

SCHOOL OF BUSINESS

VINDIGO CASE STUDY

*“VINDIGO A BULLSEYE FOR MOVING
TARGETING”*

ADVT71-540

INTERNET COMMUNICATION CAMPAIGNS

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Introduction

Developments in technology continue to greatly impact the way we work, communicate, and, more recently, spend our leisure time and money. The Internet has provided an extensive and powerful medium for advertisers. One of the great benefits of the Internet is the ability for advertisers to incorporate interactivity into their campaigns. This interaction has allowed advertisers to go beyond traditional advertising options and develop a direct and personalised relationship with customers. Focusing on direct marketing from a web perspective, traditional objectives such as brand awareness campaigns and information dissemination can be achieved but additionally the Internet offers the opportunity to instantly execute sales. Beyond the instant execution opportunity, technology is being used to enhance traditional capabilities by using information to improve the effectiveness of targeting, tracking and providing customisable content to prospective viewers.

While the Internet has brought notable advancements to the advertising world, there are restrictions also. Until recently, the delivery of Internet services had been hindered by the necessity of the viewer to be in front of a fixed computer screen. The growing interest in and implementation of wireless networks and/or mobile technologies promises to provide the next level for advertisers to effectively interact with a growing, adaptable and mobile market. Stephen Spielberg's motion picture *Minority Report*, derived from a novel by Phillip Dick¹, depicts a time when people are tracked via their unique retina image ID and based upon personal demographic information, holographic customised advertising is literally 'beamed' straight to the consumer. There are still technological and privacy issues to be resolved before such methods become widely available to advertisers, however the core principals of this concept are realistic and not science fiction. Technology development has allowed the emergence of location based services (LBS) to mobile devices such as personal digital assistants (PDAs) and mobile telephones.

Recognising the benefit of first mover advantage, New York based start-up Vindigo set about implementing a location based service in 2000. Realising the infancy of the technology they adopted a "mobile first, wireless later"² ideology that allowed them to survive the dot-com demise and seal their position as a first mover in the provision of LBS, bringing reality one step closer to the science fiction of movies such as *Minority Report*.

This study examines Vindigo and the range of services this product provides to consumers and, perhaps more importantly, the opportunities Vindigo presents to marketers and advertisers. In the process of doing this, the study shall have to examine the developments of LBS market as well as the functionality of Vindigo. The advertising applications of the product will be further analysed with a review of the business plan.

¹ Jason@phillipdick.com. (Visited 2002, 11, 17). *The Minority Report* by Philip K. Dick [www document]. <http://www.philipkdick.com/hollywood/minority/minority.htm>

² Klym, N. (2001). *Delivering Location-Based Services in an Immature Market*. Digital 4Sight Corp. [PDF Document] http://www.digital4sight.com/DCAS/published/vindigo_020107.pdf

Vindigo and Location Based Services

Vindigo co-Founders, Jason Devitt and David Joerg, launched the product in New York City on New Years Eve 1999. The pair shared an early affinity for Palm devices meeting at J.E. Shaw where they worked as investment bankers. Recognising the potential for mobile information dissemination, the concept of Vindigo was born. On its New Years Eve launch the trial program consisted of only 5000 listings issued to 50 Palm users.³ These 50 ‘sneezers’⁴ then proceeded to beam this program to their friends and associates who subsequently did the same, beginning the ‘word of mouse’⁵ viral contagion that has seen Vindigo spread so rapidly with minimal promotional expenditure.

The initial 5000 listings were entered by the creators only as a functionality test of the program. From the beginning, a critical decision was made that Vindigo would not produce its own content. Such an effort was considered labour intensive and costly. In-house content development would be diversifying away from the specialty of the founders and staff. Additionally, it would be more valuable to have reviews or content from established and respected industry names. The decision was to focus on the development of a user-friendly application rather than content. Clifton Roberts of General Atlantic Partners claims this was a decision that put Vindigo about 12-18 months⁶ ahead their competitors in New York’s affectionately dubbed Silicone Alley⁷. In spring of 2000 a partner was found when, at an Alley dinner party, an executive of Double Click beamed a copy of Vindigo to Caroline Everson. At that time, Everson was Vice President of business development for Zagat who were themselves looking for a wireless provider to showcase their famed reviews⁸. Vindigo had found the first of many content partners that would see it begin to shine within the location based services arena.

The initial buzz created by location based services was the ability to provide information to the mobile user about goods, services and things of interest at their immediate location, not when tethered to a computer. Like Joerg and Devitt, many saw great potential in the concept of accessing information on the go. From an advertising perspective this immediacy brings increased efficiencies and possible developments. One of the more exciting prospects of location based services is the ability of locating a potential customer and pitching location sensitive information or offers to them while they are in the relevant area. While such a prospect was especially exciting to advertisers, consumers feared what Dr Jason Catlett⁹, President and founder of Junkbusters, labels the “Starbucks Scenario”¹⁰. This scenario describes a consumer travelling in a taxi in New York and when they go by a Starbucks their mobile device receives a message with a coupon inviting the user into the store for a discounted coffee. Due to the density of the Starbucks

³ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

⁴ Godin, S. (2001) *Unleashing the Idea Virus*. Chicago: Dearborn Trade Publishing

⁵ Clark, G. (2001). *The Age of Chaos. Perspectives*; *The Journal of TRBI*. June 2001 Issue [www document] http://www.trbi.co.uk/perspectives/June01/Page2_june01.htm

⁶ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

⁷ Industry description for technology, specifically wireless, based out of New York

⁸ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

⁹ <http://www.junkbusters.com/aboutus.html>

¹⁰ Pavis, J. 2001, February 24 02:00. *This Spam Will Drive You Crazy*. *Wired News*. [www document] <http://www.wired.com/news/politics/0,1283,42002,00.html>

locations in the city this occurs every few seconds as the user travels along. This causes large flows of data and great frustration to the potential target. For this type of push advertising method to work effectively using location based services requires the device to be identifiable by location, to auto-locate. This concept was put in motion by a Federal Communications Commission (FCC) mandate known as E911.

