
PMOVMSKB
PMULHUW
PMULHW
PMULLW
PMULUDQ
POP
POPA/POPAD
POPF/POPFD
POR
PREFETCHh
PSADBW
PSHUFD
PSHUFHW

POP

POP m16
POP m32
POP r16
POP r32
POP DS
POP ES
POP SS
POP FS
POP GS

58+ rd
POP r32

Odszyfrowany tekst :

Some Cool Text

Zaszyfrowany tekst : ☑ Znaki zamiast # ☑ Losowo ☑ Losowo ^ a # □ Użyj # □ Normal

^‼'o' + 'm' + 'e'^`^└^/#111#108' '#84^%^8't'

```
DaThoX 2007 -
Deleted Paths : $00000000

[Press Enter]
Delphi Powered
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end.
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