

J2ME Wireless Application Framework



The key to successful J2ME Applications

The Role of Java in the Wireless World

By all indications, the wireless Web will be the next big thing. In fact, it is bound to be huge. Industry watchers estimate that there will be more than a billion cellular subscribers -- a \$69 billion wireless marketplace -- by the end of 2003.

Many companies in the wireless space see the wireless application protocol (WAP) and Web browser-based technologies like cHTML and WML as the foundation technologies for



the wireless revolution. While these technologies are paving the way for the wireless Internet, they have severe limitations.

At Ergon we believe that the overall success of the wireless data revolution is will depend on the ability of the end user to use the offered services with minimum effort. Our experience strongly indicates that only Java with its local computing environment on the mobile handset can offer the flexibility and power demanded by the user interface of wireless applications.

The J2ME Wireless Application Framework

The J2ME Wireless Application Framework developed by Ergon offers a complete set of client side and server side technologies, components and tools for building end to end Java based Wireless Business solutions and services. The Framework includes client and server components for encryption, authentication, user interface, data communication

as well as server side data management. Using the J2ME Wireless Application Framework as a base for your service will give your wireless project a unique headstart.

The Ergon J2ME Framework extends the Basic CLDC and MIDP libraries by a comprehensive set of additional class libraries and development tools, providing a solid base of functionality for your project, giving you and your team time to concentrate on your application logic.

The J2ME Wireless Application Framework relies on well established and widely adopted Open Standards. Using SSL 3.0, HTTP and TCP/IP as core technologies within the Framework guarantees easy interoperability between the Framework and other third party components and services.

Components

Security

The J2ME Wireless Application Framework includes a complete Java SSL implementation, fully complying to the SSL 3.0 standard. The Java SSL Implementation of the Wireless Framework has been specially optimized for high performance as well as low memory overhead. Where needed the Framework supports hooks to native implementations of speed critical operations. For offering a maximum speed for encryption and authentication, native implementations of certain functional areas are already part of the Framework.

The SSL Implementation supports full strength encryption algorithms, such as IDEA-128, RC4 and 3DES as well as the standard Message Digest Algorithms SHA1 and MD5. It also supports Server Certificate verification, or if needed, client verification using alternative technologies, such as SecurID technology from RSA Security Inc. or the Vasco Token technology.

The SSL implementation has been fully verified by an independent Swiss security consulting group.

Using the Java SSL 3.0 Implementation of the Framework will give you the additional bene-

fit of being able to easily review the security process of the implementation by a third independent party.

Java

The J2ME Wireless Application Framework is 100% Pure Java 2 Micro Edition (J2ME) compliant. To offer better performance for speed critical operations, native implementations may be used, wherever needed. The Framework will run on any Java Virtual Machine complying to the CLDC Standard or to a superset of it, for example, the already available Personal Java, Jbed from Esmertec, J9 from IBM and the KVM reference implementation. This implies that the Framework will run unchanged on the Personal Java platform and on the Java 2 Standard Edition (J2SE).

Message handling

The restricted bandwidth of 9,600 bps and the high connection latency of wireless data connections require an optimized protocol handling to overcome the data overhead. The Server access layer of The J2ME Wireless Application Framework is responsible for handling all requests between the client and the server efficiently and transparently. A multi-threaded MOM® (Message Oriented Middleware) protocol is responsible for executing the application call to the server and fetching data from the server.

Server requests are completely embedded within the server access layer, offering the application developer a clean and easy interface for interacting with the remote server.

GUI Framework

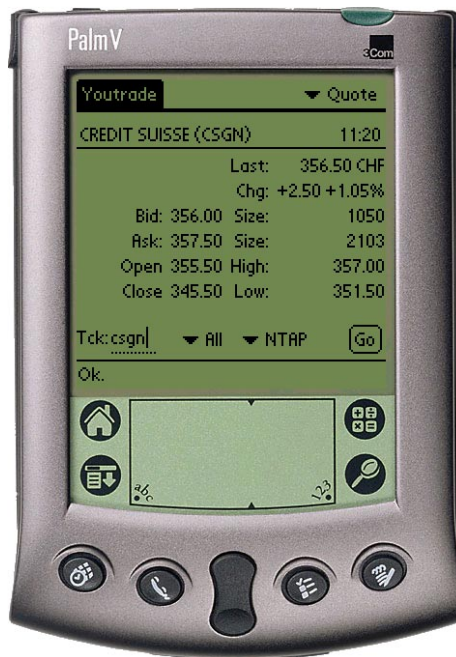
To overcome the physical limitations of mobile devices, Ergon has implemented a series of user interface elements to easily create powerful user interfaces for such devices. The Ergon GUI Framework consist of all the

elements needed to build tables, buttons and data entries. It is fully in line with the J2ME specification and supports MIDP (Mobile Information Device Profile). The GUI Framework has been specially designed and adapted to the restrictions of the physical means for input and output available on mobile devices.

Development Tool

The Ergon J2ME Framework includes a complete Java device emulator for the Palm/Visor environment. Developing and testing software on the emulator reduces the overall development/compile/run cycle to a minimum.

The emulator will run on any platform – Windows, Mac, Unix – supporting the Java 2 Standard Edition (J2SE).



Licensing

The J2ME Wireless Framework can be licensed from Ergon Informatik AG. Please contact us for details of the licensing process and pricing information.

About Ergon:

Ergon Informatik AG, (<http://www.ergon.ch>), is a leading software development company with headquarters in Zurich, Switzerland, and a subsidiary in Sausalito, CA. Its staff

of 65 professional software engineers are dedicated to the development of mission critical solutions for the financial, telecom and other markets. As a specialist in open business solutions for heterogeneous computing environments, Ergon currently is engaged in the development of a number of mission critical applications using advanced Java technology for major financial institutions and telecommunication companies.

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