Volume 2, Number 9, September 2003

WGR Presents:

Mobile Entertainment analyst

In-depth coverage of the wireless entertainment business

More Over the Air

By Elizabeth Biddlecombe

Some people's vision of the mobile future is one where your handset leaves the factory, as one commentator puts it, as a lump of clay.

The idea is that when you buy a new phone all you need to choose is the form and styling. Your operator already knows you are an avid gamer and that you travel to Japan on a regular basis. Once you have paid for the new handset, the operator sends you this week's new games releases, the latest 3D graphics engine and the radio software so that your phone works here in the States and also on Japan's networks.

This is a far cry from today's set-up, where the phone's capabilities are fixed from the moment it leaves the factory and any new settings have to be applied either in your operator's shop or perhaps via a cable link to your PC.

But operators are increasingly investigating over-the-air (OTA) for a range of functions. These can be divided into three categories: device configuration, device management (including remote diagnostics and resetting) and software management.

Some of these functions are already being carried out today. The obvious example is game downloads, but back-office functions are being taken care of as well. For instance, Sprint PCS upgrades preferred roaming lists and activates new customers OTA, though spokesperson Nancy Sherrer implies that the company is working on being able to do more. Also, Verizon Wireless does its initial phone programming over the air, consolidating several manual steps into one automated phone call.

Those operators using BREW can also recall their applications should there be a problem. This option is not yet available on Java, according

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Get It When?

By Dylan Brooks

In July 2003, Verizon Wireless informally announced to its Get It Now developers that they must make a free demo available for all games. The mandatory demo policy is in a 45-day test period, but most developers should expect a continuation of this policy; exceptions will be made for only the most well-known titles.

Demo Balance Swung To and Fro During Get It Now's First Year

When VZW launched Get It Now on June 17, 2002, most applications had options for free demos. By late 2002, a demo glut created too much of a good thing, as consumers loaded up on free games and ringtones. By mid-2003, however, nearly half of the applications on the VZW deck were available for a fee only, as companies like JAMDAT published titles with no demo.

"Verizon is paying a lot of attention to their games channel, which is basically very good news. Their new demo policy wasn't made in a vacuum," said Mitch Lasky, CEO of JAMDAT. "I bet they will continue to look at the results of this and make the right call, the way they usually do."

But some wireless game developers are fearful that providing demos may decrease rather than increase their game sales. Owing to the simple nature of wireless games – most are neither deep nor complex enough to ensure that a gamer can't satisfy his curiosity in the brief time allotted by the demo – a gamer may have gotten his fill of a wireless game by the time he has gotten the hang of it via a demo.

Full Price Is Already so Close to Free

Demos are arguably inappropriate for wireless games, which cost an average of $2.33 for a 30 day download, and $5.14 for unlimited use on Verizon. The $2 to $3 monthly subscription price for each game is a low-

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Short Messages

By Gal Nachum

Owning the Mobile Content Customer

With operators battling it out to provide a wide range of compelling mobile entertainment services such as multiplayer games, polyphonic ringtones and other media rich content, such as MMS, logos and screensavers, it is becoming more and more essential that these services are not only user friendly, but that the operator retains control over both the customer relationship and experience.

This desire for the operator to establish not only a better user experience but a closer relationship can be seen with the recent success of content portals, such as Vodafone Live! and T-Zones. These initiatives demonstrate that mobile users prefer content to be in one place. This gives the mobile user a greater sense of control over his handset, and enables him to get the most out of the mobile phone. Vodafone Live! is a good example of how mobile operators can work with handset manufacturers to create a revolutionary operating system that provides simple and logical navigation.

But improved portal navigation still doesn't go far enough to truly capitalize on the operator's desire to understand and own the customer. Operators may source their content from a number of different suppliers and manage them through a number of different systems. If these services are not brought together successfully by a centralized back-end system, it will be more difficult to provide a seamless and logical user experience. Furthermore, the process of managing the content life cycle (from testing through delivery) becomes more complex and places more demand on resources. But, perhaps most important, without a unified back-end system, the operator may simply lose control of the customer relationship and experience. The increasing fragmentation of the value chain between network operator, handset manufacturer and content provider means that customer ownership is becoming ever more important to the service providers.

Truly centralized portals have a comprehensive back-end system in which all the elements of mobile entertainment should interact with each other. One example of this is single sign-on, which would enable the user to roam around the portal using different services without having to re-enter password information. A single sign-on facility also gives users greater scope to meet other people through interaction in games and chat rooms.

Some of the most popular services, such as mobile dating and multiplayer gaming, revolve around the creation of mobile communities. Community-building features, such as sophisticated lobby systems, allow players to chat with each other and invite other people to play a game. A single back-end would also benefit high-score posting because people could post their high scores under the same name each time and enter competitions without having to use a different name, currently the case under an ASP model.

> This is clearly where operators will reap the rewards.