E911 was mandated to improve public safety and security by providing emergency service dispatchers, predominately located at Public Safety Answering Points (PSAP), with additional information on wireless calls. The mandate had two phases. The first required that carriers provide information including the telephone number and location of the antenna that received the call.¹¹ Pinpointing an exact location can be difficult using only receiving antenna data as an antenna may cover an area of up to 20 miles. Phase two commenced October 1, 2001 and is to be completed by December 31, 2005.¹² This phase requires that, upon request, carriers must be able to provide PSAP with latitude and longitude references of calls to within 50 to 100 meters with an accuracy of up to 95%, depending upon the technology used.¹³ In effect this mandate requires that communications devices such as mobile phones must be locatable with considerable accuracy, it must auto-locate. Setting aside privacy issues, the ability to auto-locate is a dream come true for location based services. Not only is auto-location a legal requirement but the financial burden now falls on the carrier networks to implement this technology. This could mean that the carriers may want to leverage the cost of this investment by providing services utilising this information. Given that the deadline for phase two is still some years off, the technology is still in its infancy.

Due to the infancy of auto-location and the cost of implementation, many location based service providers have stalled until this technology becomes more widely adopted and tested. Vindigo is able to utilise Global Positioning Systems (GPS) as a means of auto location. This assumes that users have a PDA with a Nation Marine Electronics Association (NMEA) accredited attachment such as the Magellan for Palm which currently retails for about \$250 USD¹⁴. Many portable systems have limitations including extremely weak and unreliable signals indoors and in densely populated areas. While auto location reduces the workload of the user and is available now, Vindigo developers did not consider this function in any way vital to their product. Former Vice President of Marketing David Shankman suggests that the core value of the Vindigo product is the ability to locate services in a narrowly defined area. If you are looking to meet an acquaintance at a later time and place it is not highly relevant to where you are right now.¹⁵ Auto-location becomes valuable when a user decides they want to go a selected destination there and then and need to be directed.

¹¹ Federal Communications Commission. 2 June 2003. Enhanced 911 [www document] <http://www.fcc.gov/911/enhanced>

¹² Federal Communications Commission. 2 June 2003. Enhanced 911 [www document] <http://www.fcc.gov/911/enhanced>

¹³ Marble, G. 2000, May 20. *Meeting the E911 Mandate*. Telephony: Chicago, Vol 238, Issue 31.

¹⁴ Webmaster. (Visited 23 June 2003) Magellan GPS Companion for Palm m500. 1-GPS.com [www document] <http://www.1-gps.com/magellan-palm.html>

¹⁵ Klym, N. (2001). *Delivering Location-Based Services in an Immature Market*. Digital 4Sight Corp. [PDF Document] http://www.digital4sight.com/DCAS/published/vindigo_020107.pdf

Another core concept of location based services is the ability to provide content and other information such as advertising based on context, specifically location. Wireless networking was seen as the key driver of this ability and was the primary reason LBS became such an exciting prospect. Wireless networks were to be the vehicle to transport all this information straight to the consumer. The infancy of auto-location technology however, is still delaying this from widespread implementation. There is an array of wireless protocols available including 802.11a, 802.11b, 802.11g and Bluetooth, but these are just some of the currently available technologies. Other wireless protocols available for mobile networks including WAP, MMS, GSM, GPRS and 3G. It is very difficult to pin down one acceptable standard or protocol as consensus on a universal standard is nowhere in sight.

To ensure that resources were not wasted on protocols or platforms that may or may not become redundant in the near future. Co-Founder Jason Devitt explains that the decision was made for the technology to be mobile first and wireless later¹⁶. This explains the early focus on Palm devices. They had favourable screen resolution, local memory storage and processing power in the device plus the ability to update the information via synchronisation with a PC. The decision to concentrate on Palm devices was substantiated by Gartner DataQuest's information that placed world PDA acquisitions at \$2905.5 million approximately 56% of which was in North America. Palm operating devices accounted for 75.9% of this market.¹⁷ In 2001 the emergence of the Microsoft supported Pocket PC platform saw the reduction of Palm's market dominance back to 52% of the worldwide PDA market¹⁸ which explains the release of the Pocket PC version of Vindigo in 2002. Currently Vindigo have two offerings, the two PDA versions reside on the client object or PDA, and the mobile version for internet enabled phones using BREW, Java or Server Driven User Interface Definition System ("SUDS").

¹⁶ Julian, T. (16 June 2000). 7 From Seven with Jason Devitt [www document] <http://www.channelseven.com/newsbeat/2000features/seven20000616.shtml>

¹⁷ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

¹⁸ Wireless Developer Network (5 November 2001) Gartner Dataquest Says PDA Sales Slowed [www document] <http://www.wirelessdevnet.com/news/2001/308/news1.html>

Vindigo 2.0

Vindico (Latin); **To liberate or deliver**¹⁹

Vindigo *delivers* information to users while they are *liberated* or out and about. The application pinpoints services such as restaurants, bars, shops, amenities, museums as well as providing supporting information including reviews, directions and recommendations. Additionally information about movie times, concerts information and weather forecasts can be obtained on the go. This service is currently provided for in approximately 50 US cities as well as London. A step by step review of the Vindigo platform will be examined to gain a better understand the functionality, installation and usage of the product. This examination will focus on Vindigo for Palm OS, with New York City as the location. The device used in testing is the Palm m515 with 16 megabytes of memory, Motorola Dragonball VZ 33 processor and a colour 160 x 160 pixel TFT backlit screen displaying 65,000 colours²⁰.

Program Acquisition

There are two primary methods of acquiring the program; the first is via ‘beaming’ the application from one user’s Palm to another via infrared. The next time the user syncs with their computer the sync files are installed on the PC and an internet connection is required to fill in user registration data and to update the selected city data. Beaming the application usually takes no longer than 1 minute. This is the manner in which the first versions of the product were distributed. The other way is to visit the Vindigo website, <http://www.vindigo.com> select the install option. The user is then requested to fill in the registration form and select the desired OS version. The download file then installs the program in the appropriate synchronisation manager which transfers Vindigo when the PDA is next synced. On syncing the latest data file is downloaded for the selected city.

Registration

This is an important step for Vindigo as it facilitates the collection of vital demographic information about the user. This information is used to provide contextual information which may be used by the advertising micro server to select relevant ads identified for that specific target market. Under the Vindigo privacy policy this information is stored and retrieved using an anonymous user id²¹ and is not traceable back to a specific name, email address or personally traceable information.

