

Technology Tools

Technology Tools: Finding the Perfect Fit

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Technology Tools

Technology Tools

- ♦ **In the pocket**
 - Mobile phones and PDAs
- ♦ **In the office**
 - Office Automation
 - Intranets, Extranets and the Internet
- ♦ **In the home**
 - Home offices
 - Digital entertainment hubs
- ♦ **In the future**

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Technology Tools

Mobile Phones

- ♦ 500,000,000 phones sold
- ♦ 25% of all humans on the phone by 2006



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Generations

- ♦ **1G Analog**
- ♦ **2G Digital, PCS 10 kbps**
 - CDMA, TDMA, GPRS & GSM
 - Personal Communications Services
- ♦ **2.5G GPRS 40-60 kbps**
 - GSM, General Packet Radio Services
- ♦ **3G UMTS < 2 MBps**
 - Universal Mobile Telecom System

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NTT DoCoMo iMode

- ♦ ~ 18 million users in Japan
- ♦ Email
- ♦ SMS: Short Messaging Service
- ♦ cHTML: compact HTML
- ♦ Microbilling
- ♦ 9.6 kbps
- ♦ +\$3/mo, .03/128k



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Mobile Services

- ♦ Address book
- ♦ Speed dial
- ♦ Caller ID
- ♦ Call log
- ♦ Receive-only email



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Wireless Applications Protocol

- ♦ **WML: Wireless Markup Language**
 - Menu-driven, text-based browser
- ♦ **8 million users worldwide**
- ♦ **5 million pages**



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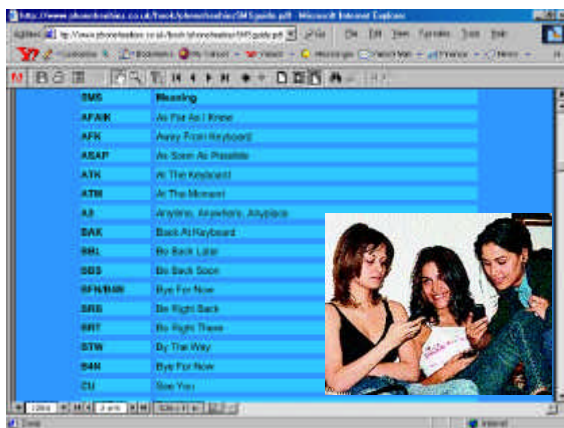
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SMS SHORT MESSAGE SERVICE


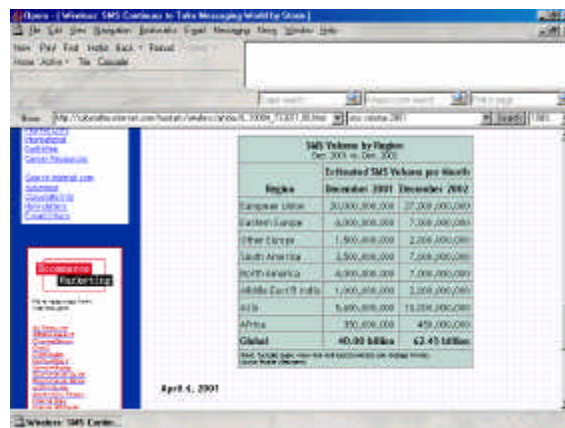
- ♦ **Small LCD text display**
- ♦ **~ 120 characters**
- ♦ **Phone keypad**
- ♦ **Predictive input**
- ♦ **Canned responses**
- ♦ **Low cost**



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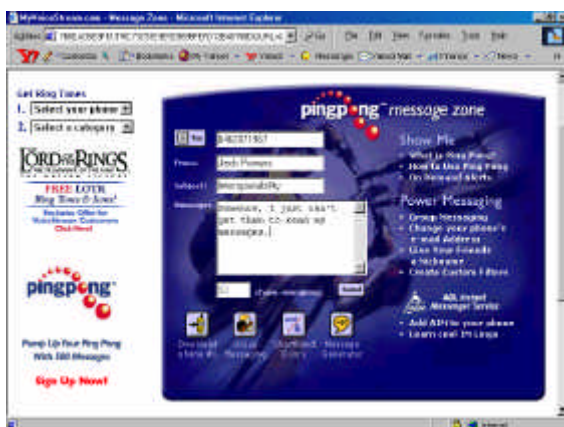