By ensuring that the customer stays within the operator's portal to access value added services, the operator can monitor customer behavior and build accurate customer profiles. This is clearly where operators will reap the rewards. If they can pinpoint the interests of their customers, they can then predict their buying habits. Once the portal has a unified system, the operator will be able to build a more complete picture of its customers and their preferences across a multitude of services, opening up new cross-promotion opportunities. For example, ensuring the gaming server interacts with the content management server will enable operators to offer ringtones or logos as prizes for winning games or target anyone that downloads a football club logo with football-themed data services, such as premiership news or club anthem ringtones. Operators that understand their customers' preferences can use SMS alerts to promote new or complementary services. With the continuing rise in mobile spam, it is vital that SMS alerts are relevant to the user.

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Stat!

Wireless Internet Stats from SK Telecom

	7/02	10/02	1/03	4/03	7/03
Internet-enabled handsets ('000)	13,424	14,355	15,094	15,789	16,248
WAP Handsets	11,854	13,023	13,966	14,744	15,370
2.5G Handsets	7,355	8,806	10,365	11,601	12,758
Color Handsets	2,506	3,867	5,315	6,718	8,205
Mobile Data Users*	7,167	7,689	8,330	8,436	N/A

** Represents people who use wireless Internet service more than once per month via handset, PDA, and VMT, etc.*

Source: SK Telecom Monthly Fact Sheet

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Java with Chinese Characteristics

By Richard Robinson

This September, China's leading mobile operator, China Mobile, is scheduled to commence full billing of Java services in Mainland China.

This follows the May 2003 launch by the China Unicom/Qualcomm Joint Venture of their BREW service, which started billing in early July via Unicom's CDMA1X network. In February 2003, China Mobile launched a Java trial in Guangdong province, a hotbed of mobile activity with more than 35 million subscribers. When China Mobile's full Java billing is launched, it is anticipated that it will mirror the revenue-sharing business model of its SMS and MMS platforms, in which the operator takes 15% off the top and the remaining 85% goes to the service provider.

Consistent with the billing flexibility seen in the SMS and MMS models, pricing of Java apps will be flexible, with the average application costing around 5RMB (US$0.60) per download. While the price tag may have some content developers sighing, it is the anticipated download and usage volume that fuels interest in the "Mobile" Kingdom. There are now about 250,000,000 mobile subs on the mainland; China Mobile claims more than 70% of the pie, and China Unicom shares the remainder with PHS up-and-comer XiaoLingTong ("LittleSmart" in Chinese).

Despite the relatively low cost per download by international standards, there are a number of unique features of the Chinese mobile market that will make it a very dynamic mobile Java market. A key driver of the market is the average subscriber's comfort level with, and even dependency on, wireless services. Increasingly, mobile data services, such as SMS news alerts, MMS greeting cards or Java games, are becoming an accepted component of a subscriber's phone bill. With the proliferation of more powerful devices and richer content offerings, we believe this acceptance is only going to increase.

> ...pricing of Java apps will be flexible, with the average application costing around 5RMB (US$0.60) per download.

During the past few years there has been a steady growth in SMS, then EMS and MMS and, more recently, an increase in WAP usage, which has been resuscitated by the rollout of China Mobile's 2.5G "always-on" GPRS network. It is via this high-speed network that subscribers can download Java content.

As in most other markets, Java games have proven the early leader in China's content race. More than 500 applications are already available for download through China Mobile. Despite the fact that the console gaming market is nearly nonexistent because a game CD sells on the streets for just 5RMB, PC and online games have tens of millions of passionate players. These hardcore gamers even include Houston Rockets NBA All-Star Yao Ming himself, whose eponymous BREW basketball game is one of the top downloaded BREW apps on China Unicom. To gauge this passion for games, simply go into any Internet café in China: frenzied single-player and network gaming, not surfing and email, is the rule. The pure passion for gaming in China will be a driving factor in the adoption of Java services.

Another key factor is the penetration of Java handsets. At present, China Mobile and China Unicom add nearly five million new subscribers each month, many of whom are eagerly snapping up new, increasingly competitively priced handset models. In fact, China's Ministry of Information Industry (MII) predicts that this year alone 120 million handsets will be sold on the mainland. On the supply side, competition is heating up as local handset manufacturers, such as Bird and TCL, steadily eat into the market shares

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Stat!

