

Interoperability in Programming Languages

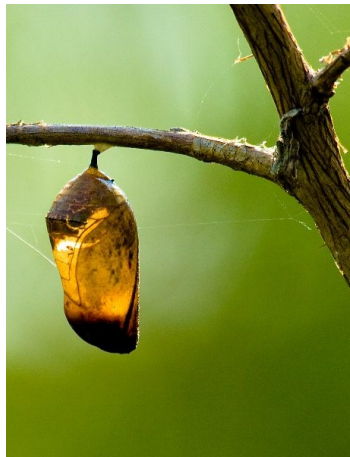
Todd Owen Malone

Division of Science and Mathematics
University of Minnesota, Morris
Morris, Minnesota, USA

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What is Interop?

- Interoperability: The ability for a system to use parts from another system
- In programming languages: A program written in one language can use a program in a different language
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Bluedrakon

<http://tr.im/pWUi>

Why is Interop Important?

- Third-party or legacy systems
- Language purpose
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Outline

- 1 Tools used in achieving Interoperability
- 2 Issues encountered in Interop and approaches to dealing with them
- 3 Conclusions

Outline

- 1 Tools used in achieving Interoperability
 - Virtual Machines
 - Markup Languages
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Virtual Machines



Markup Languages



Outline

- 1 Tools used in achieving Interoperability
- 2 Issues encountered in Interop and approaches to dealing with them
 - Overview
 - Metadata
 - Standards
- 3 Conclusions

Some common difficulties in interop



Metadata and type conversion



The importance of Standards



Outline

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Conclusions



Thanks!

Thank you for your time and attention!

Contact:

- `malone153@morris.umn.edu`

Questions?

References



N. F. McPhee, E. Crane, S. Lahr, and R. Poli.

Developmental Plasticity in Linear Genetic Programming.

In Günther Raidl, *et al*, editors, *GECCO '09*, pages 1019–1026, Montréal, Québec, Canada, 2009.



R. Poli and N. McPhee.

A linear estimation-of-distribution GP system.

In M. O'Neill, *et al*, editors, *EuroGP 2008*, volume 4971 of *LNCS*, pages 206–217, Naples, 26–28 Mar. 2008. Springer.

See the GECCO '09 paper for additional references.