



Caching Strategies for Data-Intensive Web Sites

Presented by
Hossein S. Attar



Outline

- Introduction on Site Management Systems
- Introduction on Caching
- Weave
- Conclusion



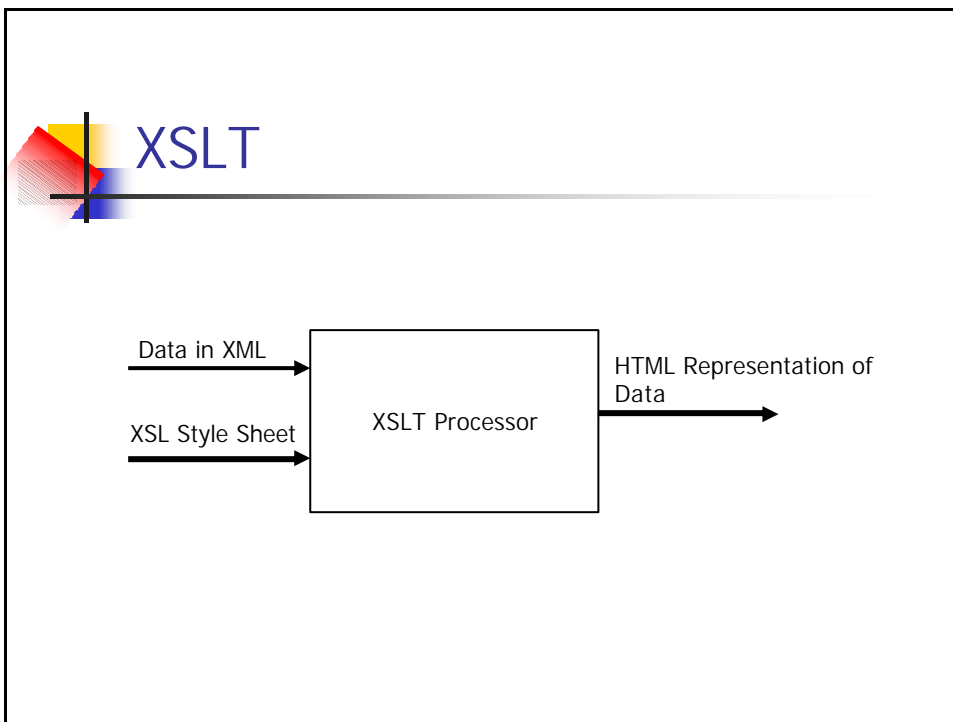
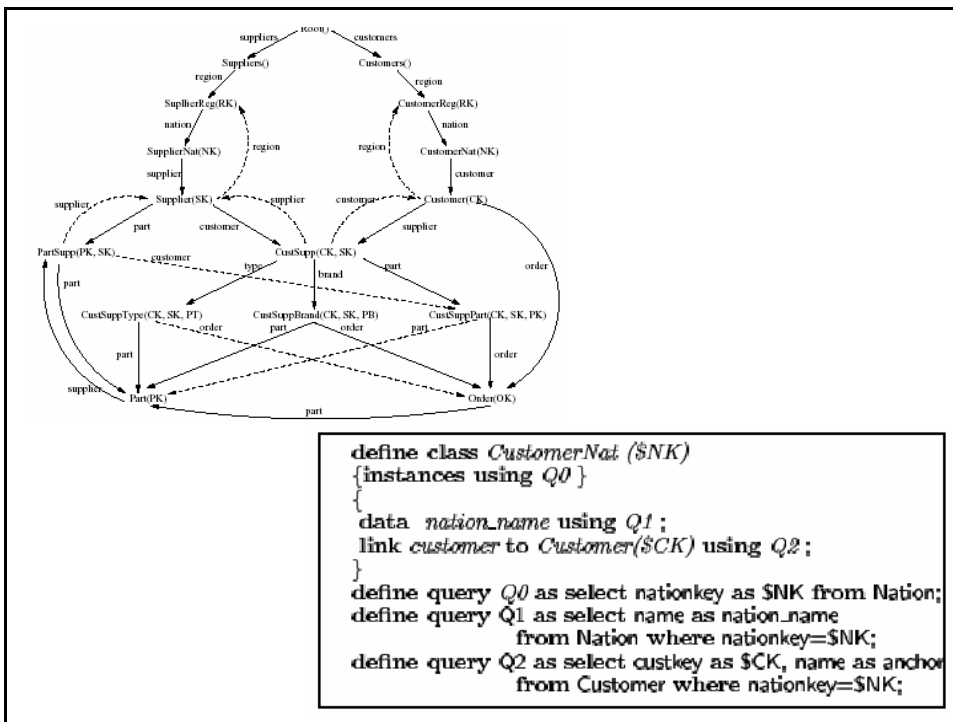
Site Management Systems