Upcoming Mobile Entertainment Tradeshows

October 2003

- Mobile Entertainment Summit: 10/20, Las Vegas, Nevada, USA
  http://www.mobiletechforum.com/mes2003-Oct20.htm
- CTIA: 10/21 - 10/23, Las Vegas, Nevada, USA
  http://www.wirelessit.com/general/
- Mobile Games 2003: 10/23 - 10/24, Madrid, Spain
  http://www.ef-telecoms.co.uk/at_contentframes.cfm?ID=2220&page =Telecoms

November 2003

- World Telemedia: 11/3 - 11/5, Prague, Czech Republic
  http://www.noconline.org/NOCworld/prague2003/generalinfo.htm
- Mobile Internet Expo: 11/20 - 11/21, Paris, France
  http://www.ibcglobal.com/cod/oinfo_lower.asp?pid=UKCC01029&pname=abstract

If you've got other shows in mind or in production, please post them on this discussion thread:

http://www.wgamer.com/forum/showthread.php?&threadid=1267

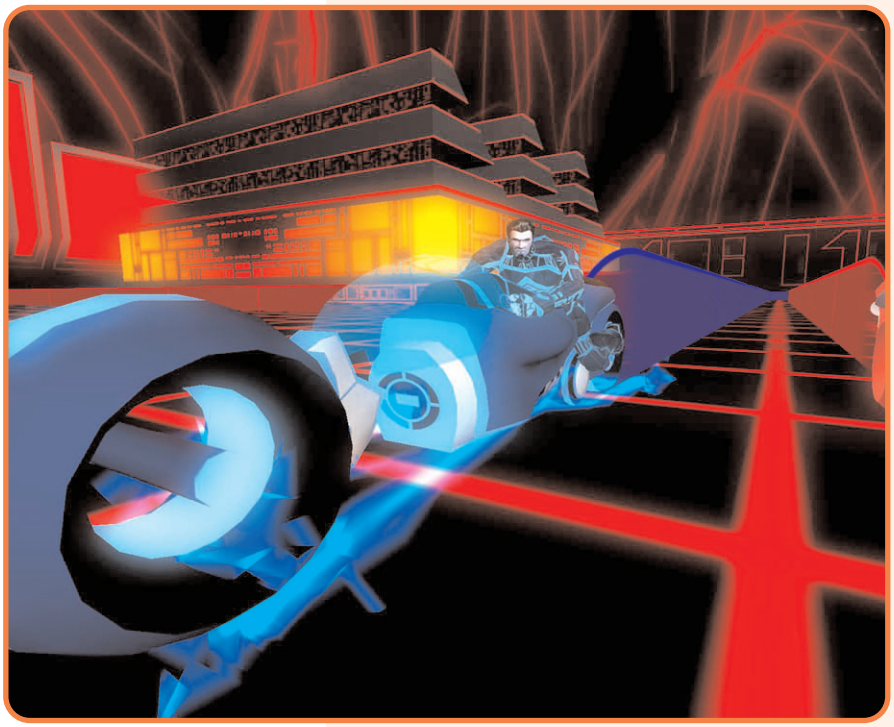
Games We Like

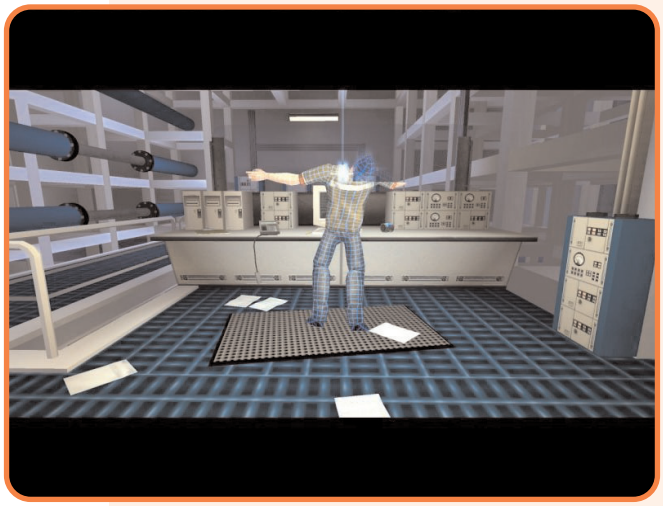
By Avery Score

Tron 2.0

Twenty years after the original film prompted children everywhere to hurl Frisbees at one another, *Tron 2.0* is poised to "digitize" us all one more time. There's no Master Control Program (MCP) this time around, but you do get to thwart the megalomaniacal schemes of a heartless, multinational conglomerate. *Tron 2.0* may not be as innovative as it is stylistically superb; but it is still one of the best first-person shooters to grace the PC this year.

You play as Jet Bradley, the son of Alan Bradley, a high-level programmer for Encom and the creator of the "Tron" security program responsible for defeating the MCP. Whereas Alan has been slaving away for years to create a set of algorithms capable of digitizing a human form, as the MCP did in the original film, Jet is content to work as a lowly Games Division programmer, but he shares more than a background in games with Flynn, the star of the *Tron 1.0*.





...but it is still one of the best first-person shooters to grace the PC this year.

