Rapid Development of Web-based Applications

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Executive Workshop on Rapid Application Development
USC Center for Software Engineering
Los Angeles, CA; 11 March 1998

Developing on "Web time"

• Tremendous compression of product cycle time
• Software engineering practices frequently ignored
  Process? What process?
• Heavy reliance on standard architectures and components
Standard architectures and components

- Three-tier and multitier architectures
- Thin client, with browser-based GUI
- Java Development Kit API's
- Third party components (JavaBeans, etc.)
- Messaging with CORBA and IIOP
- Connection to RDBMS with JDBC/ODBC

Emphasizes reuse; reduces design and programming effort

Three-tier architecture

From Sybase
SilverStream Web Application Platform

- SilverStream Designer -- tools for database modification, forms, views, Web pages, agents, security
- Application Development Tools -- sample applications such as human resources, contact management, threaded discussions, and Java & Java Bean programming examples
- SilverStream Application Server -- manages database connections, transactions, security, client sessions, agents, e-mail connectivity, full text retrieval, versioning, and dynamic HTML generation
- SilverClient -- allows the downloading, caching, and execution of SilverStream Java applications
Similar Web application development tools

- Fresco (Infoscape)
- Apptivity (Progress)
- FortéWeb (Forté)
- Wallop Build-IT (Wallop Software)
- Cold Fusion (Allaire)
- Sapphire/Web (Bluestone)
- Tango Enterprise (EveryWare Development)
- Vision JADE (Vision Software Tools)
- NetDynamics (NetDynamics)
Conclusion

- General knowledge about structure and function of Web applications has been codified into modern tools to facilitate rapid development
- Tools are accompanied by components and Java Development Kit to provide abstract interface to common classes
- Coding effort sharply reduced
- Weaknesses are in requirements gathering, traceability, testing, and project management, including CM