

# The GUI Bits

Welcome .....	1
Platforms .....	1
<i>Handheld Platforms</i> .....	1
<i>Windows XP</i> .....	1
<i>Linux</i> .....	2
<i>Java</i> .....	2
Spotlight on Symbian .....	2
Microsoft Handheld Offerings.....	3
Technology .....	3
<i>Instant Messaging</i> .....	3
<i>Bluetooth</i> .....	4
<i>3G</i> .....	4
<i>Peer-To-Peer Computing</i> .....	4
<i>IBM To Offer Atomica Technology</i> .....	4
<i>Fuel Cells</i> .....	5
Security .....	5
<i>XP and Denial-Of-Service Attacks</i> .....	5
<i>New Releases From McAfee and Symantec</i> .....	5
Conferences.....	6
<i>Recent Conferences</i> .....	6
<i>Upcoming Conferences</i> .....	6
Degel Services .....	6

---

## Welcome

---

Welcome to this new issue of *The GUI Bits*, Degel Software Ltd's newsletter, covering a selection of software news that we think will be relevant to our clients. Our group of experienced software professionals strives to keep up with the latest developments, and this newsletter is one product of those efforts. In this issue, we are putting an emphasis on handheld and wireless computing, both burgeoning markets. See our website at [www.degelsoft.co.il](http://www.degelsoft.co.il) for complete information about our company and how we can work with you.

*David Goldfarb*  
*President of Degel Software Ltd.*

---

## Platforms

---

### Handheld Platforms

We're devoting whole sections in this issue to looking at two of the major competitors in the handheld arena: Symbian and Microsoft. We will tell you about what each company has to offer, and give you a little background information on the less famous of the pair. In future issues, we plan to discuss the other major players in this field, including Palm and Sun's J2ME software offering.

In our Technology section, we examine recent developments in the worlds of wireless communication and instant messaging (IM). Handhelds, wireless, and IM are evolving synergistically in a way that will almost certainly have great impact on future computing paradigms.

### Windows XP

John Dvorak of PC Magazine fame is bullish on Windows XP, the new OS offering due out from Microsoft on Oct. 25. He thinks that it has the

Degel Software Ltd. publishes *The GUI Bits™* as a free service to our clients. While we make major efforts to assure the accuracy of the contents, this information has not been thoroughly fact-checked.

For more information, contact:

Degel Software Ltd.      Tel: (02) 999-5721  
7 Ha'Iris St.              Fax: (02) 991-6718  
Beit Shemesh, 99512      info@degelsoft.co.il

*Note that a fully hyperlinked version of this newsletter is available online at*  
<http://www.degelsoft.co.il/guibits/>

Copyright © 2001, Degel Software Ltd.  
All rights reserved.

potential to reawaken the market and spur a recovery. XP 64-bit Edition, for the new Intel Itanium processor, will be generally available 30 days after the 32-bit XP Home Edition and XP Professional. XP 64-bit Edition has already shipped in a pre-release form with early Itanium systems. And, for those of us who work closer to the iron, there is an embedded version of XP.

Several new XP features are very significant for mobile computing, including zero configuration 802.11 support and 802.1x security. XP is therefore ahead of Pocket PC 2002 in this arena, and offers features matching those of Microsoft's next-generation handheld OS *Talisker*, discussed below. In addition, XP has Microsoft's ClearType technology that significantly increases the readability of text on LCD displays. XP also comes with a new version of Windows Messenger, which we'll discuss below in our article on Instant Messaging in the Technology section.

*(PC Magazine; August 30, 2001)*

*(Microsoft XP home page)*

## Linux

Linux continues to thrive and expand beyond its traditional techy strongholds. InfoWorld quotes a prominent analyst as saying, "...more and more the people bringing in Linux have titles like director of IT, CTO, and other management titles." The number of companies using Linux for at least one mission-critical application has more than doubled between 1999 and 2000. Linux market share in server environments is 27%, as compared to 41% for Windows 2000 and 14% each for Netware and other Unix systems. As evidence of the centrality of Linux, IBM recently announced that its WebSphere e-commerce software can now run on Linux, scalable up even to IBM's large mainframes.

*(InfoWorld; August 24, 2001)*

*(Silicon Valley; August 29, 2001)*

Linux expansion is not just limited to the "big iron." Serial System, a Singapore-based components distributor and consumer electronics manufacturer, has recently unveiled the 27mm thick Terapin Mine, a Linux based handheld, Internet enabled, personal data storage device that stores up to 10GB on its own hard drive. While Linux is native, the device connects eas-

ily to Windows desktop machines where it presents itself as a standard storage peripheral.