During Future Control Industry's acquisition of Encom, Alan disappears under mysterious circumstances, and Jet races to investigate. Entering his father's lab, Jet is digitized by Ma3a, a frantic AI program designed by his father. Ma3a is under attack by an especially malignant virus that threatens to corrupt her subroutines. After throwing some discs around for a while, Jet uncovers fCon's thinly veiled plan for world domination. Using Alan's unique digitization software, the company has been sending specially trained hackers, known as Datawraiths, into the world's computer systems. fCon reasons that if they control the world's data, they can control the world. Thorne, a giant, green program of unknown origin that's rabidly corrupting existing scripts and forcing them to do his bidding, is masterminding the evil plan.

Once inside the machine, Jet is mistaken for an "unauthorized program" by Encom's security system, the ICP. It assumes that Jet, not Thorne's virus, is the source of the corruption that is plaguing the system and attempts to capture him. This little plot device allows you to combat the same, glowing red baddies that Flynn battled in the original *Tron*. On Jet's quest to find his father and save the world, he also encounters Z-lots (razed, corrupted programs) and, of course, the Datawraiths.

For the most part Jet must go it alone, but he does get some help. First, Jet meets up with Byte, an exuberant little piece of data who resembles Link's Navi. Byte helps Jet with a variety of things, including hacking into more complex doors. Next, there's Mercury, a beautiful security program who's been sent by her user to protect Ma3a. You encounter Mercury's digital assets in the Light Cycle arena (yes, you get to drive light cycles), where she's the reigning champ. Jet and Mercury share the same goal and join forces, begging the question: "Can love bloom on the battlefield ...between a user and a program?"

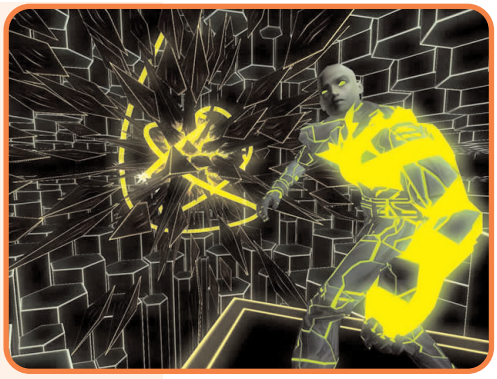
As you progress through the game, Jet's abilities improve. Young Master Bradley acquires numerous special skills, called Subroutines, from data boxes and fallen enemies. Subroutines give Jet new powers, such as additional weaponry or resistance to infection, and come in three different versions, "Alpha," Beta" and "Gold." The better the version, the more powerful it is, and the less demanding to run. You can't simply install these functions and forget about them, though. Subroutines can become corrupted by Z-lot attacks, which means that you have to take time to disinfect them before the virus spreads to your other functions. Also, certain subroutines are unusable when you first acquire them. You have to "port" the skills to work with your hardware.

Jet has four basic types of weapons to aid him: the Mesh, a triangular weapon used by the Datawraiths; the Rod, which is useful for stealth and close-range attacks; the Ball, made of Thorne's infectious, sickly, green-hued goo; and, of course, the Disc, the traditional weapon of *Tron*. Although all of the weapons are useful and can be enhanced through the use of Subroutines, the Disc remains the staple of your arsenal. Fortunately, it's a lot of fun to use. The Disc will ricochet off anything in the vicinity before boomeranging back to your hand. Depending on how open the battle area is, it can take as many as 20 seconds to return. You can control the Disc, to some degree, in flight, by moving the mouse after you throw.

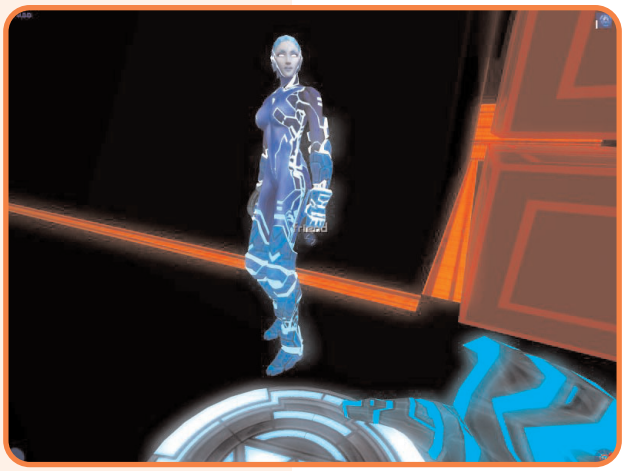
"Can love bloom on the battlefield...between a user and a program?"

The fun doesn't end there. Compulsive stat-tweakers will rejoice at the RPG elements that Monolith has included. By collecting the power-ups strewn throughout *Tron 2.0's* levels, Jet can gradually increase his version number, .02 builds at a time. At each major version interval, you have the option to increase one of Jet's statistics, such as the size of his health meter or the speed with which he downloads data, like new emails and subroutines.

