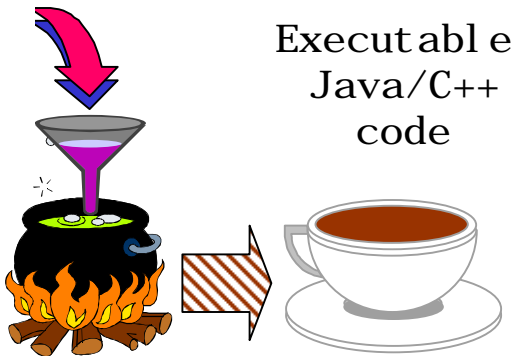


Demeter/Adaptive Programming

- Adaptive Collaborations
- Adaptive Connectors

adaptive
compiler
(covered
by US
Patent)



New Ideas

- **Adaptive Collaborations** allow for graceful upgrades of software behavior
- **Adaptive Connectors** specify the difference between a generic description and a specific application.
- **Traversal Strategies** express object traversals regardless of irrelevant detail.

Impact

- **Simplify** the **design** of **large** systems
- Partly automate the **evolution** of complex systems
- Identify key ingredients and separate them, so as to allow for **modular development** in new ways
- All this, with only a **modest additional** cost in pre-processing and runtime

Applications

Adaptive Programming in Java (Demeter/Java, DJ), C++, Perl, Lisp, etc.
Aspect-Oriented Programming in Java
Used in several industrial projects (GTE, Xerox, Motorola, etc.)
Adaptive Processing of XML descriptions

More information:
www.ccs.neu.edu/research/demeter

Northeastern University

One paragraph

The Demeter research group works on software development technology building on widely used software platforms. Currently we are building tools for component-based software development in Java and XML. Much of our work has developed from the Law of Demeter, a widely followed style rule for object-oriented design and programming that our group postulated in 1987. The Law of Demeter promotes a form of structure-shy programming that was greatly improved by our introduction of Adaptive Programming. Adaptive Programming makes use of succinct specifications of graphs and path sets that are used for design and programming. The project is named after the Greek goddess of agriculture, Demeter, because in our work we grow software incrementally from small building blocks.