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## ADVERGAMES: OVERVIEW

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**Abstract:** *Advergame is a new marketing concept that has appeared due to the fact that young people are always connected to the Internet, are using mobile services such as SMS and MMS, or are chatting with instant messenger services and they spend too much time just playing in a stand alone way or in a network game. A new revolutionary service is the advergame one; that is a game with advertisement capabilities. Any company can develop an advergame that is, a game with some kind of advertising process of this company. This paper introduces some idea and concepts when developping an advergame..*

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### Introduction

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Online games are the future of the interactive entertainment industry, seeing the convergence between the traditional media, and entertainment industry, and the gaming industry in an effort to develop new and sustainable business models and revenue streams in an increasingly online world. They move the gaming industry into a more functionally rich online environment from which the majority of the revenue stream will come -- an e-business environment. But moving to this new model presents a number of challenges to the games developers, the players, and the service providers who ultimately will need to support this new environment.

However, it also presents a number of exciting opportunities for new business models, new markets, and new growth. The main problem faced is a solution integration issue. The player wants to pay for online content with their existing channels, but they also want security and privacy. The developers need cross-platform integration and support for multiple services, channels, and providers. The service providers need to build reusable business function that is robust, efficient, and generic -- it should work for all business models, not just the gaming industries.

Online games come in many forms. Perhaps the most recognized are the highly visual, action-oriented pop-ups familiar to NYTimes.com users. They're primarily used by advertisers for branding purposes and are generally delivered via pop-ups and in various other ad formats on third-party sites. The objective is to attract traffic and acquire new customers.

Instant-win promotions and contests requiring some level of consumer participation are increasingly popular. Again, their purpose goes beyond branding into acquisition and building databases of customers and prospects. These games can take many forms, from a roulette-style wheel spun by the user to determine whether she's got a winning game card to an online drag race in which consumers challenge an automated car for a chance to win a related prize.

One marketer specializing in such online instant promotions had noteworthy results with incentive-based online games and contests.

It's hard to say, but most marketers' resistance to the game industry probably has to do with the pimply, geeky gamer stereotype. If we're not in an industry targeted to the teen market, we probably don't believe that games can have any impact on our marketing efforts. That's wrong, and more companies than ever out there are trying to change our collective marketing perceptions -- and convince us to start using games as advertising.

The concept's called advergaming, and regardless of its clunky moniker, it's a concept that has worked well for brands such as Nike (with its Nike Shox email game campaign), Ford (which used a racing game to promote its new Escape), and Pepsi. Companies such as YaYa, WildTangent, and The Groove Alliance have used stunning 3-D technology to create games that rival many commercial desktop and console games. Other companies, such as XI Interactive have brought together some of the finest minds in the gaming industry to create killer sports games. They combine single-player fun with innovative viral techniques that get consumers engaged with brands.

Even now, most of these games can be played over dial-up connections with middle-of-the-road computers. But with higher-speed computers and broadband connections becoming commonplace, these games are destined to become killer marketing vehicles for the future.

Simply put, games engage users for long periods of time, immersing them in an environment where they can develop an affinity for the brand. Rather than merely watching the action (as they do when viewing a sponsored sporting event on TV), advergaming consumers actually become part of the action. Also, since the experience can be closely scripted in a near TV-like manner, the action can be interrupted to show TV-like commercials, or the views can be scripted to ensure advertiser messages are seen. It's a great combination of interactivity (for the user) and control (for the advertiser).

Some companies (such as Life Savers) create destination sites (check out Candystand) that host heavily brand-identified games. Others (such as Nike) have created effective viral campaigns in which users can play each other via email, inviting friends to beat their scores. Games have also been incorporated into banners and other rich media ad vehicles.

The market (and audience) for games is huge now and is going to continue to grow in the future as today's kids become tomorrow's sophisticated consumers. It's time to consider games as a viable marketing vehicle.

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## Advergaming

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The strict definition of an advergaming is a Web-based computer game that incorporates advertising messages and images. However, we like to think of it as a tool that adds stickiness to your site as well as a little fun. Advergaming allows you to market your product or brand subtly. Benefits of an Advergaming are:

- Brand image reinforcement.
- Databases created from the advergaming can be used for demographics research.
- Targeted markets can be reached by your advertising (when the game link is emailed).
- Visitors may spend more time on your site.
- Increased traffic due to viral marketing.

An advergaming is not just for kids anymore - many surfers play advergaming. These surfers include but are not limited to:

- 59% of the boys ages 13 to 17 who go online.
- 62% of the men ages 18 to 24 who go online.
- The largest group of women game players are between the ages of 45 and 54.

