

Beyond Myro

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BRYN MAWR

Microsoft
Research



Beyond Myro

- Pyjama (Python, Ruby, Scheme, Sympl, Dinah)
 - Doug Blank, Bryn Mawr College
- Myro in C++
 - John Hoare, University of Tennessee, Knoxville
- Myro in Java
 - Douglas Harms, DePauw University
- Myro in Chez Scheme, Indiana University
- Myro in Spanish, Universidad Nacional De La Plata, Argentina

Myro 2 from IPRE

- Open Source Prototype begun in 2006
- Written in CPython, version 2.4
- Cross-platform
- Relies on a number of additional open source projects: pygame, idle, text-to-speech, tkinter, graphics, Python Image Library, chat, serial, and more
- Large number of dependencies

Myro 2 Issues

- Dependencies!
- Python only
- Many components out of our control
- Developing context libraries for additional languages is expensive

Python Shell

File Edit Shell Debug Options Windows Help

```
Python 2.4.4 (#71, Oct 18 2006, 08:34:43) [MSC v.1  
Type "copyright", "credits" or "license()" for mor
```

```
*****  
Personal firewall software may warn about the  
makes to its subprocess using this computer's  
interface. This connection is not visible on  
interface and no data is sent to or received f  
*****
```

```
IDLE 1.1.4
```

```
>>> from myro import *
```

```
Myro, (c) 2006 Institute for Personal Robots in Ed  
[See http://www.roboteducation.org/ for more inform  
Version 1.0.0, Revision 1.85, ready!
```

```
>>> initialize("com5")
```

```
Waking robot from sleep...
```

```
Hello, I'm Scribby!
```

```
>>> |
```

Frameworks and Contexts

- BlueJ, Greenfoot – Java only
- Alice – tied to 3D context
- 3D context – tied to Alice
- DrScheme – Scheme only
- IDLE – tied to Python, not designed by educators
- MediaComp – Java or Python

Frameworks and Contexts

- Use BlueJ and 3D worlds
- Use Alice's drag-and-drop interface with Robots
- Use Scheme with MediaComp
- Start with drag-and-drop and move to Python, while keeping the context the same

Goal

You should be able to pick your language,
pick your context, and
work in a educator-designed IDE.

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Every day.

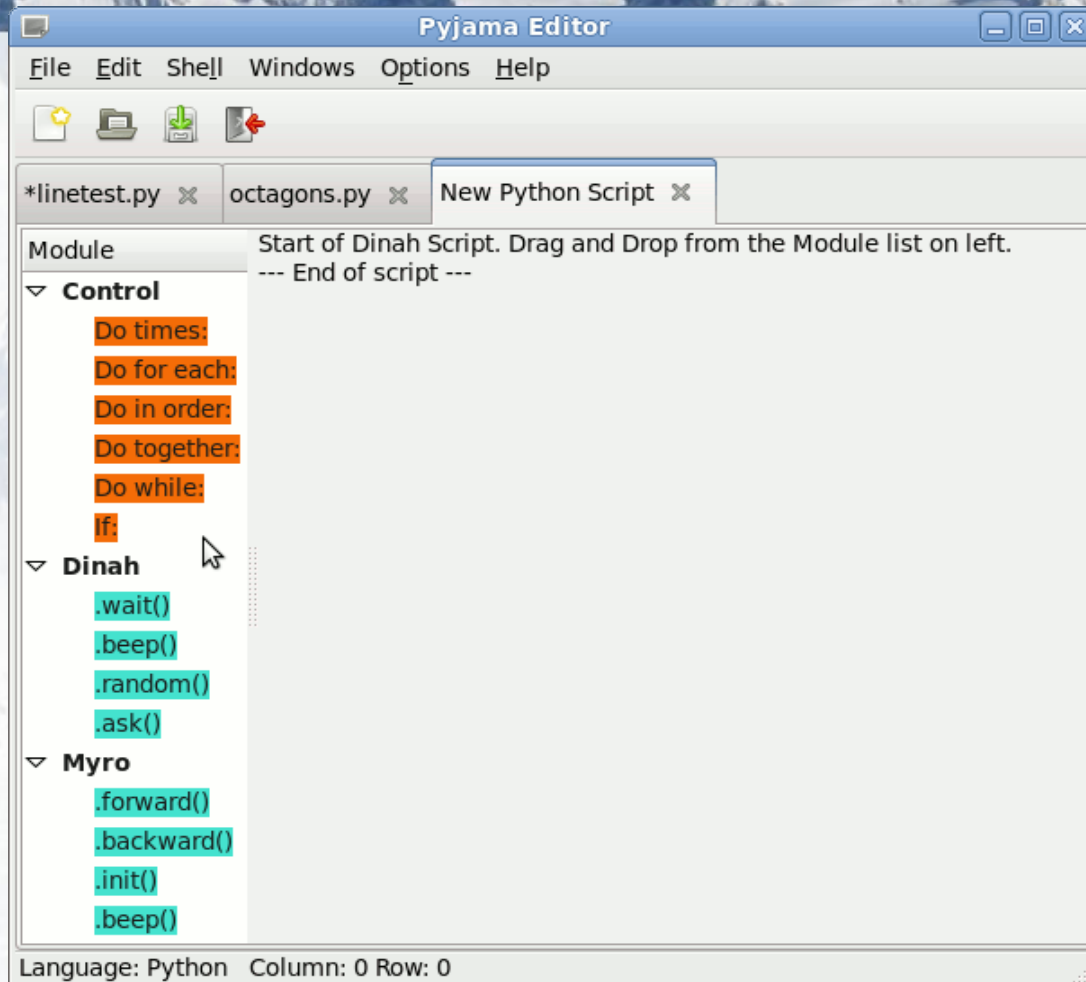
Why Yet Another Framework?

