

PROJECT DESCRIPTIONS
WIRELESS JAVA CALL FOR COLLABORATION



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Preface

In October 2001, the Infocomm Development Authority of Singapore (IDA) announced the Wireless Java Call for Collaboration (CFC). The Wireless Java CFC is the third in a series of CFCs conducted by IDA and it seeks to encourage the development, trial and pilot of innovative and/or collaborative wireless Java applications to promote pioneering wireless Java solutions with long-term commercial viability.

Wireless Java is a fast emerging technology that enables developers to provide new levels of interactivity and enhanced capabilities in their mobile applications, and new business models. After its success in Japan and Korea, the Java platform is finding its way into handsets and operators worldwide. Major handset manufacturers are planning to launch Java-enabled handsets worldwide, and operators all over are planning to roll out wireless Java services. The Wireless Java Call for Collaboration was issued to give the local industry a kick-start into this exciting future.

This document is a collection of the seven awarded proposals under the auspices of the Wireless Java CFC. The projects range from wireless entertainment to financial applications to applications targeted at business verticals. These projects demonstrate the versatility of wireless Java technology for a wide variety of innovative applications.

IDA hopes that this document will be a useful reference for future developers embarking on wireless Java applications and services. We would like to express our appreciation to the companies that have contributed to this document, and that have answered our call to be on the leading edge of wireless technology in Singapore. We hope more companies will be encouraged to follow in the footsteps of these pioneers, in all areas of wireless and not just Java, and help make Singapore a vibrant and exciting place to be for all things wireless.

Infocomm Development Authority of Singapore
Wired With Wireless Programme

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For more information on this document, please contact Young Fong at young_fong@ida.gov.sg or Low Gek Siong at low_gek_siong@ida.gov.sg

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Executive Summary

The selected projects for the Wireless Java CFC cover both consumer and business segments. On the consumer side, CyberQuote's wireless Financial Portal for J2ME phones is a J2ME-based stock quotes application with live streaming data and enhanced interactivity to be piloted over MobileOne's network.

Innvo Systems, working with various PDA partners, is implementing a J2ME virtual machine for the embedded Linux platform to enable wireless Java applications to run over these PDAs. They will be developing a remote control application on this J2ME Application Enabler platform that works over short-range wireless technology such as Bluetooth and 802.11b wireless LAN, to control appliances (bulbs, air-con, TVs, etc) connected to their Electrical Control Server.

ThatWeb's Mobile Communication Centre is a J2ME-based email application with SMS and fax features. It will be piloted over MobileOne's network under the name "MiMail".

Besides entertainment and consumer applications, wireless Java is also an enabling platform for business solutions. Elixir Report Mobile Edition is a J2ME-based client-server extension for wireless devices, with supporting authoring tools, for Elixir Technology's e-reporting solution Elixir Report. The solution will enable integrated information delivery and reporting to users of mobile devices.

ReadiMinds' Wireless Web Services Framework for Mobilisation of Enterprise Applications is a J2ME-based solution specifically for the high tech manufacturing industry, to provide anytime, anywhere access to manufacturing data. This will enable regional HQs and senior executives in Singapore to keep track of critical manufacturing-related information for manufacturing plants spread all over the region.

SUN Microsystems will be developing a J2ME-based secure interface for their Field Information Appliance that will allow mobile devices to act as if they are directly connected through a corporate firewall, thus providing an open standards-based solution for enterprises needing wireless connectivity back to the corporate network.

Project title
**Wireless financial portal
on J2ME phones**

Category
**Wireless financial
application**

Profile of company(s)

1. CyberQuote Pte Ltd

CyberQuote was incorporated on 29 May 1996. Our core businesses include application development, e-business consultancy services and financial information provider.

CyberQuote aims to be the technology enabler for bricks-and-mortar companies that seek to leverage the opportunities presented by e-commerce and m-commerce. Some of the applications developed include Internet and WAP trading (POEMS) using JAVA technology for Phillip Securities Pte Ltd; property valuation via Internet and WAP; and M1 Stock Trigger Service.

2. MobileOne (Asia) Pte Ltd

M1, Singapore's most exciting and innovative mobile, IDD and paging service provider, was launched in April 1997. Since then, it has made significant inroads into the local mobile communications market, gaining considerable brand presence and market share. M1 aims to be the leader in personal voice and data communications focusing on value, quality and customer service.

Proposed project

Investors can access to the application either online or offline using their J2ME mobile phones.