- Traditional Dynamic Web Applications
- Site Management System Approach
 - Idea: separation of structure and content from graphical presentation
 - Benefits
 - Easier development and maintenance
 - Different views over data
 - Explicit site structure, needed by performance-improvement solutions



Declarative Site Specification in Weave

- A Web site:
 - Description of site structure and content
 - Site schema
 - Site class
 - A set of XSLT programs
 - XSLT = eXtensible Stylesheet Language for Transformations
 - Evaluates, rearranges, and reassembles the information in the XML source document





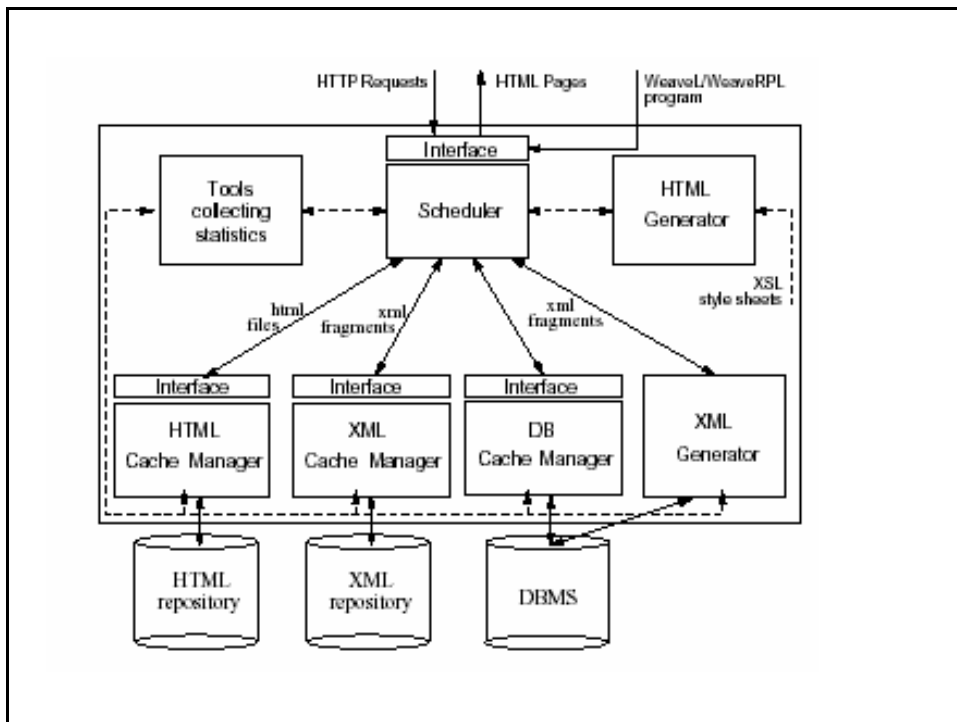
Caching

- Overview
- Materialization Strategies
 - Purely dynamic (no materialization)
 - HTML page materialization
 - XML fragment materialization
 - Query-result materialization
 - Materialized Views
 - Cache Functions
- No universally good strategy



Weave

- A Web site management system with caching capability
- 3-tier customizable cache system
- WeaveRPL and policy files
- Statistics Manager



- ## Conclusion
- A site-management system for easy development and maintenance
 - 3-tier caching with complex runtime policies
 - Extensible with automatic policy generation
 - Support for distribution and replication