*(ZDNet; July 31, 2001)*

*(Terapin Mine Web Site)*

## Java

ARM, the industry's leading provider of 16/32-bit embedded RISC microprocessor solutions, and Sun Microsystems, Inc. recently announced a joint development agreement that will enable the companies to develop new Java technologies optimized for the wireless device market. The agreement will give ARM access to Sun's Java technology that ARM will incorporate into its roadmap of Jazelle technology-based microprocessors.

*(Sun Press Release)*

Nokia announced that it expects to ship 50 million devices equipped with Java in 2002, and intends to double that figure in 2003.

*(Excite News; , 2001)*

---

## Spotlight on Symbian

---

Symbian is a company founded by a consortium consisting of Psion, Nokia, Ericsson, Motorola, and Panasonic. Its single product is the Symbian OS, an operating system designed for PDA and smart-phone type devices. The Symbian OS developed out of EPOC 5, Psion's PDA operating system. Symbian Version 6.0, the initial Symbian release, is used as the OS of the flagship Nokia 9210 Communicator. It includes WAP, GSM, GPRS, Bluetooth, and IrDA communications, and has a cryptography and certificate management module for security.

The upcoming Version 6.1 extends communications capabilities to include GPRS and WAP 1.2.1 support. Companies developing next generation mobile devices on the Symbian OS include Kenwood, Motorola, Panasonic, Sanyo, Sony, and Siemens.

Mainstream applications available for Symbian include the Opera Web Browser, McAfee Viruscan, PDF readers, the Collins Cobuild English Dictionary, and the Michelin Red Guide to Europe. The OS comes bundled with Office-like applications. The Nokia 9210 also ships with RealPlayer Mobile, with commercial

content available from RealNetworks at <http://www.real.com/player/mobile/>.

Recent news in the Symbian world includes an announcement by Intel and Symbian that they will be working together to accelerate software application development for wireless devices based on the Intel Personal Internet Client Architecture (Intel PCA) and the Symbian OS.

With such impressive backing, and a product just the right size and complexity for its market, Symbian intends to put up a good fight against Microsoft, Palm, and Linux.

Speak to us if you would like to evaluate the Symbian platform or want assistance in porting your software.

*(Symbian/Intel press release)*

*(Symbian RealNetworks press release)*

---

## Microsoft Handheld Offerings

---

Microsoft has recently made two significant announcements in the handheld arena. The first is Pocket PC 2002, which is an enhanced version of Windows CE 3.0 that adds Bluetooth and 802.11b wireless support as well as VPN support. There's also an enhanced version of MSN Messenger and other goodies. The second announcement is for Talisker Beta 2.

Talisker, Microsoft's next-generation mobile OS, will add support for things like OBEX, MediaSense, and 802.11 Zero Configuration, all of which will further enhance its wireless support. Talisker will also include improved security features including 802.1x, Encrypted Protected Store, SSL, and support for SmartCard cryptographic service providers (CSPs). While it might be some time before Talisker is commercially released, it is already possible to download complete beta development environments.

In addition, Microsoft continues work on Stinger, its smart-phone system. Stinger, like Pocket PC 2002, is based on Windows CE 3.0. Microsoft has invested in cell-phone manufacturer Sendo to ensure the success of Stinger by giving it a say on the hardware side. Also onboard to build Stinger phones are Samsung and HTC, the manufacturer of the iPaq for Compaq. Though Stinger is currently sup-

ported by a much less impressive group of cell-phone manufacturers than Symbian, nobody can deny the impact that Microsoft may have on this market. Degel is here to get you up and running quickly on the platform of your choice.

*(Microsoft Pocket PC 2002 announcement)*

*(Microsoft Talisker home page)*

*(ZDNet; July 23, 2001)*

---

## Technology

---

### Instant Messaging

Instant messaging (IM) is hot, and wireless communication is making it even hotter. That must be why Microsoft, Lotus/IBM, ICQ, Odigo and Followap have all been in the IM news recently. Microsoft has integrated Windows Messenger, an enhanced version of their MSN Messenger, into Windows XP. Lotus/IBM has released a Beta of the "SameTime, Everyplace," wireless IM and Presence extension to their SameTime collaboration offering. Meanwhile ICQ has just shipped a new alpha version of their instant messenger, offering centralized storage of user information and peer-to-peer shared files, among other exciting features.

Odigo announced a partnership with Diversinet and Wireless Solutions to create an SMS-IM gateway. And Followap struck an exclusive IM and Presence deal with Vodafone, the largest mobile telecommunications network company in the world.

Microsoft's move should be seen in the context of its .NET and Hailstorm initiatives, which see the IM service as a launching point for much richer value-added web services, which will be based on expanding a user's IM account into an online PDA, publicly coordinating scheduling and contact management. Note the parallel development in the wireless world, where PDA's and cell-phones are merging (see our article about Symbian). The IM-Wireless activity seen at Lotus/IBM, Odigo, and Followap neatly ties this all together into creating a future where everybody is online in an information-rich collaborative environment that can be divided into communities or universally accessed. And you thought carrying around a cell-phone was bad!