Probably the game's most striking feature is its visual style. Powered by Monolith's powerful LithTech Triton engine, *Tron* is an ocular masterpiece, beautifully matching the look of the film. I tested the game on a fairly modest system: an Athlon XP 2500+/512MB DDR 333/Gainward Geforce FX 5900. Even with all the effects at high resolution, *Tron* ran as smoothly as Saturnian silk, and its iridescent characters and stages unlocked light-sourcing power my rig didn't even know it had.



Those of you who've invested in a decent sound system won't be disappointed. *Tron's* progressive, trance-y beats, and well-mastered dialogue are good reasons to crank up the volume. I often found myself completely ignoring my objectives to sit back and rock out. All of the vintage samples feel straight out of 80's electroclash, yet they seem to echo and reverberate in a more modern, ambient way. Incidentally, you can download some of the music from the game at *Tron 2.0's* official website.



My one complaint of *Tron* is that the game relies too much on jumping puzzles. Although I appreciate that platforming elements can break up the monotony of a first-person shooter, falling to my death 800 times isn't my idea of fun. This would have angered me more, had the game's save system not been as good. Quicksaving won't even cause a stutter in gameplay. Quickloading only takes a second or two.

Much like the movie, *Tron* compares computers to humanity in a way that is at once prophetic and incredibly cheesy. From Byte's ruminations that "all programs are eventually reformatted," to other characters' referring to Jet as a "newer version of Alan," *Tron* will tickle your geek button. Self-referentiality in a game can either suck you out of its world or draw you in deeper. The game is about the user-machine relationship, so its constant reminders that the "people" you encounter are not real only serves to deepen the experience.

Tron 2.0 is an interesting, visually stunning shooter. As the first real sequel to one of my favorite films of all time, it has me in a state of unalloyed euphoria. I think Tycho, of Penny Arcade fame, said it best: "Tron defines me as a person." I can only hope that the follow-up movie, due out later this year, will be of such outstanding quality. I frankly doubt it, although Rebecca Romijn-Stamos IS playing Mercury....■

Get It When?

Continued from page 1

enough price hurdle that demos may not actually be necessary. The only consumers that demos are likely to add to the existing audience are people who are not actually interested in buying but are willing to try a few games as long as they are free.

Demos are arguably inappropriate for wireless games, which cost an average of $2.33 for a 30 day download, and $5.14 for unlimited use on Verizon.

Scott Orr, cofounder of Sorrent, explains it this way, "For a big PC game, a demo is OK because the product is deeper. The problem (with mobile) is that wireless games are a five-minute experience."

Of course, downloaded demos are not actually free to the consumer because of the airtime charges involved. VZW allows consumers to use voice minutes, including off-peak minutes, to download applications, but because of low customer awareness of the potential aggregate costs they spend $0.20 on average in airtime, which Verizon Wireless does not share with developers. The net effect of this policy is to increase cash flow to Verizon Wireless but not to its developers.

From VZW's perspective, this income stream for data transport may be more important and have greater room for growth than the 10% of each subscription charge they currently garner. Many Asian carriers that generate significant data revenues, like NTT DoCoMo, rely primarily on data transport charges (more than 80% of data revenue in DoCoMo's case) rather than on their small share of subscription charges. Verizon Wireless may have implemented the mandatory demo program to benefit the consumer and developer, but the extra revenue will be lining its pocket.

Demos Can Either Help or Hurt Sales

Some purveyors of branded games and expensive licenses maintain that demos hurt their sales, which do not need demos to generate interest because the marketing already associated with the license (for example, Disney's Pirates of the Caribbean) will sell the game. Mandatory demos may prove to be a great consumer boon for games that are unknown or unclear based on the title description, letting the consumer know what he or she is buying.

As the number of demo downloads increase, games sales may or may not increase, generating some anxiety among developers. In fall 2002, JAMDAT reported that one third of its downloads were paid-for versions of its games, though not all of its titles at that time came with demo downloads. Under the mandatory demo rules, most developers now feel that success would be having 10% of downloads paid for. VZW, however, will almost certainly increase its revenue as long as demos do not completely cannibalize its paid-for game sales.

In the final analysis, though, the effect of requiring demos probably does not have one single impact on game sales. Given the opportunity to try before buying, consumers who are hooked by a demo will pay more for the full version than they would have had no demo been provided. Consumers who have been turned off by the demo, of course, won't pay anything, so a game-by-game "flight to quality" is one medium-term result of Verizon's mandatory demo policy.

True conversion rates are not available to developers because only total downloads and total purchases are reported.

The $5,000 Question: How Much Time to Spend on Your Demo

Carriers brush aside the costs of developing demos as merely "a few days" or "maybe adding 5% to the cost" of each application. It's true. For most current games, simply adding a timeout feature via BREW application management tools requires a few hours at most. However, developing demos that limit scope or playability or developing trailers or slideshows for each game calls for a greater time commitment. Despite the added costs, most developers are moving toward developing demo level stops in each game in the hopes that a payoff for extra development and testing time will come via higher conversion rates.

