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Java Development

DataArt has a large team of solid Java experts skilled in the development of three-tier enterprise web-based applications, rich client applications (Java Web Start and Java Applet), client-server desktop applications and mobile apps.

Middleware

DataArt develops enterprise and web applications using various application servers and web containers, most frequently **JBoss** and **Tomcat**.

Whether you prefer a lightweight approach to middleware layer (**Spring** and **Tomcat** combination), an industry standard (EJB deployed to JBoss) or a custom-made framework DataArt is ready to implement it using the industry's best practices.

If an application is tied to a specific type of application server, our team will develop the application using server-specific libraries which will increase development speed and improve the application's stability and robustness. If the target server platform is not defined, a generic application will be developed so that it can be deployed to any standard-compliant application server. DataArt is also well versed in application migration from one kind of an application server to another.

Presentation Layer

All Java web applications developed by DataArt are based on cutting edge technologies, such as **JSF**, **Spring MVC**, **Struts2**, and **GWT**. Their usage allows to avoid excessive reliance on Java code in web pages and separate business logic from the presentation level. Modern buzzwords - "AJAX", "mash-up", "syndication" - are not just words for our Java team; we utilize the latest technology innovations and approaches in front-end development. Most recently implemented projects used AJAX, third-party components with AJAX support (e.g. **IceFaces**, **GWT**) and custom developed JavaScript components optimized for cross-browser work. One example is a number of components developed to extend a **Dojo** framework, another is creation of pure HTML and JavaScript UIs. **jQuery** is our "de-facto" standard in dynamic web UI development.

If a client prefers front-end technologies without Java (Flex, .NET) DataArt has relevant experience seamlessly integrating applications with Java-powered back-end and non-Java frontend.

Rich Client (Desktop) Applications

Although web-based client is used more often in modern enterprise applications, there are a lot of applications designed to be "rich", utilizing UI features not supported by HTML-based web clients. DataArt team develops desktop applications, based on **Swing Framework** or **Eclipse Rich Client platform, which** can be optimized for client-server environment or for a three-tier environment. Custom UI components can be developed as needed, with Java Web Start and Java Applet deployment approaches used to deliver an application to a client computer.



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Databases and Data Access

DataArt has worked with different DBMS's, from **MySQL** and **PostgreSQL** to **Oracle** and **MS SQL**, and has experience building data warehouse and database clustering based on open source solutions.

JPA is the current standard for ORM frameworks. From a number of possible JPA implementations **Hibernate** is one of the major Open Source ones that greatly facilitates mapping of business objects to DB structures. Use of this library significantly reduces the time needed to develop code for DB interaction, lowers the risks of errors, simplifies application porting to other SQL dialects and reduces development costs.

DataArt also uses pure **JDBC** data access approach when needed.

Reporting

DataArt works with a wide range of reporting tools, such as **JasperSoft**, **BIRT** and **Crystal Reports** and has experience creating custom reports using **XML-FO** and **iText**.

XML, XSL, XSL-FO

DataArt is an expert in **XML**, **XSL** and **XSLT technologies**. A good example of utilizing XML and XSL is production of PDF-formatted reports using the **XSL-FO** open standard and its open-source adaptation **Apache FOP** (<http://xml.apache.org/fop/>).



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Technical Capabilities

- **Middleware technologies**
 - EJB
 - Spring
 - Google Guice
 - JBoss Seam
- **Application Servers**
 - JBoss
 - Apache Tomcat
 - Oracle AS
 - Oracle Weblogic (former BEA Weblogic)
- **Business Rules and Business Process Management**
 - JBoss drools
 - jBPM
- **Presentation Layer**
 - JSF and JSF-based frameworks:
 - ICEFaces
 - JBoss RichFaces
 - Spring MVC
 - Struts2
 - AJAX Frameworks
 - GWT and GWT-based frameworks
 - Dojo
 - jQuery
- **Desktop Applications**
 - Swing
 - SWT
 - Eclipse Rich Client Platform
- **Unit Testing**
 - JUnit
 - TestNG
- **Databases**
 - MySQL
 - PostgreSQL
 - Oracle
 - MSSQL
- **Data access**
 - JPA
 - Hibernate
 - TopLink
 - JDBC



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- **Reporting**
 - Jasper Reports
 - BIRT
 - Crystal Reports
 - iText
 - XSL-FO
 - Apache POI
- **Distributed Applications**
 - Web services
 - SOAP
 - JSON
 - RESTful API
 - RMI
 - JMS
 - Apache Active MQ
 - Tibco
 - Oracle AQ
- **Advanced Technologies**
 - AOP
 - Reflection
 - Globalization
 - Multi-threading
 - Deployment
 - Java Web Start
 - Java Applet
- **Mobile Platforms**
 - J2ME
 - Blackberry
 - Android