

XNA Console

Game & Simulation Technology

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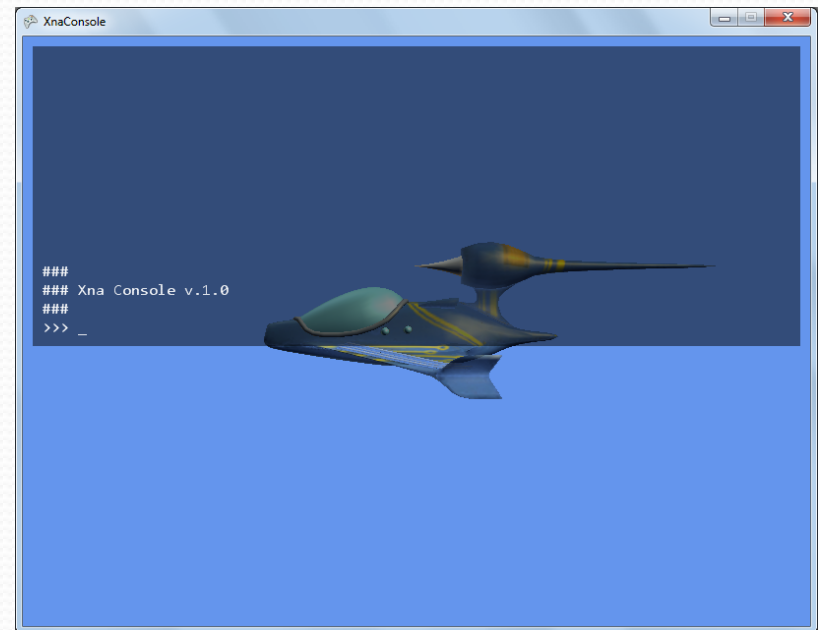
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Agenda

- Introduction
- Features
- Implementation
- How it works
- Summary

Introduction

- Basic console
- Uses IronPython as interpreter
- Current release
Beta v. 1.01
8th Novemer 2008
- Downloads: 954



Introduction

- XNA 3.0 compatible
 - License: no license
improvements may be published back
 - Developer: Shader (no real name)
last visit 27th November 2010
- No maintainance, no license, no rules
- Do whatever you want

Features

- Read out variables
- (Write to variables)
- Other interpreters can be implemented
- command history and cursor

Implementation

- Files /
 - content/
 - consola.ttf
 - ConsoleFont.spritefont
 - lib/
 - IronMath.dll
 - IronPython.dll
 - KeyBindings.cs
 - PythonInterpreter.cs
 - XnaConsole.cs

Implementation

- Basic implementation in Game class

```
PythonInterpreter interp;  
Initialize() {  
    interp = new PythonInterpreter(this,  
        Content.Load<SpriteFont>("ConsoleFont"));  
}
```

- Registering variables

```
Initialize() {  
    ...  
    int aNumber = 1;  
    interp.AddGlobal(„max“, aNumber);  
}
```



```
###
```

```
### Xna Console v.1.0
```

```
###
```

```
>>> print max
```

```
1
```

```
>>> max = 5
```

```
>>> for i in range(max) : print "hello world", i
```

```
hello world 0
```

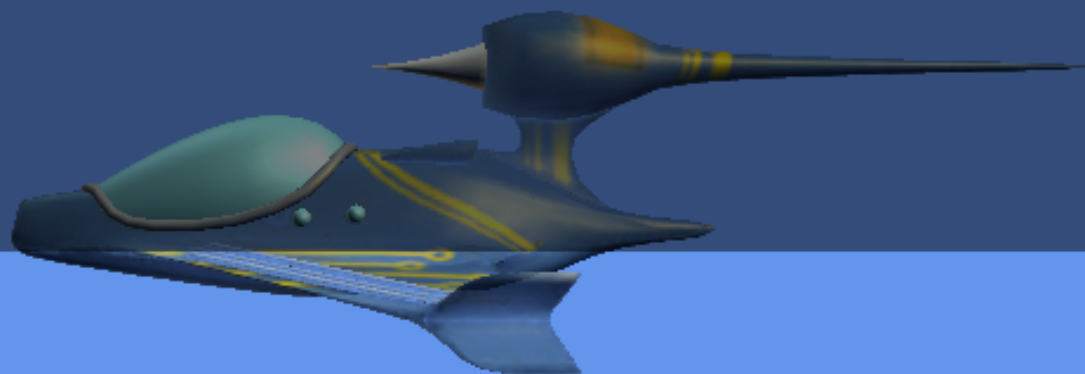
```
hello world 1
```

```
hello world 2
```

```
hello world 3
```

```
hello world 4
```

```
>>>
```



How it works

- Console gathers keyboard input into string
- On [Enter] `PythonInterpreter.Execute(inputStr)`
- String is send to `PythonEngine.Execute(inputStr)`
- Receive byte array via `PythonEngine.Read(...)`
- Converted byte stream can be send to `Console.WriteLine()`
- Back to beginning: console awaits input

How it works

- Other interpreters can be used
 - An interface with basic methods is included
 - Complexity depends on interpreters

Summary

- Pros
 - Nice tool to check variable status
 - Change attribute values
 - Interpreters can be changed
- Cons
 - Only public and protected attributes can be read
 - Changing attribute values in console can be a mess, e.g. changing Vector3 values
 - Special characters crash game