Investors are able to access the full features of Wireless Financial Portal when they are using it online. All information will be updated and retrieved real-time when they log on to the application server. The full features available for the online version are real-time SGX stock prices, stock portfolio, stock charts, price alerts and profile settings.

Investors are able to access limited features of the application when they are using it offline. Certain features do not require users to be online constantly. These features include stock portfolio and stock charts. For example, prices can be downloaded and users can access their portfolio at their own pace. If they want the latest information, they would need to log on to the application server.



Companies in the Consortium

1. CyberQuote Pte Ltd
2. MobileOne (Asia) Pte Ltd

Contact Person

Name : Rosalind Chew
Designation : Corporate Account Manager
Company : CyberQuote Pte Ltd
Direct Line (DID) : (65) 6531 1689
Email Address : rosalind@cyberquote.com.sg

Project title
**J2ME application enabler
for mobile devices**

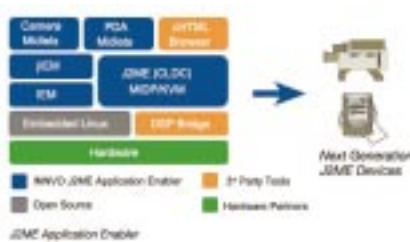
Category
J2ME device platform

Profile of company(s)

Innvo Systems Pte Ltd

Established in year 2000, Innvo Systems is a Singapore based company providing turnkey Embedded Linux and J2ME device solutions. Innvo's flagship System Builder provides a device developer with a comprehensive suite of embedded Linux development tools. Innvo's patent-pending middleware technology enables devices with services such as upgrade capability and network connectivity. For further information refer to our website <http://www.innvo.com/>

Proposed project



Innvo Systems is developing an X10 based electrical control server and a J2ME based Remote control. As the J2ME Remote Control comes within the hotspot area, it can download a Control Midlet from the electrical control server. This midlet is then able to control all the devices (such as bulbs, aircon, TV, etc.) managed by the electrical control server.

Thus the solution developed with enable smart home automation using next generation J2ME enabled devices.

Companies in the consortium

1. Innvo Systems Pte Ltd
2. Encore Software (India) Ltd
3. Askey Computer Ltd
4. CET Technologies Ltd

Contact person

Name : Rajiv M Ranganath
Designation : Chief Operating Officer
Company : Innvo Systems Pte Ltd
Direct Line (DID) : (65) 6779 9403
Email Address : rajiv@innvo.com

Project title
**Mobile communication centre
(MiMail)**

Category
Wireless

Profile of company(s)

ThatWeb Solutions Pte Ltd

A dynamic and innovative software house, ThatWeb Solutions coexisted with Aztech Systems Limited since 1986, before being established independently as a wholly owned subsidiary in 1998. Concentrating on the areas of wireless and internet communications and workflow management systems, we have established a solid lineup of software products and consulting services. Through the years of unceasing progress, we have secured numerous tenders with government organizations and clinched major projects for high profile corporations, locally as well as globally.

Expanding into the world market, we have established offices in China and the United States. As a mark of our progress, a key development hub in Hong Kong will be launched in 2002, effectively linking the North and South-East Asian markets.

MobileOne (Asia) Pte Ltd

M1, Singapore's most exciting and innovative mobile, IDD and paging service provider, was launched in April 1997. Since then, it has made significant inroads into the local mobile communications market, gaining considerable brand presence and market share. M1 aims to be the leader in personal voice and data communications focusing on value, quality and customer service.

Motorola Electronics Pte Ltd

Motorola is a global leader in providing integrated communications solutions and embedded electronic solutions.

Proposed project

The objective of this project is a revolutionary email communication product, Java MiMail, drawing on the latest technology provided by Java enabled mobile phones.



MiMail will provide a holistic approach to mobile communication. Its user will be able to effortlessly send and receive emails and attachments through an intuitive user interface. Attachments to emails can be previewed right on the mobile phone, with added benefit of zoom and scroll functions for easy viewing of large documents, spreadsheets, pictures and other files. For even greater convenience, users will be able to print a hard copy of their emails or attached files through a nearby fax machine. Sending and receiving fully graphical business cards will also become a breeze for that added professional touch.

Of course, users of this email product need not check their inbox at random searching for an incoming mail. When a new email is received, MiMail will alert the user. Additional functions such as a fully-fledged contacts list, sending of emails through SMS and receiving emails as SMS messages will also be provided. All this benefits will, of course, be provided on a Java based platform with modular build that guarantees its benefits not only now, but also in the future.