Stat!

Most Popular GBA Games As of 9/4/03

1. Final Fantasy Tactics Advance
2. Dragon Ball Z: Taiketsu
3. Yu Yu Hakusho: Spirit Detective
4. Mortal Kombat:Tournament Edition
5. Dragon Ball Z: The Legacy of Goku II
6. Advance Wars 2: Black Hole Rising
7. Boktai: The Sun is in Your Hand
8. Sonic Battle
9. Pokemon Ruby Version
10. Madden NFL 2004

Source: Gamespot.com

Better Reporting Needed to Measure Conversion Rates

Demo conversion rates (the portion of downloaded demos that are later converted into a paid-for full version) appear to vary widely, from 5% to 50%. True conversion rates are not available to developers because only total downloads and total purchases are reported. Developers are left to estimate what share of their purchases was generated by demos versus direct sales. Furthermore, developers find it difficult to benchmark their performance because Verizon Wireless does not disclose conversion rates to third parties. In its first year, VZW's system strengths were praised, and its weaknesses were written off as immaturity. However, Get It Now and BREW are now mature enough that developers should expect better tools to track weekly how well each title is selling and how many titles are converted from demo versus purchased outright.

Success Buys Ringtone Providers Exemption from Demo Requirement

Every category of Get It Now applications is required to carry demos, except for ringtone providers. For two reasons this is a good idea that game developers should learn from. First, ringtones are the leading download category and have shown themselves capable of garnering significant sales without the free downloads most providers once offered. Second, each ringtone download application provides a song demo via the preview function. Game developers will soon follow suit: creating preview functions via game trailers. Just like ringtone previews, trailers allow developers to give consumers a taste of the game without changing the functionality of their phones. Right now, a low-resolution video slideshow would not give a fair preview of any but the most familiar mobile games, but as phone specifications continue to improve, previews will become a better option.

Other Carriers Likely to Follow Suit

While Verizon Wireless is currently the only US carrier to mandate demos for all game titles, other carriers are considering similar moves. Developers have begun to receive informal requests that games contain demos when practicable. Some developers, like Centerscore, that are more bullish on the positive effects of demos on sales have gone so far as to bring demos to other carriers proactively. Most likely, all carriers, including VZW, will end up adopting a flexible-mandatory demo policy, meaning that well-known developers with popular licensed game titles may be exempt, but developers with unproven titles may be required to provide demos.■

Short Messages

Continued from page 2

The challenge of managing such a wide range of mobile entertainment services is certainly becoming much greater. Operators have limited resources and an increasing range of applications and services that they need to keep fresh to maintain customer interest and revenue. In this climate, the benefits that a unified back-end system provides are increasingly apparent. Centralizing all of the entertainment services from multiplayer gaming to community and content management will not only vastly improve the customer experience, but it will also allow the operator to continually shape its offering and understand customer behavior on a level that is often aspired to but has not always been realized until now. ■

Handset Highlights

Sony Ericsson Z600

Modes: GSM 900/1800/1900
Target Market: high-end
Screen: 128 x 160 pixels, 65k colors;
Apps: Mophun and Java MIDP
Available: Q4 2003

Sony Ericsson has a new flagship phone with the Z600. While the clamshell design is very Japanese, the feature set includes Bluetooth, both Mophun and J2ME application support, and an optional Gameboard attachment for serious play.

T-Mobile MDA II

Modes: GSM 900/1800/1900
Target Market: high-end
Screen: 240 x 320 pixels, 65k color
Apps: Windows Pocket PC native
Available: Q4 2003

HTC's Pocket PC phone gets another rev, with this successor to 2001's MDA. To be sold by T-Mobile under their own brand, this device probably still won't make it into the hands of many consumers.

Motorola A920

Modes: GSM 900/1800/1900 and WCDMA
Target Market: high-end
Screen: 208 x 320 pixels, 65k colors
Apps: Symbian native, Java MIDP
Available: Q4 2003

Motorola sent mixed messages this month, as it sold its stake in Symbian just as it revealed its first phone to use the Symbian OS. The A920 is a 3G phone which uses the same UIQ desktop as the Sony Ericsson P800, which may offer a ready base of compatible software.

LG 7100

Modes: GSM 900/1800/1900
Target Market: mid-range
Screen: 128 x 160 pixels, 16 bit color, TFT
Apps: Java MIDP
Available: Q4 2003 in Europe

LG enters the GSM market with a splash, offering a color camera phone with that wacky swivelling screen. A first for Europe, this phone's camera is helped by a tiny built-in flash as well.

More Over the Air

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to Nachi Periakaruppan, senior product manager for Java wireless technologies at Sun, and it may not make its way through the standardization process for another 18 months. Both groups are working on being able to push applications to users, rather than relying on the pull model currently in place.

'What do you want your device to be today?'