Like other advertising promotions not all advergaming are equal. Here are some advices:

- Add a sweepstakes element to your game to provide an incentive for return visits or multiple plays.
- Include a viral component to encourage individuals to e-mail the game or its URL to friends to maximize word-of-mouth marketing.
- Consider a partnership with a company that can market your game to your desired audience. Simply building a great game and placing it on your website won't maximize impact.
- Make the game part of a larger media buy, such as by placing it within an interstitial and using buttons or banners on other sites to raise awareness and drive traffic.
- Take measures to reach your target audience during their leisure time. It's more likely they will play your game, and studies show people are more receptive to marketing messages when they are having fun

An advergaming can help generate leads, build long-term brand awareness, and increase site stickiness as well as repeat web site visitors. It is a cost effective tactic that any sized e-business should at least check into for possible inclusion in marketing efforts.

Games in general are undeniably popular. Some of the more successful interactive games used for advertising purposes are parodies of the tried-and-true brand name games such as Jeopardy, Wheel Of Fortune, Who Wants To Be A Millionaire? and Roulette. In the end, what makes for a good interactive game for the player is a compelling, immersive experience.

What makes for a good advergame from the perspective of the advertiser footing the bill is the incorporation of a seamless data capture device. That data is then leveraged to build relationships. Even better are games in which in addition to data being captured, the player is learning about a product or service, its features and benefits, while playing the game.

An advergame can be used as part of an email campaign to a qualified, rented 3rd party opt-in list. The idea is to tease the recipient enough in the email to cause click-through to a special landing page. It is there at the landing page that the forging of an emotional bond with the prospect starts, and that the game is played.

In order to play, or to get to the exciting or more challenging levels of play, information is required of the prospect. At the very least, this includes name and email address. Some interactive games require additional data for each game level. The greater the prospect's desire to continue to play, the greater the likelihood the prospect will willingly provide additional data. It is critical that the prospect not be made to feel he has been brought to the game for the sole purpose of providing personal information. The prospect must feel he wants to be there of his own free will playing that game, or there will be no data at all forthcoming.

Another manner in which leads are generated is through a tell-a-friend viral device. Encouraging such forwarding can result in a viral factor, if you will, of 25%. This means the amount of leads a game ultimately produces is that much greater than it would have been without the forwarding, or word-of-mouth.

It is the repetitive nature of games that drives up awareness of the sponsor. The same player, the frequency of the brand and/or the brand's message increases, plays each time the game. The greater the frequency, the greater the chances of being remembered.

Research on the specifics of advergaming's ability to build brand awareness does not yet exist. Common sense will tell you that brand awareness does, indeed, increase, but to what degree isn't the point. Awareness should not be sole nor primary objective of an advergaming campaign; it is more of an added benefit to the advertiser. Advergaming's strength is in immediate, and for however long of a shelf life the game may have, lead generation.

Each time the game is played by the same player is also a repeat visit to the site. This is where web site navigation, page design, merchandising techniques, etc. come in to play. A sharp marketer will employ every technique possible to move the player to and through product when the player has completed the gaming session.

The agency with whom an advertiser works to create, implement and manage an advergaming effort will have a mechanism set up to track users (players), qualified leads, viral rate, even viral posting of the game on other venues, if any. The agency will also report on the advertiser's cost per thousand, cost per lead, cost per minute engaged, average engagement time, click-through rate, and conversion rate.

An even more cost effective means of employing advergaming as a marketing tactic is the use of an off-the-shelf game. For this type of game, the agency is re-purposing a game that already exists especially for an advertiser. It is amortizing its fixed production costs over several clients, allowing it to charge a greatly reduced fee for its use. This scenario allows for the simple changing of skins to meet the needs of a particular advertiser, and perhaps a few other adjustments along the lines of incorporating a logo into the game.

The major advantage to a custom interactive game is in the opportunity to tie in product or service features and benefits - even news - to the game play. The obvious disadvantages are extended production time versus re-purposing, and additional cost.

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### **Advergame Architecture**

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There is a broad range of personal computing devices in the market. Personal computers are the most extended ones, but nowadays there are turning out smaller devices such as handhelds and mobile phones. These three devices (PCs, handheld and mobile phones) are in a convergence process since they all have a real operating system with graphical capabilities and can be connected to Internet. All of them have an (it Internet) browser (HTML, WAP and XHTML) and also a Java virtual machine, even SMS services. This is the main reason advergames should be developed using the Java technology or a markup language in order to obtain a portable solution that can be run in any platform (Windows, Linux or Symbian). Maybe simple advergames can make use of WML technology or SMS connecting to a server. Advergames must be implemented in an efficient way mainly due to the limited resources in mobile phones. Connection capabilities of all devices include HTTP and sockets, so client-server and P2P solutions can be used.