¹⁹ webmaster@freedict.com (1998) Latin to English Dictionary. [www document] <http://www.freedict.com/ondict/lat.html>

²⁰ Palm Inc. (2001) High Style High Performance. Palm Specifications [www document] <http://www.palm.com/us/products/palmm515/m515ds.pdf>

²¹ Privacy Director. (9 December 2002). *Privacy Policy*. Vindigo Inc. [www document] <https://www.vindigo.com/legal/privacy.html>

The information entered by the user at the time of registration includes²²:

- First Name
- Zip/ Post Code
- Country
- Email address
- Gender
- Age selection 14-17, 18-20, 21-24, 25-34, 35-44, 45-54, 55-64, 65+
- Industry (dropdown selection box)
 - Banking/Finance/Accounting
 - Consulting
 - Education
 - Government/Military
 - Insurance
 - Law
 - Media/Entertainment
 - Medicine
 - Retired
 - Sales/Marketing/Advertising
 - Student
 - Technology (Hardware)
 - Technology (Software)
 - Technology (IT/Networks)
 - Technology (Internet)
 - Other
- Household Income (optional)
 - Under 30,000
 - 30,000-44,999
 - 45,000-59,999
 - 60,000-74,999
 - 75,000-99,999
 - 100,000-199,999
 - 200,000+
- Opt In or Out of receiving the relevant OS Newsletter (Opt In is selected by default)
- Initial Chosen City
- Username
- Password
- Secret Question and answer

²² Vindigo Inc. (Viewed 20 July 2003). *Register Vindigo*. [www document]
<https://www.vindigo.com/download/register.jsp>

Some additional information is also collected at the time of submission which is not specifically entered by the user, but is retrieved automatically. This information is required for functional reasons and includes:

- Type of operating system you use
- Amount of free memory available
- Time and Date of Entry

Once a city has been chosen it can be modified based on user preference. Users may choose to exclude reviews or certain content if they do not wish to store and view this information. At this stage the user may also select alternative content providers. For example in New York a user can choose New York Times²³ or Gayot²⁴ as the food content provider and reviewer. These options can be changed at anytime by logging onto the Vindigo website or by using the options menu on the PDA. It is possible to select multiple cities, but this may be restricted by the space available on the PDA. Each city with full options is about 1 megabyte on average depending on the choice of content provider.

Using Vindigo

After registering and syncing to gain the most up to date information on the chosen city, the user is free to use the program and each of its categories or channels. The channels are accessible from the home page, an example of which is seen below in Figure 1. Each channel has a search function for a number of categories such as cost, rating or distance, which can be limited to a ½ mile, 1 mile, 2 miles or unrestricted. Every channel features a “My List” which allows the user to mark specific entries for quick reference. This is like the favourites or bookmarks in an internet browser. Each channel features slightly different functionality and a summary of usage of each channel is addressed in this section.



Use your MasterCard and you could win a weekend home for a year!

Figure 1 Vindigo 2.0 Home Page (Captured March 2003)

²³ <http://www.nytimes.com>

²⁴ <http://www.gayot.com>

Food

This channel features approximately 62 search categories a sample of which includes: Bistro, Delivery/Take Out, Indian, Kid Friendly, Late Night, Lunch, Outdoor Dining or Sushi. Selection may be made from approximately 5200 different establishments²⁵. An establishment can be classified under multiple categories. Once a category has been selected a list will appear. This list displays the restaurants by name as well as what star rating the establishment has been given. To make a selection the user need only tap the listing.

Upon selection the **Details** tab of the establishment is displayed. These details include: telephone number, street address and cross street reference. The user may also select the features button which displays what other categories the listing is classified under. The telephone number is linked and hence, if clicked, can be autodialed if the device is paired with a phone. Likewise the address is a link and if clicked the user is given the option of selecting that reference point as their current location. Depending upon availability of information a **Review** tab may be available. This displays the text of the latest review from the chosen provider, including date and author. This page may also provide information that has been submitted by other Vindigo users in the Vote tab. The **Go** tab gives step by step directions on how to get to the establishment. This can be broken down by walking directions, or subway directions including station, line and train of the station nearest you or your destination. The **Map** tab gives a pictorial representation of the chosen location in relation to your current location with adjustable scale. Finally, the **Vote** tab allows users to give their opinions of a listing, add the listing to their “My List”, list the establishment as closed or submit a review of an unlisted location. The food can be rated on a 5 point scale from poor to excellent additionally a recommend feature allows for a yes or no answer. Users can also rate the average cost of a meal.

Bars

With some 1850²⁶ bars listed in 36 search categories, the bar channel features much of the same functionality as the food channel. **Details**, **Go**, **Map**, **Vote** and if available **Review** tabs all provide the rich informational sources about the establishments and how to get there. A sample of search categories include: After Work, Annoying Door Policy, Club, Dance, Older Scene and Trendy. Additionally the content provider, Sheckys, list their prime picks. This channel is popular with alcohol sponsors including Moet & Chandon, Absolute Vodka and, more recently, Plymouth Gin.

²⁵ New York Times. (Accessed 15 July 2003). Vindigo Food Listings. [Electronic Data File] Vindigo 2.0

²⁶ Sheckys (Accessed 15 July 2003) Vindigo Bar Listings. [Electronic Data File] Vindigo 2.0

Shops

This is the one the fastest growing channels with approximately 14,200 shop listings²⁷ provided by content provider InfoUSA.com. There are currently 40 search categories including: Books, Clothing, Department Stores, Electronics, Groceries, Drug Stores, Liquor and Sports. Again the standard tabs are available for location and directions. The difference in this channel is the absence of reviews.

Services

Data for this channel is also supplied by InfoUSA.com. Similarly no reviews are supplied for the listed entries but the other standard functionality is available. The channel features circa 7,880 listings²⁸. These are broken into 21 search categories such as: ATM/Bank, Beauty, Gas Station, Hospital, Parking Lot, Taxi/ Car Service.

Movies

This channel operates a little differently to the previously discussed channels. The search criteria list the movie by genera such as New, Action, Comedy, Drama etc but there is also the option to display screenings according to venue. When a movie is selected the **Details** tab displays movie classification rating (e.g. R), duration and short synopsis. The **Review** tab gives an overall Metascore²⁹ (out of 100) which is the average of individual reviews. There are on average five short reviews and individual scores provided from a cross-section of critics from NY Times, Chicago Sun-Times, Entertainment Weekly, LA Times and Rolling Stone. The **Times** tab lists all the cinemas this movie is showing at and the screening times for each location. There is a drop down list that allows the screening times to be displayed for any of the next 7 days. The name of the cinema house is linked such that with a tap on the name will reveal location and travel details. **Vote** allows the user to write a personal review, give viewing recommendations or add it to "My List". If a location is selected rather than a movie the **Details** tab shows location and contact. The **Review** tab is replaced with a **Movies** tab which displays the movies and viewing times. The movies are linked so a tap through will bring up details for each movie listing.