In the future, the core functionality of a handset could be enhanced: the codecs adapted to allow for push-to-talk capabilities, the media player upgraded. A company called Digital Airways has developed a technology allowing the user interface to be adapted once the device is already out in the field. Adapting the radio capabilities of the device is further out on the horizon. Allan Margulies, the chief operating officer of the Software Defined Radio Forum, reckons that we won't see such a flexible hardware platform for commercial use for another two years at least.

Jason Kenagy, senior director for client product management at Qualcomm, says that his company is working to allow a content catalogue to be more tailored to users so that it can be displayed according to their usage profile rather than what language users speak or which phone they use, as at present.

John Rizzo, chief architect, group technology at Vodafone, suggests what could happen within a game itself. "What if you put the framework of the game on the device but then add new levels or new characters, new widgets, based on what the users have done?" he asks.

Rizzo is thoroughly immersed in this area, developing theoretical service architecture for OTA functionality and trying to generate some momentum behind his methodology for software management.

His personal enthusiasm is matched by that of Vodafone to the extent that the company has a group researching how to use OTA methods to offer new services, not just new applications, to users. But, says Rizzo, getting investment when the mobile data market is still not yielding much revenue is a struggle.

Yet this emerging ability benefits everyone. A device can more closely mirror a user's needs. "The question should be, 'What do you want your device to be today?' " muses Rizzo, warping the Microsoft tag line. "Devices today are built to service a variety of needs," he says. "You have to segment resources to serve (those) many needs. (This means) that more users will get all the resources on the devices focused on what they want to do."

A corollary of this "lump of clay" vision is that device life cycles will be pushed to the limit of the hard-

Stat!

Korean Mobile Game Launches By Operator

Week of 7/28

SK Telecom: Real Tennis, Bogga Bogga, Crazy X, Same Age Teacher, Princess Maker
KTF: Bubble Bubble, Spooky Story at Women's High, Baby Olympics, Mythology-Apolio, Kuta's Baby Search, 365 Slots, Julgamenet's Four Stone, Lord of the Rings, Mu
LG Telecom: HotWind! GoGo Tank, Tomb Of Heros, Comeonbaby Bowling

Week of 8/19

SK Telecom: Major League Baseball, Mr. Hammer Q, Commando2, Battle Craft, Silent Night, Kanghodong's "Chunsengyunbun"
KTF: Gogo Area Battle, Dancer King, Lineage Mon Quest, Magic Royal Chess, Smashing 2003, Three Kingdoms ChunMyoung, Jurassic Running, Hamburger Tycoon
LG Telecom: Tree, Lupin The Thief, Queen of the Beach, Tank 2003, PengPeng Serve

Week of 8/25

SK Telecom: Lucian's Adventure
KTF: Raiden, Wizard Mutul, Erasor Battle, NetPoker, Magic Message

Week of 9/1

SK Telecom: Gundam RPG, Gundam Marble, Original GoStop, Fragrance of Summer, Buy Tonight, Hunting Master
KTF: Fleet of Silence, Academy of Horror
LG Telecom: Compulsion, Top Blade, Cross Break

Source: GAMEVIL Inc (www.gamevil.com)

ware itself, rather than being defined by a user's desire to have the latest new functionality. Any negative impact on vendors would be offset by the greater economies of scale presented by not having to tailor each production run to the needs of a particular operator.

Carriers can take advantage of this development in two ways. OTA allows them to contain the customer-care costs incurred when configuring the device at point of sale or the princely sums required to recall hundreds of thousands of devices when there is a software bug. It also gives them the opportunity to introduce revenue-generating new services to mass-market devices.

Carla Fitzgerald, vice president of marketing at Bitfone, explains how OTA functionality can benefit the developer. "(They) face a challenge. If their development cycle isn't right on target with that of the manufacturer, then they miss the window of opportunity. Having the ability to upgrade the phone when it is in the customer's hand is good news for developers because they are not locked into the manufacturers' cycle."

Bitfone's mProve technology allows remote firmware upgrades. Earlier in the summer the company orchestrated a meeting in California at which operators and vendors set out to define a set of requirements from OTA methodologies.

"We realized that there are many carriers who don't know what they want," said Fitzgerald. "They are still investigating how it should fit into the existing infrastructure, how they should charge and the current business model," she explained.

The group, which now involves about 15 different companies, was, at the time of writing, busy agreeing on its charter. Once that is in place, the idea is to submit these requirements to standards bodies such as the Open Mobile Alliance, GSM Association and the CDMA Development Group.

At present, this is a proprietary space where carrier-developed solutions compete with Bitfone, DoOnGo Technologies, Insignia and Red Bend Software. Ken Dulaney, a vice president at Gartner Research, thinks there can never be that much standardization because of the multitude of implementations that operators employ in their content portals.

John Rizzo at Vodafone hopes that he is wrong, highlighting what he says is the wireless data industry's need to make standards less fragmented and more fully specified.