We at Degel can help you wade through all of the different technologies involved here. When you want to expand your product line to support tomorrow's protocols today, let us give you a hand. We really enjoy doing technology integration—taking a technology from outside your mainstream and helping you tie it in to your product.

*(Lotus SameTime web page)*

*(ICQ alpha announcement)*

*(InfoWorld; July 23, 2001)*

*(CNet; June 3, 2001)*

*(Wireless NewsFactor; June 29, 2001)*

*(Odigo press release; June 27, 2001)*

*(Mobile Voice Portal; July 16, 2001)*

## Bluetooth

Bluetooth is a wireless networking protocol that allows for spontaneous connections for devices that are in close proximity with one another (e.g. when you enter a room you can use the printer there). Recent hardware developments include Motorola's announcement of their Timeport 270c cell-phone with Bluetooth support built in. Meanwhile, Palm has announced a Bluetooth add-on for its m500 series handhelds. And as we've seen, both Microsoft and Symbian now have native Bluetooth software support at the OS level.

*(InfoWorld; July 25, 2001)*

*(InfoSync; July 6, 2001)*

## 3G

NTT DoCoMo, the Japanese Telecom giant, announced that it will be launching the world's first 3G (Third Generation) wireless network, starting with three major Japanese cities and expanding to all of Japan by Spring. 3G is a high-speed wireless technology, which aims to hike transmission speeds to 2M bit/sec, making possible things like wireless video. Current 2.5G technology is limited to 144K bit/sec.

*(ZDNet; September 4, 2001)*

## Peer-To-Peer Computing

P2P computing is one of the hottest areas in Internet technology today, and has attracted the attention of all the major industry players, not least Intel, Microsoft, and Sun.

Last year, Intel organized a peer-to-peer working group, in an attempt increase coopera-

tion between companies in this space and create common standards. The anarchic P2P community initially received this initiative with a good deal of distrust but, over the course of the year, the two sides have moved closer together and the working group has attracted some notable industry players, including Groove Networks, Entropia and Applied MetaComputing.

Sun has announced JXTA technology, a set of open peer-to-peer protocols that allow any connected device to communicate and collaborate with its peers. Features include dynamic peer discovery across firewalls, file sharing, peer monitoring, etc. JXTA is available under open source license and is gathering a groundswell of popular support.

An earlier Java-based Sun initiative, the JavaSpaces technology for sharing and distributing information between peers, has been commercialized by J-Spaces and Versant. Using J-Spaces implementation of JavaSpaces and Versant's Object-Oriented database, the two companies have created a persistent object store through which remote processes can coordinate activity and share state.

Of course, wherever Sun takes Java, Microsoft cannot be far behind with .NET. Microsoft has introduced P2P concepts into .NET and in an excellent MSDN magazine article, discusses how to use .NET tools and techniques to create a *discovery server* allowing peers to discover each other's presence and establish communication. Obviously, the details of building a true P2P network go far beyond what can be covered in a single article; if you are interested in expanding your products into this area, please contact Degel Software Ltd. Our experience in P2P and other Internet protocols can help you get to market faster.

*(Peer-to-Peer Working Group web site)*

*(MSDN Magazine; February 2001)*

*(JXTA web site)*

*(Screaming Media; June 13, 2001)*

## IBM To Offer Atomica Technology

IBM has collaborated with Atomica to create an application called Answer Delivery for its WebSphere Portal Server. This will allow users to select words on Web pages and be dynamically directed to content relevant to those words. The content can be both site specific, for example a corporate database for an Intranet,

and also draw on Atomica's Topic Warehouse, a generic database of information and links.

The application echoes the "Smart Tags" technology that Microsoft eventually left out of the new Internet Explorer for XP, to allay fears that it would be biasing where users would browse. The IBM-Atomica technology is less threatening because IBM is not including anything beyond the Atomica generic database and leaving the rest of the content linkage definition to the customer.

*(InfoWorld; August 27, 2001)*

## Fuel Cells

Remember the days when you used to fill up your car with gasoline and recharge the batteries in your laptop? So do we! Well, soon we might be filling up our cars and laptops with the same fuel, maybe hydrogen. Fuel cells are on the way, and researchers at NEC Corp. and two Japanese government-affiliated research institutes have developed a fuel cell for use in small mobile devices, like notebooks, handhelds, and cell-phones.

Based on new carbon nanotube technology, commercial availability is a few years away. The big plus will be a significantly longer time between ...umm, refills. Companies like Daimler-Chrysler and Toyota are working on fuel-cells for the larger mobile devices we mentioned before.