Music

This channel operates similarly to the movie channel. Selection may be made by music style such as Alternative, Dance, Country, Rock etc. as well as by venue. Information provided in the individual listings is rather limited. This may be because Vindigo are yet to sign a content partner agreement for this channel. Information is includes the details of the venue, times and cost. Again this data includes seven days worth of information.

²⁷ InfoUSA.com. (Accessed 15 July 2003) Vindigo Shop Listings. [Electronic Data File] Vindigo 2.0

²⁸ InfoUSA.com. (Accessed 15 July 2003) Vindigo Services Listings. [Electronic Data File] Vindigo 2.0

²⁹ metacritic.com. (Accessed 15 July 2003) Vindigo Movie Listings. [Electronic Data File] Vindigo 2.0

Museums

This channel provides the ability to search by exhibit classification as well as venue. Most exhibits feature a brief text description in the **About** tab provided by Xplore-usa.com, equivalent to the review option available in other channels. The **Venue** tab gives location information and exhibit duration. Venue searches provide links to exhibit information.

Bathroom

Quite a novel channel, the content for these 600 odd bathroom listings³⁰ are provided by The Bathroom Diaries. Search criteria include: 24 hours, Changing Table, Celebrity Sightings, Clean, Free, Safe and Wheelchair Accessible. Reviews are also still featured, delivering information about hours of operation and cost. Likewise the usual maps and directions are provided. While this concept may be a little unusual to those familiar with Australian customs, this can come in very handy indeed for the traveller, especially in London, where access to bathroom facilities is not always accessible and rarely free.

Weather

Weather is not a specific channel on Vindigo with the ability to search and as such does not have a channel sponsorship splash page for a major advertisement. When clicked the weather is given for the current day featuring a breakdown of morning, afternoon, evening and night. Information includes outlook, temperature, humidity, wind speed and direction. A summary is also available for the next six days. Despite the lack of channel sponsorship, banner advertisements are displayed with the forecasts. While this feature may seem trivial, weather information is rather important in a rapidly changing and volatile climate such as New York. Content is provided by Custom Weather Incorporated.

Directions

Like weather this is not a defined channel. This is a feature allows the user to enter an address and display location details including directions, maps, and subway options. A banner add is also displayed with this information.

Map

This is the only feature in Vindigo that features no advertising. When clicked it gives a two dimensional view of the users currently entered location which is changeable at any stage of Vindigo usage. The colour map allows scanning and movement from the reference point as well as zooming in and out to change the scale. With a tap, street names are also displayed.

³⁰Bathroom Diaries. (Accessed 15 July 2003) Vindigo Bathroom Listings. [Electronic Data File] Vindigo 2.0

Synchronisation

PDA versions of the program are mobile and not currently wireless so in order to update the program the user is required to synchronise with a computer which is connected to the internet. During the course of this sync, the device exchanges data with the Vindigo servers. The exchange of information is a two way process. Downloaded information includes updated content on establishments, shops etc. as well as the next seven days weather, movie and concert times. Additionally the latest advertisements are downloaded to the device along with rules for the micro server that determine which ads are for which channels and at what times they are to be displayed and how regularly. Should any new or patched application code be available it is also automatically downloaded and applied, meaning designers can be assured users are operating the current version. The length of the sync can vary depending upon changes, time since last sync and number of active cities chosen. Entire data is not downloaded every time the device is synchronised instead only the data that has been altered is retrieved. This process is part of Vindigo 'differential synchronisation'³¹

During synchronisation data is also uploaded to the servers. This data includes the any opt-in information requested by the user in the interactive advertisements, suggestions of unlisted content, user reviews, comments or notification of closure. Additionally operating data including advertisement tap through, users search categories and channel access is sent. This data provides measurement metrics and usage statistics that are of critical value to advertisers and market researchers. This data can identify the patterns and behaviours of individuals of specific demographics very closely. Although it is not currently done, this information may be on sold. As per the privacy agreement this information is not directly identifiable to a specific user but rather a unique user ID. Data about which individual establishment is not taken but rather what search criteria were used by which market segment to make a selection³².

³¹ Caceres,R et al. (2 February 2002) Mobile Computing Technology at Vindigo. IEEE Wireless Communications. [www document] <http://www.kiskeya.net/ramon/work/pubs/wc02.pdf>

³² Privacy Director. (9 December 2002). *Privacy Policy*. Vindigo Inc. [www document] <https://www.vindigo.com/legal/privacy.html>

Advertising in Vindigo

Vindigo allows advertisers new dimensions in context targeting. Traditional advertising methods facilitated broad context targeting campaigns, the Internet built on this providing a more precise method of using contextual information. Vindigo refines this process even further and additionally offers a higher degree of interaction with the advertisement. While the Internet offers traceability, customisation, affinity based advertising and a new degree of interactivity, Vindigo further builds on this advantage developing new levels of efficiency and functionality.

Smart Ads

Using a combination of context information, specifically location, demographic information supplied during the registration process as well as a customisable micro ad server advertisers are able to deliver their message straight to a precisely targeted consumer. Supplemental to this pinpoint accuracy comes new options in interactivity, delivering a new weapon to the advertising arsenal, the “smart ad”. While Zeff and Aronson suggest that similar results can be produced on the internet with the convergence of context information, registration data, cookies database mining, profiling, personalisation and collaborative filtering³³, Vindigo offers this ability to advertisers while the target is on the move and in the throws of decision making processes, not while sitting at a computer. Additionally, the information is being unobtrusively supplied to the user embedded as part of information they are requesting (‘pulling’) themselves, not having it pushed upon them causing possible resentment. With click-through rates in internet advertising hovering around ½ % compared to the tap through rates of circa 6% in Vindigo³⁴, these are far more effective ads.

