Review of Topics so far

Carl Friedrich Bolz, David Schneider Dynamische Programmiersprachen Heinrich-Heine-Universität Düsseldorf Sommersemester 2010 What is a Dynamic Language?

What is a Dynamic Language?

- dynamic typing
- reflection
- "late-bound everything"

What is a Dynamic Language? (2)

also it is often:

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also it is often:

- ▶ interactive
- ► GC
- object oriented

What is an Object?

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State + Behaviour

Principles of Class-Based OO

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- 1. Everything is an Object
- 2. Every Object has a type

How do Message Sends Work?

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- consist of two steps, lookup and call
- ▶ implementation of a message is called "method"

What are Possible Lookup Strategies?

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two (independent) distinctions:

- class vs. prototype-based
- ► single vs. multiple inheritance

What are Attribute-Based Programming Languages?

What are Attribute-Based Programming Languages?

- the steps lookup and call exist separately in the language
- the lookup of data attributes must be done as part of lookup

What are Special Methods?

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- special methods are used to customize the behaviour of objects
- are needed in a language of non-uniform syntax

What are Generators?

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- provide a convenient way to implement an iterator
- break normal stack-discipline

► Compiler vs. Interpreter

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- ► Compiling Dynamic Languages?

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- Compiling Dynamic Languages?
- ▶ JIT Compilers
- ► AST vs. Bytecode Interpreters
- Object model