*(IDG News; August 31, 2001)*

---

## Security

---

### XP and Denial-Of-Service Attacks

A debate has been raging for the last few months between Microsoft and Steve Gibson, a long-time software expert. Gibson claims that Microsoft's forthcoming XP operating system will enable crackers to launch distributed denial-of-service (DDoS) attacks at levels that are far worse than anything we've seen yet.

A DDoS attack is one in which a target computer is "attacked" by many—often thousands—of other computers in such a way that the target is prevented from functioning normally or offering its intended services. Typi-

cally, most of the attacking machines are inadvertent; machines that were co-opted (by viruses or other means) to join in a task spearheaded by a small number of deliberate hostiles.

The problem with XP, according to Gibson, is as follows: Historically, Windows had never implemented a full version of TCP/IP with programmer access to raw sockets (that is, with full access to the values contained in packet headers). Windows 2000 does implement full raw socket access, but restricts access, allowing only administrative accounts to manipulate packet headers. Windows XP offers this same power, but (for maximum capability with old Win 9x programs) allows all users to default to having full administrative powers. Practically, this means that tens of millions of new machines with the ability to generate hacked packet headers will be on the Internet.

The problem with raw sockets, and the reason that Gibson feels that it will allow for very vicious DDoS attacks, is that it allows the "return address" of a packet to be completely obscured, making it possible to create untraceable attackers.

Microsoft does not dismiss this risk, but argues that the danger is inherent in the TCP/IP protocols and is not made significantly worse by the exposure granted in Windows XP. David Dittrich, a security and DDoS expert at the University of Washington confirms Microsoft's arguments and offers some key insights from the Unix world.

Our opinion here at Degel Software Ltd is to be cautious: Ensure that all of your critical computers are safely ensconced behind well-maintained firewalls; verify that your ISP is taking reasonable precautions as well and, just in case, maintain a backup ISP on a distinct network path.

*(Gibson Research—DDoS page)  
(Dittrich's comments)*

### New Releases From McAfee and Symantec

Both of the leading providers of consumer security products are releasing new versions of their offerings, in anticipation of the rollout of Windows XP.

McAfee has announced 2002 versions of be Viruscan, McAfee Firewall, McAfee QuickClean and McAfee Internet Security.

Symantec has announced Personal Firewall 2002, SystemWorks 2002, and Norton Internet Security 2002.

*(IDG News; August 31, 2001)*

*(Symantec press release; August 28, 2001)*

---

## Conferences

---

### Recent Conferences

Wireless Developer 2001 was held August 20-24 at the Santa Clara Convention Center in California. A unique blend of trade show and conference, this show includes a number of individual developer conferences run by companies like AT&T, Compaq, and Ericsson. This is definitely a good annual show to attend if you want to quickly come to speed on the latest wireless developments.

The latest Linux World was held in San Francisco at the Moscone Center, August 26-30. The many speakers included Ramus Lerdorf of PHP fame, Brian Behlendorf of Apache, Jeremy Allison of Samba, Larry Augustin of VA Linux, and many other Open Source notables. Future Linux World Expos will be in New York, Jan 30-Feb 1, 2002, and in San Francisco, August 13-15, 2002.

JavaOne was held in San Francisco, June 4-8. JavaOne is aimed at Java developers and offers a view of the latest technology from Sun and other companies. The next JavaOne will be held in San Francisco March 25-29, 2002.

### Upcoming Conferences

CTIA Wireless I.T. 2001 will be held at the San Diego Convention Center, September 11-13. This conference presents business solutions using wireless technology, with speakers from Microsoft, Oracle, Qualcomm, Samsung, IBM, and other leading wireless players.

Internet World 2001 will take place October 1-5 at the Javits Center in New York. It covers all areas of Internet-related business, including wireless, pervasive computing, enterprise tools, streaming, and much more.

Microsoft Professional Developers Conference (PDC) 2001 will be held October 22-26 in the Los Angeles Convention Center. This conference will focus very heavily on .NET technologies, almost to the exclusion of everything else.

Comdex, one of the largest trade shows in the world, will host over 2300 exhibitors in Las Vegas, Nov 12-16. The one chance a year to see everyone and everybody, this show is in a league all its own.

---

## Degel Services

---

Degel Software Ltd. offers a team of highly experienced software developers who can answer all of your development, project management, and technical evaluation needs. Whether your needs include Internet messaging and chatting, streaming media, porting to cell-phones and handhelds, TCP/IP protocol enhancements, or just good old-fashioned Windows C++ development, we can assist you. We offer programming services for a wide range of technologies, technology evaluations, mentoring, scheduling, and functional design services. See our website at [www.degelsoft.co.il](http://www.degelsoft.co.il) for more details.

---

**The GUI Bits** is a publication of Degel Software Ltd. For more information, contact us by email at [info@degelsoft.co.il](mailto:info@degelsoft.co.il) or by phone at +972 (2) 999-5721.