The registration provides the profile of the user which, as mentioned earlier, is protected by an anonymous ID, an important consideration from a consumer privacy standpoint. Vindigo offers incentive for users to accurately enter this information as the user directly benefits by being supplied with the perceived appropriate content for their needs based on their profile. Since the user is also paying for the Vindigo service it could be reasonably assumed that they would be more likely to enter the correct information to realise the value of their investment coupled with the reassurance provided in the privacy policy relating to treatment of user data.

³³ Zeff, R., & Aronson, B. (1999). Advertising On the Internet (2nd Edition). New York: Wiley.

³⁴ Wireless Ad Watch. (2 February 2001) Vindigo Company Profile. [www document]
<http://www.wirelessadwatch.com/profile/2001/vindigo.shtml>

The accuracy of this information allows an advertiser to make targeting decisions based on real demographic information, in context and on the move. This is far more effective than previous methods of gaining information such as postcode and using average statistical information for the demographics of that postcode to make targeting decisions. This ability to track a collection of demographics around as an ID, as opposed to an identifiable person, allows the capability to record behavioural information over time facilitating a profile or passport.

Given the need to synchronise the data for efficient and correct usage, the devices can report back to give advertisers additional vital information. Information about which ads were more effective on which demographics and tap through rates, but, more importantly, the flow of information back can provide for increased interactivity between user and advertiser allowing a relationship to develop. Reporting allows advertisers to more effectively audit their investment. With the lack of wireless direct connectivity, feedback may not be as instantaneous as it is via internet advertising, the technology still allows for a much prompter direct response to the advertisements than does traditional direct response methods.

With an advertising rule of thumb that 80 percent of people's salary is spent within 20 miles of their home³⁵, Vindigo offers advertisers access to these substantial local markets. Advertisers can reap the benefits of localisation, but on a national level. With a national placement an ad would appear locally in each of the 50 supported cities. This can be modified for each city as is the case with the current campaign of Plymouth Gin with their channel ad reading "New York, meet Plymouth the gin of taste."³⁶ The tap through text offers further localisation suggesting SoHo, Tribeca and the Upper East Side bars as good places to try the product. Conversely if required an ad can be run in one specific location.

Interactivity is available while on the go. If any Vindigo advertisement is tapped a 'tapped through screen' is displayed giving the user additional text based information on the offer, product or event. From this point the user may be presented with several options to further interact, each of these are opt-in methods meaning choices are made at the viewers own discretion and subject to Vindigo user policy the user can opt-out of the advertisers listings at any stage. The options presented to the user may include a request to be emailed more information, a coupon which can be displayed or stored in the device for later use or a specific date and or information can be entered into the users schedule automatically.

³⁵ Zeff, R., & Aronson, B. (1999). Advertising On the Internet p 257. (2nd Edition). New York: Wiley.

³⁶ Plymouth. (Accessed 27 July 2003) Vindigo Services Channel. [Electronic Data File] Vindigo 2.0

It is perhaps the last option that is the most revolutionary for Vindigo. This brings a new dimension to advertising interactivity. The PDA offers the ability to link with the users personal information including contact list and diary or schedule information, after all this information is one of the primary reasons for having a PDA. While not all are comfortable with this option, a user can be reminded about a particular event or date in an advertisement, and can opt to have this information automatically placed in their personal dairy greatly enhancing the effectiveness of the advertisement. This shifts the responsibility away from the user, automatically etching it into routine and repeating the message at the appropriate time, the time of action or execution.

Advertising Model

There are four basic options available to an advertiser on Vindigo. The first is a text based 'teaser', next is the graphical teaser, there is also an animated teaser and finally the larger channel sponsorship advertisement, see Figure 2 below for examples. The teaser is located at the bottom of the information screen, and is displayed with every page providing information on a data base entry such as shops or bars, there is also a teaser on the home page. A channel sponsorship ad is much larger and is only displayed after one of the eight channels is selected. The message disappears and no advertising is displayed when the user is searching.

