The future of languages

Conclusion for this course:

• That is all!
• My guess on where languages will be going: languages that combine:
  • Multiparadigm
  • High-level data structures
  • With: speed, simplicity (dynamic weakly typed)
• JavaScript frameworks, node.js, Google Go, Swift, and what else?
  • More and more languages every day!!! What should we learn? All!
    • Youtube is implemented with Python,
    • IBM Watson uses Prolog,
    • Wikipedia is implemented with PHP,
    • Microsoft F# is a functional programming language, etc.
• More Scripting Languages: Writing programs by coordinating pre-existing components, rather than writing components from scratch.
The future of languages

- Scripting-style:
  - Speed: Trade almost everything for developer productivity
  - Economy of Expression
  - Lack of Declarations
  - Simple rules
  - Flexible dynamic typing
  - Access to the OS
  - Sophisticated string processing
  - High-level data structures: Maps, Lists, Tuples, Sets.
  - Batch and Interactive
  - Open and Portable
  - Single Canonical Implementation
  - Interpreted: Fast to start
  - Easily extended
  - Easily embedded
Future is here
Future is here

Java on GPUs (Sumatra)

Meta-Object Protocol

Multi-Tenancy

Reification

Self-Tuning JVM

Java 9 ... and beyond

Modular Platform (Jigsaw)

More and More Ports

Tail Calls

Memory-Efficient Data Structures

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The future of languages

- I'm hoping that this course prepared you for the change the future will bring in programming languages
- Thank you!