Companies in the consortium

1. ThatWeb Solutions Pte Ltd
2. MobileOne (Asia) Pte Ltd
3. Motorola Electronics Pte Ltd

Contact person

Name : Victor Soucik
Designation : Senior Manager
Company : ThatWeb Solutions Pte Ltd
Direct Line (DID) : (65) 6843 1252
Email Address : victors@thatweb.com

Project title
Elixir report mobile edition

Category
**Mobile commerce
applications**

Profile of company(s)

Elixir Technology provides leading-edge information delivery and reporting solution as well as software development tools and framework for Java and XML applications. With years of experience in Java, XML and objects, Elixir's range of award-winning software products have garnered over 300 global customers including Sprint PCS, US Treasury, Canada Custom and Revenue Agency, Motorola, and Martin Lockheed. Elixir partners with leading best-of-breed software application, tool and platform providers to provide customers an end-to-end solution for information delivery. In Singapore, Elixir is highly regarded for its advanced software technology training. For more information on Elixir and its solutions, please visit the Elixir Technology Web Site <http://www.elixirtech.com>.

Proposed project

Elixir report mobile edition

As part of Elixir's state-of-the-art Unified Java Reporting Solution, Elixir Report Mobile Edition (ERME) extends the current Elixir Report Server and Professional Editions to enable mobile users, in particular users of Wireless Java devices. Targeting the warehouses of data locked in data centres, corporate websites, and the new generation of Java/J2EE applications, ERME provides an easy-to-use and seamless integration means of unlocking data to enable multi-channel information delivery from a single solution, be it through the web, conventional printing, or streaming to the mobile devices.

ERME provides support for all mobile devices, including mobile phones and personal digital assistants (PDAs). Full-length/size reports can also be downloaded to PDA devices for offline interactive analysis, in full color graphics, while limited interactive feature will also be provided for smaller memory footprint devices where computing resources permit.

ERME empowers consumers and business executives alike such as traveling managers, sales people, and service personnel with easy, on-demand access to corporate information. This enables a company's mobile workforce to access and analyze corporate information when and where they need it.

The benefits of ERME are:

- Mobile Interactive Information Retrieval and Analysis
- Personal and Secure Information Anywhere, Anytime
- State-of-the-art Solution with Future-Ready Java/XML Architecture



Mobile interactive information retrieval and analysis

ERME provides a multi-modal interactive information retrieval and analysis solution for easy access to corporate or personal information. As today's business executives are on the move more than ever before, access to corporate information can no longer be restricted to the office. ERME empowers the mobile workforce with fast and user-friendly access to the information that they rely on to make decisions. Its ease of personalization ensures that only relevant data is transmitted, preventing information overload.

Personal and secure information anywhere, anytime

To meet the demands of greater mobility and globalization, ERME enables interactive information retrieval to be available 24x7 by leveraging existing web infrastructure investments. This mobile self-service, together with personalized and secure access, contributes greatly to the success of any corporate information portal. ERME lets you access any type of business data - from a database, to an ERP system, or a data warehouse. The Elixir Report security layer ensures that the information is only available to authorized users.

State-of-the-art solution with future-ready architecture

By leverage standard technologies such as J2ME and XML, ERME provides a state-of-the-art information delivery solution with future-ready foundation. ERME supports all J2ME-enabled mobile phones, 2-way pages, set-top boxes, and PDAs. With its future-ready architecture, ERME can be adapted easily to meet new technologies, and more advanced devices, as they become available. ERME is designed to work with devices based on Connected Limited Device Configuration (CLDC) or Connected Device Configuration (CDC). Together with Elixir Report Server and Professional Edition, ERME completes the solution suite to be the first e-reporting and information delivery solution support full set of Java platforms from J2ME, J2SE, and J2EE.

Companies in the consortium

Elixir Technology Pte Ltd

Contact person

Name : Lau Shih Hor
 Designation : Managing Director
 Company : Elixir Technology Pte Ltd
 Direct Line (DID) : (65) 6532 4300
 Mobile : (65) 9654 6370
 Email Address : shihhor@elixirtech.com

Project title
**Wireless web services
framework for mobilisation
of enterprise applications**

Category
Wireless Java CFC

Profile of company(s)

ReadiMinds Systems & Services Pte Ltd

ReadiMinds is Singapore headquartered domain-centric software outsourcing company – a leader in Enterprise Wireless E-Business value chain – that consists of E-Business, Enterprise Applications Mobilisation, and Wireless Embedded Systems & Applications. ReadiMinds' R&D Centre as well as Centre of Excellence is in Singapore, and its Software Development Centre is in Bangalore, India. ReadiMinds is currently operating in Asia Pacific including Japan, and has near term expansion plans for USA and Europe. ReadiMinds has already established itself as one of the leading software solutions vendor in the High-Tech Electronics Products/ODM/smart devices and High-Tech Manufacturing fields.