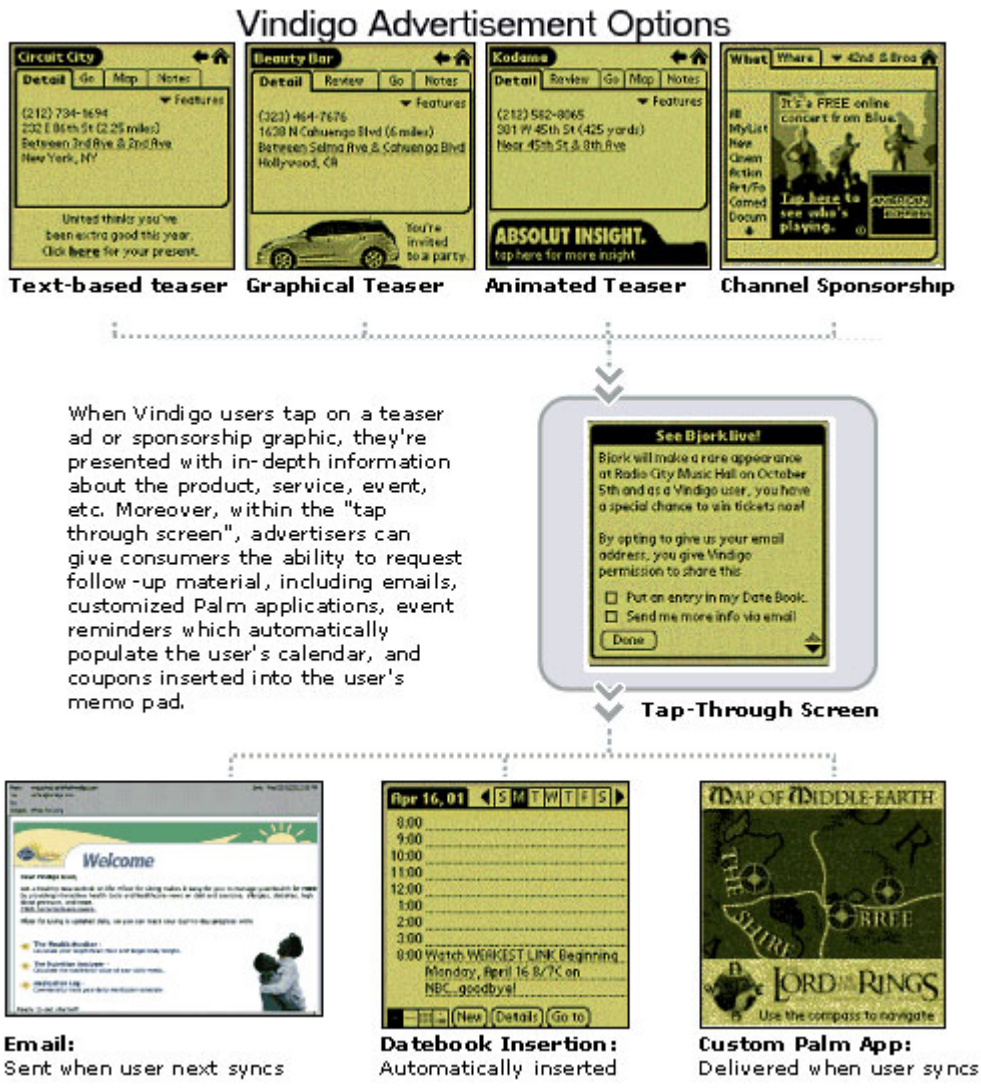


Figure 2 Vindigo Advertising Model³⁷

³⁷ Vindigo Incorporated (Accessed 26 July 2003) Vindigo Ad Model. [www document] <http://www.vindigo.com/advertisers/card.html>

Vindigo tailors their advertising offerings on an individually negotiated basis depend on the duration of the campaign and the relationship Vindigo has with the advertiser. As a rough guide rates in 2001 varied between \$50 - \$72 CPM for basic teasers³⁸. Supplemental to the offerings in Vindigo while on the move, banners are also available on the Vindigo web site. The advertising on the site is only displayed once a user has logged into their profile, allowing the augmentation of the user's mobile profile and use of their stored demographic information. This is simply an extension of the existing product as the traffic to this site would be considerably lower than Vindigo usage. Users need only access the web site to change their profile such adding or removing cities or select different content providers or reviewers.

Vindigo Targeting

While Vindigo offers fantastic new developments in targeting based on context and demographics, this is obviously restricted in scope to Vindigo users. For advertisers the benefits of finely targeted campaigns using this technology are lost if the identified segment are not using Vindigo. Figure 3 below gives us a clearer indication of some of the demographics of the 600,000 current Vindigo users³⁹.

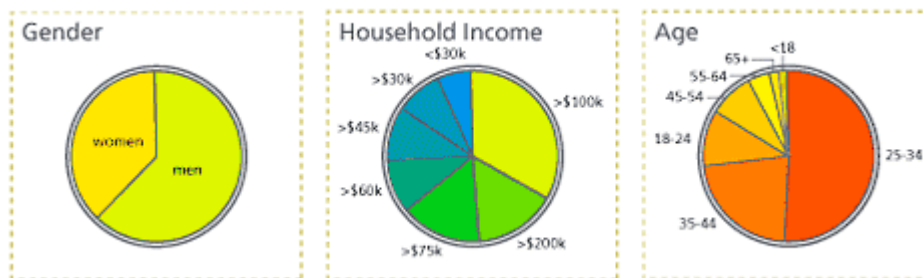


Figure 3 Key Demographics of Vindigo Users⁴⁰

Clearly the core segment are high income professionals, based upon the profession options in registration. It is predicted that a high percentage of these career oriented individuals, particularly the younger professionals would be single. It is surmised that, while there are currently a greater proportion of males, this will decline with changing social conditions allowing females to rise to higher profile positions in traditional male dominate industries. While this revolution has largely occurred elsewhere some traditional professional occupations prevalent in New York were slower to react.

³⁸ Wireless Ad Watch. (2 February 2001) Vindigo Company Profile. [www document] <http://www.wirelessadwatch.com/profile/2001/vindigo.shtml>

³⁹Vindigo Incorporated (assessed 23 July 2003) Vindigo: Advertise [www document] <http://www.vindigo.com/advertisers>

⁴⁰Vindigo Incorporated (assessed 23 July 2003) User Base[www document] <http://www.vindigo.com/advertisers/userbase.html>

These demographics make appealing advertising targets for Vindigo. They have a high income that usually equates to a proportionately high disposable income expenditure which is higher again for singles. As professionals, they would probably eat out quite often and have more of a desire for social interaction such as bar outings as well as other recreational pursuits including shopping and going to the movies, all of which are provided for in their own Vindigo channel. Professionals also tend to travel more often. Vindigo is an excellent travel aid with advice on where to eat, drink shop and play right across the country. Services such as dry cleaning, taxis and town cars, airport service, gas stations, car paring are all provided for the traveller. These are augmented by step by step instruction on how to get around. Additionally the product is angled more towards the tech savvy consumer, evidenced buy the dominance of technology options in the list of professions given as options in the registration process.

It should be stated at this point that the segment identified above is reflective more of the PDA version of the software. The release of the cell (mobile) phone version gives greater exposure to a wider audience with much broader demographics and usage behaviour. Given the concentration of the PDA version of the software in this assignment and the relative infancy of the new platform agreement, this market segment will not be specifically outlined in this report. It is worth acknowledging that the product is now being opened up to very different and changing market segments.

Vindigo Business Model

From a functional perspective Vindigo creates value by correlating information provided by content partners, geo-codes this information and links it into a user-friendly interface. The geo-coded information is then linked to categories and augmented by additional information and, along with advertising, is served to the user as required.

Funding

Vindigo was launched after co-founders Devitt and Joerg left investment bank D.E. Shaw and set up shop in Devitt's New York apartment. Colleagues at the bank as well as friends and relatives contributed \$750,000 in angel capital to get the project off the ground⁴¹. As the product began to present a growing customer base and attract the interest of significant content providers itching to find a way into the wireless buzz serious venture capitalists began to take note. In 2001 General Atlantic Partners of Greenwich Connecticut contributed another \$6 million to provide a base for the company's ongoing expansion. The bursting technology bubble and a sinking global economy put a great deal of pressure on new technology ventures across the board. A number of competitors such as Citikey and Modo failed to weather this storm, their funding dropped and work abandoned. Vindigo was not isolated from difficulty cited in the New York Times as having to make substantial employment cuts⁴².