A number of different technologies, listed below, are used for games on mobile devices. Some games are programmed to run natively on a phone's chipset, installed on the phone at the factory, and shipped with it. New embedded games cannot be installed by the consumer, and they are becoming less prevalent. Short Message Service is used to deliver short text messages from one phone to another. Users typically pay about 10 cents per message. SMS games are played by sending a message to a phone number that corresponds to the game provider's server, which receives the messages, performs some processing, and returns a message to the player with the results.

Just about every phone shipped since 1999 includes a Wireless Application Protocol (WAP) browser. WAP is, in essence, a static browsing medium, much like a vastly simplified form of the Web, optimized for the small form factors and low bandwidth of mobile phones. WAP games are played by going to the game provider's URL (usually through a link on the carrier's portal), downloading and viewing one or more pages, making a menu selection or entering text, submitting that data to the server, and then viewing more pages. Phones will continue to contain WAP browsers, and developers may find WAP useful to deliver more detailed help or rules to players than can be contained in a game application, since most games are still subject to strict memory limits.

Java 2 Micro Edition (J2ME) is a form of the Java language that is optimized for small devices such as mobile phones and PDAs. Nokia (and most other phone manufacturers) have made a strong commitment to Java phone deployment. Tens of millions of Java-enabled phones are already in consumers' hands. J2ME is limited by comparison to desktop Java, but it vastly improves the ability of mobile phones to support games. It allows far better control over interface than either SMS or WAP, allows sprite animation, and can connect over the air network to a remote server. Because of its capabilities and the widespread and growing deployment of Java-enabled phones, it is a natural for mobile game development today.

It is important to take into account the programming language when developing an advergaming. This software must be installed in many different devices with different operating systems and of course it must not be recoded everytime a new device appears in the market. This is the main reason to chose JAVA as the programming language since most of the today devices have a Java Virtual Machine:

- Mobile Phones based on Symbian Operating System have an embedded virtual machine and
- those non based on Symbian also have one, both of them using the J2ME architecture.
- HandHeld devices can install a software tool such as Jeode from Insignia or J9 VM from IBM.
- Personal computers usually have a java runtime-environment that can be obtain from [java.sun.com](http://java.sun.com) for the Microsoft Windows or Linux platforms.

An developed advergaming with the J2ME with the MIDP profile technology can be run in a mobile phone, in a handheld device and in a personal computer. But if the advergaming is developed with Standard Java maybe only just a few mobile phones will be able to run it, and of course handhelds devices and personal computers will be able to run it.

The MIDP APIs are logically composed of high-level and low-level APIs. The APIs are designed for applications or services where the handset functions as the client device. The user gains access to applications and services that run on the handset through a network service provider. The high-level APIs are designed for applications where software portability across a range of handsets is desired. This is important if you are writing an application or service that a network service provider plans to deploy to a selected set of handsets. To achieve this portability, the APIs use a high level of abstraction. The trade-off is that the high-level APIs limit the amount of control the developer has over the human interface look and feel. The underlying implementation of the user interface APIs, which is accomplished by the handset manufacturer, is responsible for adapting the human interface to the device hardware and native user interface style.

Among the most interesting capabilities of MIDP are the following ones:

- Persistent storage in the device.
- Graphical libraries.
- Connection via sockets or http.
- Portability among different devices.

J2ME is not the only interpreted language deployed on phones, but it is an industry standard backed by many manufacturers and therefore offers a large and growing installed base. Some proprietary interpreted languages

have significant regional presence, including Qualcomm's Binary Runtime Environment for Wireless in North American and a standard called GVM supported by some Korean carriers. Games initially developed for the large J2ME installed base can be recoded in these proprietary languages if a sound business case presents itself.

A simple advergaming can be also developed with the WML language. Only a WAP browser (Opera, EzWap, WinWap, Personal Internet Explorer, etc.) will be needed in order to play it. The problem is that a connection to a server must be established and it is impossible to play off-line. Also WML has neither device storage capabilities nor graphics libraries in order to obtain good results.

MIDP 2.0 is backwards compatible with MIDP 1.0, hence it provides all functionality defined in the MIDP 1.0 specification. In addition it provides Over-The-Air (OTA) provisioning. This feature was left to OEMs to provide in the MIDP 1.0 specification.