SMS	Meaning
AFK	Away From Keyboard
AFK	Away From Keyboard
ASAP	As Soon As Possible
ATM	At The Moment
ATM	At The Moment
AS	Anytime, Anywhere, Anyday
BAK	Back At Keyboard
BBL	Be Back Later
BSB	Be Back Soon
BYFN	Bye For Now
BRB	Be Right Back
BRT	Be Right There
BTW	By The Way
BYE	Bye For Now
CU	See You

Region	Estimated SMS Volume per Month	December 2001	December 2002
Europe (incl)	3,000,000,000	27,000,000,000	27,000,000,000
Eastern Europe	3,000,000,000	7,000,000,000	7,000,000,000
Other Europe	1,500,000,000	2,000,000,000	2,000,000,000
Latin America	1,500,000,000	7,000,000,000	7,000,000,000
NORTH America	4,000,000,000	7,000,000,000	7,000,000,000
Global	1,000,000,000	1,000,000,000	1,000,000,000
Asia	1,000,000,000	10,000,000,000	10,000,000,000
Africa	100,000,000	400,000,000	400,000,000
Global	40.00 billion	62.45 billion	62.45 billion

April 4, 2001



Get King James
1. [Select your phone]
2. [Select a category]

ping-pong message zone

From: [Name]
Subject: [Subject]

Power Messaging

- Group Messaging
- Change your phone's email address
- Use Your Friends' Numbers
- Create Custom E-Books

ping-pong

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RIM BlackBerry

- ♦ **Wireless email**
- ♦ **Custom programs**



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Palm



PocketPC




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Wireless PDA/Phone

- ◆ Pen interface
- ◆ Smart phone
- ◆ SMS & pager functions
- ◆ Unlimited email with attachments
- ◆ Web browsing
- ◆ + 40,000 apps



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Voice access examples

- ◆ www.tellme.com
1-800-555-tell
- ◆ www.bevocal.com

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In the office

- ◆ Office automation
- ◆ Instant messaging
- ◆ Intranets and extranets
- ◆ The Internet

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Office Automation

- ◆ Spreadsheets
- ◆ Databases
- ◆ Networking
- ◆ Sales automation
- ◆ E-Commerce
- ◆ Customer service

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FedEx Web Site

Cost of telephone customer contact **\$2.00**


Cost of online contact **.07**

David Roussain, FedEx vice president for e-commerce marketing

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Instant Messaging + SMS



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In the home



- ◆ Home office
 - > 43 million home offices
- ◆ Home entertainment
 - Digital media convergence



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Broadband line

Speakeasy/Covad CLEC
1.1 Mbps download and upload
\$199/month

Earthlink ADSL
1.5 Mbps download, 256k upload
\$40/month


TimeWarner Cable Modem
3.6 MBPS download, 1MB upload
\$40/month

Also Cable TV and DTV Satellite TV in


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Home Office




Four port DSL router (bundled)



Eight port 10/100 BaseT Ethernet hub: \$800


Three port Ethernet printer server: \$250




Category 5 Enhanced Ethernet cable: \$300 total

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Four office PCs:
3 laptop cards: \$150 each
1 desktop: \$120
MS Win98 networking



Palm-OS infrared printer driver

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Kid's Room




Eight port 10/100 BaseT Ethernet hub: \$800
Sound System: \$400
CD-R drive: \$200
Portable CD/CD-ROM player: \$180
MP3 Player: \$240

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Music: The Killer App



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PlayStation2



GameCube



Microsoft Xbox

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Media Room



Projection HDTV with DVD, VCR: \$3,000
WebTV: \$200



4 S-VHS/RGB inputs, 2 compos

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Media Room



Ceiva Internet Picture Frame: \$300



RCA EBook: \$200



Sony Glasstron video headset: \$450



Ethernet hub: \$800

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Audio System






Panja Broadband Media Player: \$450



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Cabling




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Wireless Net



802.11b Ethernet Access Point: \$200
Laptop card: \$120



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X10 Trials



Three wireless cams with X10 controller and Web link: \$280



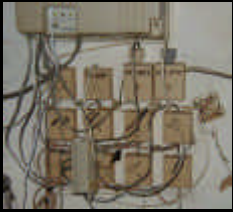


Contents with 802.11b Ethernet

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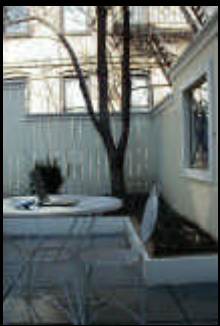