- By Educators, for Educators
- How much time do students spend on task?
- Because languages change
- Because contexts change
- Because contexts shouldn't be language specific
- But the core framework need not change

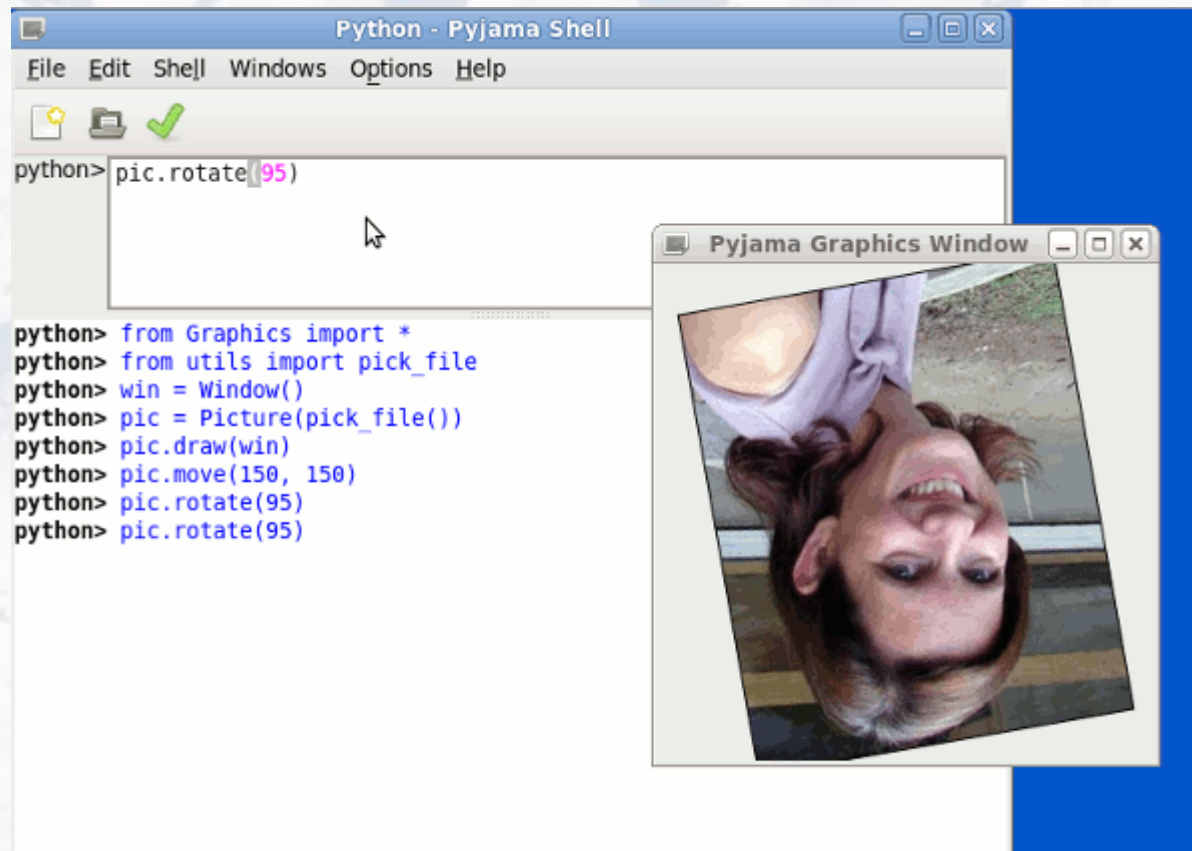
Introducing the Pyjama Project

- Integrated interpreter and editor
- Language independent
- Context Libraries work with all languages
- Designed for education and to fulfill educator's goals
- Classroom and student friendly
- Switch languages instantly
- For “scripting” languages, does not cover C++ nor Java

Dinah



Python, Ruby, SympI, and Scheme



The image shows a screenshot of a Pyjama Shell window titled "Python - Pyjama Shell". The window has a menu bar with "File", "Edit", "Shell", "Windows", "Options", and "Help". Below the menu bar are icons for a folder, a printer, and a green checkmark. The main area of the shell shows a Python prompt "python>" followed by the command "pic.rotate(95)". Below this, a list of Python code is shown, including imports and function calls. To the right of the shell is a "Pyjama Graphics Window" titled "Pyjama Graphics Window". This window displays a photograph of a woman's face, which has been rotated 95 degrees clockwise, making her head appear at the bottom of the frame.

```
python> pic.rotate(95)

python> from Graphics import *
python> from utils import pick_file
python> win = Window()
python> pic = Picture(pick_file())
python> pic.draw(win)
python> pic.move(150, 150)
python> pic.rotate(95)
python> pic.rotate(95)
```

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