An enhanced user interface has been defined, making applications more interactive and easier to use. Media support has been added through the Audio Building Block, giving developers the ability to add tones, tone sequences and WAV files even if the Mobile Media API optional package is not available. Game developers now have access to a Game API providing a standard foundation for building games. This API takes advantage of native device graphic capabilities. MIDP 2.0 adds support for HTTPS, datagram, sockets, server sockets and serial port communication. Push architecture is introduced in MIDP 2.0. This makes it possible to activate a MIDlet when the device receives information from a server. Hence, developers may develop event driven applications utilizing carrier networks. End-to-end security is provided through the HTTPS standard. The ability to set up secure connections is a leap forward for MIDP programming. A wide range of application models require encryption of data and may now utilize the security model of MIDP 2.0 based on open standards.

There are many connection methods when accessing a server or client depending on the device or the programming language when running an advergaming. It is clear that some information needs to be sent among players or among clients-servers in order to accomplish the advergaming, keep information tracking of the users, and the flow advertisement control.

Short messages or multimedia ones are a useful tool when sending information, only telephony services are necessary. Mobile telephones, PDA's with expansion cards or personal computers can be used to send messages. One of the main disadvantages is that a non real-time game can be developed, but it is a good method to keep track information about the users. When a message reaches the game server some information (telephone number, provider, user status, etc.) can be updated in a database in order to send push messages. Typical advergaming that use SMS technology are:

- Test questions, when there are enough messages in the server a prize can be randomly delivered to any mobile phone number.
- Last minute offers, when there are some tickets (cinema, football, theater, etc.) that are not sold they can be delivered to mobile phones with a previous registration or asking the server with a SMS.

Only a SMS server and a agreement with an SMS provider is needed to implement this service. There are many companies that are actually offering such service. Even a Java implementation could be coded but it is needed an special agreement with the SMS provider in order to deliver all the messages to a given IP. SMS is not a particularly good technology for games, because it is dependent on text entry by the user, and thus is, in essence, a command-line environment. It is also expensive for a game of any depth, since a mere 10 exchanges with the server will cost a user 1 dollar or more. Although the deployment of Multimedia Message Service (MMS) technology makes message-based games more appealing, this is still not a great gameplay environment.

A more complex service than SMS can be implemented if devices supports HTTP connections. All new devices are capable of such services. This is an approach similar to WWW services in personal computers. A server is necessary in order to control all the information since the IP address is usually dynamic. Java Servlets technology is an useful tool to implement such services.

This service can use WML and WMLScript to connect to a server or use J2ME to establish HTTP connections. In any case schema is similar to normal web pages. A real-time advergaming can be achieved with this method since it does not depends on the message delivering just as in the previous section. The information is sent in real-time. This is a flexible method since only a browser is needed (or a JVM). The main advantage is the graphical user interface. But no P2P communication can be carried out. Either version of WAP offers a friendlier interface than

SMS, and is generally less expensive for consumers who pay for airtime only, rather than by the message. But it is a static browsing medium; little or no processing can be done on the phone itself, and all gameplay must be over the network, with all processing performed by a remote server.

Socket use gives J2ME developers the flexibility to develop all kinds of network applications for wireless devices. However, not every wireless manufacturer supports socket communication in MIDP devices, which means that wireless applications developed using sockets could be limited to certain wireless devices and are less likely to be portable across different types of wireless networks. To use a socket, the sender and receiver that are communicating must first establish a connection between their sockets. One will be listening for a request for a connection, and the other will be asking for a connection. Once two sockets have been connected, they may be used for transmitting data in either direction. All today devices are using an embedded JVM, typically supporting J2ME version 2.0 (with sockets). Main advantages of this implementation are:

- Sockets management.
- 2D and 3D graphical {it APIs}.
- Persistent storage on the client.

The use of sockets is useful when dealing P2P services. The only problem is that the IP address is dynamically assigned to the client so a server is needed. This P2P service needs to send some information to an advergaming server to keep track information of the players. This solution is the best one since with sockets all previous schema can be implemented.

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## Conclusions

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Advergaming is a new marketing concept that brings users a way to interact with others and also to participate in quizzes. User information can be update in a database in order to send push messages or do mailing while the client is playing some game. Some advertisements can appear in the game or even play with advertisements. The user can win prizes to keep his attention.

This paper has presented some technologies that can be used to develop an advergaming. Java services are the best solution since it is a portable solution and all today devices have an embedded virtual machine.

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