As Vindigo is a private company there are no requirements to release information to the public about the financial performance or capital structure of the business. Many of these financial details are treated as corporate intelligence and are well guarded. Using information in the marketplace, it can be hypothesised that Vindigo does have longer term development prospects and is providing a sustainable business model with growing consumer and investor confidence. It seems the management are able to capitalise on their market expertise and technologies that deliver a sustainable competitive advantage. In June of 2002 Vindigo was shown further investor confidence with Manhattan based venture capitalists i-Hatch Ventures contributing an undisclosed financial sum which was speculated to be in the vicinity of a further \$6 million. Support at a time when venture capital was 72% less than the same period in 2001 was attributed to Vindigo's strong record of increasing revenues and a growing customer base.⁴³

⁴¹ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

⁴² Jayson, B. (2 May 2001). *Metro Business Briefing*. *New York Times*; 05/02/2001, Vol. 150 Issue 51741, pB7

⁴³ Fickenscher, L. (8 May 2002) *Venture Capitalists Turn Thumbs Down on Locals*. *Crains New York Business*; 08/05/02, Vol 18 Issue 31 p4

Revenue Model

Initially Vindigo was intended to be a free program with revenue derived from advertising fees. This was helpful from an early adoption prospect without the need to pay for the service users were more likely to trial the service. This free usage policy did however become more difficult to sustain through the internet bubble shake out. Changing business conditions and the need to satisfy financial obligations forced the company to alter this and switch to a fee based service, requiring users to become customers⁴⁴ before receiving full access to the extended information suite.

Under the new system, users can still trial the application before purchasing, however this is restricted to a 30 day trial period. After the 30 days, if the user has not subscribed, the program reverts to a skeleton application with reduced functionality. There is still the ability to search the channels however no review information, maps or directions are made available. This is purely an information tool about the address and phone number of the target. With purchase from the website the customer is presented with a pricing choice of \$24.95 for an annual subscription, or a per month fee of \$3.50. Another distribution channel was offered in April 2003 with the use of prepaid cards available over the counter from a number of retailers including Office Depot, Speedway and SuperAmerica⁴⁵. Prepaid cards deliver a new purchase option for those that feel uncomfortable with financial internet transactions, and increase the possibility of an impulse buy. The cards are priced at \$9.95 for 3 months subscription or \$16.95 for 6 months. As of January 2003 customers of AT&T wireless with Java enabled mobile phones can subscribe to Vindigo with the charges being applied directly to their AT&T customer account⁴⁶.

Along with the shift to fee based subscription and advertising based revenue, Vindigo also began to concentrate on licensing fees as an additional revenue source. The concept is to offer the interface technology to other content providers who wish to offer location based services; an example might be real-estate listings. The platform could be of use as an enterprise solution that can act as an interactive job and dispatch information service to employees on the road such as service technicians (see Figure 4). Apart from licensing the technology and structure, Vindigo and their content partners also licence restricted information delivery to some wireless providers wishing to give customers a taste of location based services however the details of this agreement are not public information.

⁴⁴ Rothenberg, R. (15 April 2002), There's a fine (but clear) line between teasing and abusing. Advertising Age; 4/15/2002, Vol. 73 Issue 15, p28

⁴⁵ Keough, S. (2 April 2003). AT&T Press Release. PR Newswire Association, Inc. 1 April 2003

⁴⁶ Reed Business Information- No Author (15 February 2003). BITS. Wireless Week; 2/15/2003, Vol. 9 Issue 4, p16

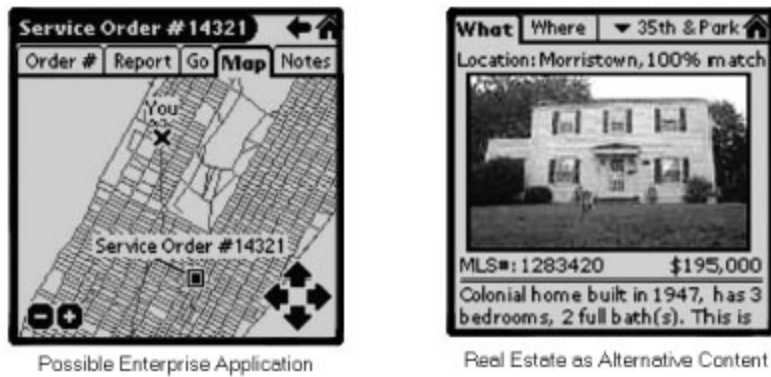


Figure 4 Potential Future Applications of Vindigo Technology⁴⁷

A potential source of additional revenue generation yet to be exploited is usage data. Though the reporting facility, much data is collected about how Vindigo users search for information. This information could be analysed to produce consumer behaviour models and information which may be very valuable to the advertiser and business person alike. This information is able to be categorised to specific demographics and what they search for at what times. As former Vice President of marketing David Shankman explains, information about what restaurants 25 year old males are searching for on a Friday night could be most valuable. An example of this information is provided in Figure 5⁴⁸. The sale of usage information and personal data raises serious privacy concerns, however none of this information is traceable to an individual’s personal details, and information is restricted to what search criteria were used rather than which specific establishment was tapped. The user’s profile of demographic information is traced rather than an individual themselves.

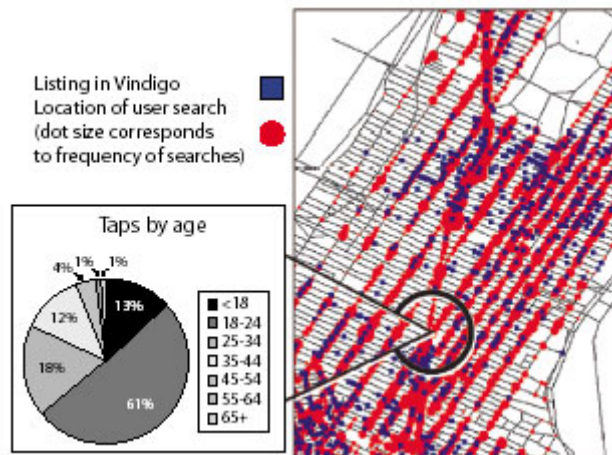


Figure 5 "Heat Map" of Aggregated Vindigo User Search Data⁴⁴

⁴⁷ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

⁴⁸ Robinson, E. (1 May 2002). *Locating Success*. *Busines 2.0* Volume 6, Issue 9 p36

Competitive Advantage

Much of the success of Vindigo is attributable to the technological advancements the application uses to provide the service to users. By applying this technology to other similar applications, Vindigo is able to stay ahead of competitors, maintaining its first mover advantage and expand the reach and usage of the platform. Key elements of this technology are:

Efficient Text Compression

Vindigo draws on a compressed database utilising a complex compression algorithm that allows the data to be decompressed in segments as required. Given the need for portability and the memory restrictions of a PDA, the data is highly compressed. The algorithm enables an impressive compression ratio of 3½ :1. The algorithm decompresses the data file in segments, meaning the whole file does not need to be decompressed for analysis or query, greatly increasing the search time, making searches fast and efficient. The programming algorithm also uses differential syntonisation, as discussed previously, allowing for incremented updates to databases and application code.⁴⁹

Integrated Micro Ad Server

The server interprets rules and guidelines as well as the demographic information of the unidentifiable user ID to deliver finely targeted ads to users. Rules can include caps on the number of times a user sees a specific ad or which geographic regions should produce which ads. Time restrictions can further be incorporated meaning specific ads will not be displayed until a certain time or date, or indeed will not be displayed after a cut off threshold. The server is also able to retain this information and send results back to the company to provide reporting which allows auditing and analysis for advertising clients. The submission of data also allows the higher levels interactivity discussed earlier with opt-in requests for more information.

⁴⁹ Caceres,R et al. (2 February 2002) Mobile Computing Technology at Vindigo. IEEE Wireless Communications. [www document] <http://www.kiskeya.net/ramon/work/pubs/wc02.pdf>

Simple User Interface with Integrated Server Architecture

Using an integrated array of technologies, Vindigo can operate across multiple platforms to provide the same information to a number of different devices. Programming technologies such as XML identify the type of device to be used to retrieve the information and then on the server side provide this information to best suite the device that will be viewing the information. Different devices such as older mobile phones have very different screen resolutions and colour restrictions compared to a new model, compact mobile phone using WAP. Each device has different informational needs and using Vindigo technology these are identified and provided for by unique server side scripting. The user friendly interface adds to the cross functionality of the product and makes Vindigo a more attractive prospect for future licensing applications.⁵⁰

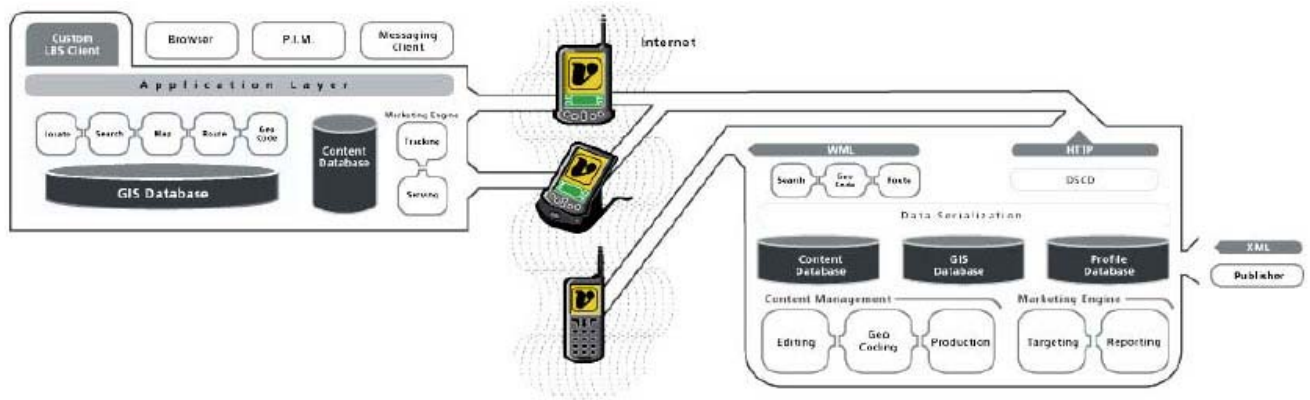


Figure 6 Vindigo is able to communicate across several platforms⁴⁶

⁵⁰ Caceres,R et al. (2 February 2002) Mobile Computing Technology at Vindigo. IEEE Wireless Communications. [www document] <http://www.kiskeya.net/ramon/work/pubs/wc02.pdf>

Conclusion

Vindigo delivers an innovative and exciting new product to the advertising arena. The ability to precisely segment and target consumers when they are out and about, able to instantly act on advertising influences is a great prospect for advertisers. Furthermore, the ability to interact with these consumers while they are in the process of making decisions greatly augments the product. The value is additionally extended by the ability to link the advertising message straight to the user's personal details and trusted information like their personal diary. The unobtrusive way advertising is presented and the relevance of the advertising provides a higher tap through rate than currently obtained through normal internet advertising. Ads are more relevant is a result of the convergence of context based information and key demographic information entered by the user at registration. Applying this information within a privacy context allows finely tuned targeting to become more readily available. On top of this, the consumers' usage information is stored and returned back to Vindigo, enabling advertising customers the opportunity to audit their campaigns. To the consumer, Vindigo provides valuable information that aids the ability to make informed decisions based on current local information.

Vindigo has been able to overshadow its competitors and develop a sustainable business model with growing revenues and an increasing customer base. This can be partly attributed to good strategy decisions made on the part of management. The most notable of these was the decision not to produce content in-house. The formation of content partnership agreements allows the development team to focus on the interface and driving technology while at the same time providing deep, well respected information. Additionally, content partnerships allow the product to rapidly expand into new markets without the time and expense of developing and maintaining this additional content. Focusing on the interface has also provided added advantages making the developed infrastructure transportable to other location based services which can be licensed to provide additional revenue.

Given that the technology wasn't at the desired level to fully take advantage of location based services, the "mobile first wireless later" ideology has given Vindigo exposure and experience in the marketplace and time to develop the infrastructure to put into place when the technology becomes available. In the meantime Vindigo has capitalised on its advantages to earn a favourable and respected name in marketplace. It has created a product that has earned the respect and admiration of advertisers and users evident in growing revenue and customer bases, with substantial scope for expansion, geographically and across industries.

Vindigo has provided the stepping stone for a future move to fully wireless advertising models. The current product appears to have been successful in densely populated U.S. cities such as New York. While the technological foundation has been laid for rapid expansion of location offerings, different regulatory environments, privacy implications and external market influences need to be addressed before this can take place globally. From an advertising perspective Vindigo is a tangible link to a much desired wireless market. The amalgamation of traditional targeting methods with innovations in this product delivers the prospect of more innovative, exciting and successful advertising campaigns. Vindigo makes the science fiction dream of individual targeting presented in *Minority Report* one step closer for advertisers.

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