Rizzo is also clear on the importance of OTA for adding extra spark to the mobile data market. "It is what is going to enable a competitive and experimental data market," he says. "This is not a successful market yet – we need a more flexible approach to these platforms."■

"...Having the ability to upgrade the phone when it is in the customer's hand is good news for developers because they are not locked into the manufacturers' cycle."

Java with Chinese

Continued from page 3

of their more famous rivals, Motorola and Nokia, and drive down prices. Couple these factors with the capacity of a Chinese consumer to spend a month's wage or more to upgrade his or her handset to the "latest-greatest," and it bodes well for the future uptake of Java phones.

Content is a fourth factor that we think will converge with the factors already discussed to boost usage of Java apps. Chinese subscribers have a fairly voracious appetite for mobile content and an eye for quality and brands. At MIG, we work with a broad range of leading international developers and content owners to localize and publish their best-of-breed content in China and other growth markets, including India and South Africa.

As you would expect, there is a lot of great content available from developers in Korea and Japan and increasingly more from less well-known mobile markets like Slovakia and Canada, where developers are looking to take their content to a global audience. We see some of the success factors for Java games content in China being shelf-life (repeat playability), new and innovative features, as well as recognizable branding to help differentiate a particular title from hundreds of generic apps with fairly basic functionality.

...games have proven the early leader in China's content race.

The serving up of Java here in the land of tea is still in its nascent stages, but China's enormous mobile subscriber base, which is predicted to grow to 350 million in a couple of years, along with the mobile market's unique features should converge to make the Middle Kingdom a leading wireless Java market in the coming years.■

Contributors:

Cashman Andrus left a career of slinging code and herding cats to co-found Wireless Gaming Review. Before WGR, Cashman was Director of Development at Yesmail and an award-winning application developer for the Palm platform. He earned a Bachelor of Science degree in Brain and Cognitive Science, with a concentration in Computer Science and Linguistics, from the Massachusetts Institute of Technology.

Matthew Bellows has worked in telecom and the Internet since 1995. Before co-founding Wireless Gaming Review, Matthew was Director of Business Development for Engage (NASDAQ:ENGA). At Engage, Matthew managed the team responsible for 4,000 advertising contracts that drove $30 million in annual revenue. He received his MBA with high honors from the Olin School of Management at Babson College. Matthew's first job in the game industry was as a tester at Infocom, where he spent the bloom of his youth playing Leather Goddesses of Phobos.

Elizabeth Biddlecombe (ebiddlecombe@apexmail.com) has been writing about the telecom industry since 1997, contributing to a range of trade titles on diverse subjects. She moved to San Francisco from her native London in spring 2001 to cover the Americas for Emap's comms titles. She has a BA Hons. degree from Manchester University in English and Philosophy.

Dylan Brooks As Principal Analyst, Dylan Brooks has led forecasting and analysis for Independence Research since its founding in January 2003. Coverage areas include wireless data services, device evolution, 802.11, consumer broadband, virtual service providers, and fixed wireless technologies. Prior to his work with Independence, he was Jupiter's lead wireless analyst from 1999 to 2003. Brooks appears regularly as an expert commentator in top-tier press, TV and radio, and trade publications. He earned a B.S. in foreign service and international economics from Georgetown University in Washington, DC. He lives in Telluride, Colorado, with his wife and young son.

Anne McLellan (annemclellan@attbi.com) has varied experience in graphic design and production, with a specialty in publications. Anne has worked as a consultant in corporate training and development, and in marketing, for education and arts clients. She has a BA in Fine Art from Brandeis University, a Graphic Design Certificate from Mass College of Art and studied design and illustration at the Art Institute of Boston and Rhode Island School of Design.

Amy Monaghan Before joining WGR, Amy was an editor with Forrester Research Inc. (NASDAQ: FORR). She has also edited publications for Harvard Business School Publishing, Boston Common Press, Rockefeller University Press, and Cell Press. Amy holds an MA in English literature from the University of Chicago and a BA in English literature from Wellesley College. She is not as boring as her résumé might suggest, and she rides a black Schwinn Classic cruiser.

Gal Nachum is director of product management for Cash-U. He is responsible for the Pecan platform and the SDK's road maps. Gal is heavily involved in MMS support. Before joining Cash-U, he cofounded and was the managing director of Synopsis Systems. In 1994, Gal cofounded and was the president of Mobix Communications. Gal holds an M.Sc. in computer science from Tel-Aviv University and a B.Sc. in mathematics, physics and computer science from the Hebrew University, Jerusalem.

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Avery Score is a self-proclaimed otaku who constantly partakes in such involved, athletic endeavors as playing old-school RPGs. Avery has the looks of Camui Gackt and the mind of Yu Suzuki, and has been likened to several deities. When not providing content of truly extraordinary quality for WGR, Avery is an honor-roll student at Milton Academy.