ReadiMinds counts some of the well-known Fortune Global 500 corporations as its customers including Sony, Ericsson and Flextronics, and enjoys strategic partner relationships with some of the best-known companies in its domain and vertical industry focus areas. Company though young having been formed in June 2000, is operationally profitable; well funded through two over subscribed funding rounds, and is currently growing at over 300% rate despite difficult global economic environment.

ReadiMinds provides Software Development, Software Product Implementation, Professional Consulting/Staff Augmentation, Software Maintenance & help-desk Support, and IT Consulting Services.

Proposed project

The proposed framework is the next generation of ReadiMinds' existing wireless framework that is based on wireless Java and XML. The new framework, its backward integration with the enterprise information and data stores and the forward integration with the wireless devices uses "web services" delivery model. The framework uses Java and XML, with its underlying "web services" technology.

The proposed framework covers the mobilisation of most of the components of different ERP softwares, Manufacturing Execution Systems (MES) and other Enterprise Applications. It provides a scalable solution catering to the needs of enterprise users (Management, Finance, Material, Logistics etc) by mobilising enterprise data. The framework uses both web services for discovering and rendering user desired services over the intranet/extranet, and EAI to pull the information from diverse enterprise systems, and mobilises it over the wireless handheld devices.

The proposed framework supports all Java enabled Wireless handheld devices including Palm, Pocket PC, IPAQ, and Nokia 9210 among others.

Companies in the consortium

ReadiMinds System & Services Pte Ltd

Contact person

Name : Naren Nagpal
Designation : Founder & CEO
Company : ReadiMinds Systems & Services Pte Ltd
Direct Line (DID) : (65) 6227 5880
Email Address : contact@ReadiMinds.com

Project title
**Field information appliance
(FIA)**

Category
computer

Profile of company(s)

Sun Microsystems Pte Ltd

SUN is the leading provider of industrial-strength hardware, software and services that make the Net work. SUN can be found in more than 170 countries and on the world wide web at <http://www.sun.com>



Java Wireless Competency Centre

The JWCC is established in partnership with IDA, SUN Microsystems and Centre for Wireless Communications to spearhead the development of wireless technology, business applications, and nurture a new breed of world-class local enterprises. It will further underscore the strategic intent of Singapore to become a premier location for Java development and a test bed for wireless development.

Proposed project

This project involves the development of a J2ME (or VPN like) base secure interface which would allow mobile devices to act as if they are directly connected through a corporate firewall. This would have applicability to all classes of Java enabled mobile devices and for any type of company. This would also be a critical enhancement to Sun Microsystems ' SunOne (Sun OPEN NET ENVIRONMENT) initiatives and would provide companies with an open alternative to .Net and PocketPC or Stinger in the wireless space.



The development will enhance SUN worldwide deployment of Field Information Appliances which allow wireless access to SUN backend systems for field personnel dispatch, data collection and information retrieval.

Companies in the consortium

1. Sun Microsystems Pte Ltd
2. Java Wireless Competency Centre

Contact person

Name : Lim Kian Chiat
Designation : Business Development
Company : Sun Microsystems Pte Ltd
Direct Line (DID) : (65) 6239 2544
Email Address : kian-chiat.lim@sun.com





**Infocomm Development Authority
of Singapore (IDA)**

develops, promotes and regulates info-communications in Singapore, with the aim of establishing Singapore as a leading infocomm hub in Asia. To nurture an internationally competitive infocomm industry, IDA offers a comprehensive range of programmes and schemes for both local and international companies.

Head Office

8 Temasek Boulevard, #14-00 Suntec Tower Three
Singapore 038988
Tel: (65) 6211 0888 • Fax: (65) 6211 2222

US Office

333, Twin Dolphin Drive,
Suite 145 Redwood Shores, CA94065 USA
Tel: (650) 654 1185 • Fax: (650) 654 8889

www.ida.gov.sg