Security & Telephony



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Wireless Net



6 Mbps access

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In the future

- ♦ Wireless multimedia
- ♦ Artificial intelligence
- ♦ The Internet Everywhere

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3G Mobile Phones

- ♦ Enhanced telephony
- ♦ < 2Mbps data transfer
- ♦ Multimedia
- ♦ Streaming media



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Artificial intelligence



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Practical AI on the Web

- ♦ Search engines and content filtering
- ♦ Personalization and customer service
- ♦ Data mining and decision support
- ♦ Speech recognition
- ♦ Natural language processing
- ♦ Image analysis and machine vision
- ♦ Intelligent agents
- ♦ Games and simulations

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Web AI Examples

- ♦ Amazon.com recommendation engine
- ♦ MySimon.com shopping bot
- ♦ Nativeminds.com virtual ECRM agent

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The Internet Everywhere

- ♦ Wireless Internet Protocol
- ♦ Embedded Internet
- ♦ Ubiquitous, Pervasive, Immersive IP

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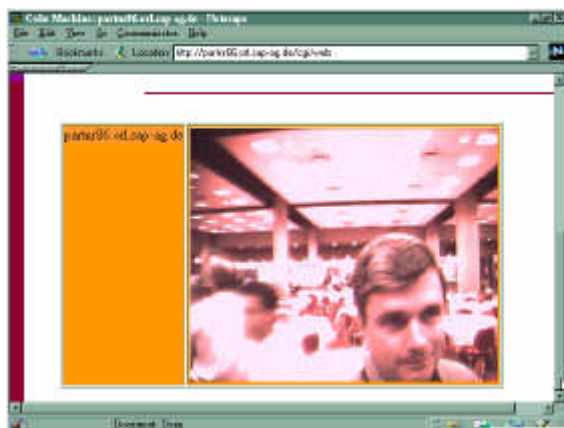
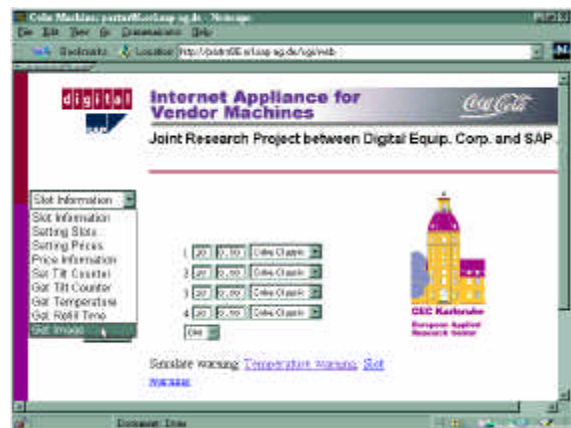


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Wireless Internet examples

- ◆ Eworldtrack.com
GPS tennis shoe
- ◆ Digitalangel.net
Bio IT home location and status sensors

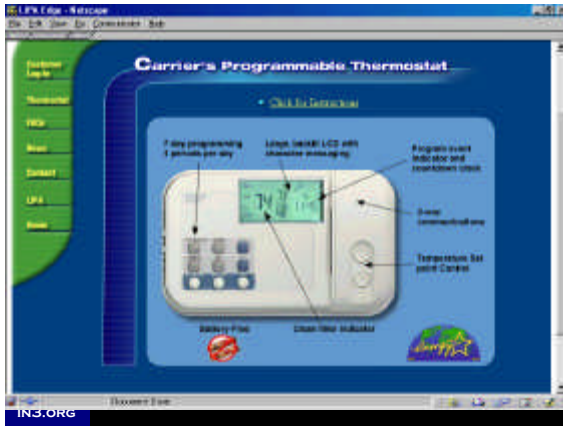
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Margharita Washing Machine

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