RSS: Background and Application
A quick look at using RSS feeds for marketing and advertising research

RSS (Really Simple Syndication) is a popular method of communicating news or other text-based information (blogs, ads, and so on) online and in real time. The dissemination of RSS content is termed a feed. (A quick sidenote: The first forms of RSS date to Netscape developers in 1997.)

Like websites, RSS feeds have URLs or web addresses. RSS content, however, is typically dynamic and may change rapidly, even as you view it. Much the same can be said of social network sites such as Twitter and Facebook, though they apparently lack the cachet of RSS.

Two Ways to Read RSS Feeds
Internet Browsers
Some Internet browsers integrate basic RSS plug-in readers. Firefox, for example, includes a plug-in with an RSS feed from BBC news. The feed appears on the toolbar as a bookmark with multiple entries, and selected content shows as text on a web page. Safari has a similar plug-in.

Dedicated RSS Readers
In order to gain more control of RSS content (subscribing, sorting, searching and so on), a dedicated RSS reader (such as the Windows freeware package, Omea) does the job. For the Mac, popular readers include Shrook, NetNewsWire, Cyndicate, and several others.

A corporate "news feed" may well lack the integrity of a more objective news source...

Who Uses RSS?
The major RSS users are news aggregators, such as Google News, Yahoo and the Huffington Post.

Losing Ground for Free?
From a marketing angle, RSS may be losing ground. Enterprises that supply RSS (such as the news organization, Reuters) realize the feeds represent potential revenue loss. Specifically, an RSS subscriber can get Reuters content without ever setting eyes on a Reuters web page. This seems the sort of "free news" business model that helped to erode journalism and kill newspapers.

Who Offers RSS?
The answer used to be "nearly everyone," but as noted above, RSS is not necessarily profitable. Consequently, it's interesting to note that Bloomberg dropped their RSS feeds a few years ago – though Bloomberg now delivers live streams of their TV programming. On the other hand, organizations that want to maximize press and PR still offer RSS feeds galore. A prime example: Business Wire (www.businesswire.com).

Market Research Value
Though RSS may be past its prime as a web tool, it still has great value to the image-conscious business. Consider, for instance, financial sites of interest that maintain RSS feeds of press releases. They include, among others: Bank of America, CIT, ELFA, Gartner, and IDC.

Note also, however, that a "news feed" controlled by a corporate entity may well lack the integrity of a more objective news source. For example, the content of a company's free RSS feed might be nothing more than a product of marketing and PR. Consider also that an RSS feed might quote a reputable news source – but fail to cite it.

In contrast, subscription-based information services (such as Forrester, Gartner and IDC) deliver more noteworthy, objective (and therefore, more valuable) research findings.

Using RSS: A Quick Summary

- By working with a carefully selected, credible RSS source, a user can access corporate news even before the mainstream press has a chance to post it.

- RSS feeds let a researcher find all selected material in a single place, thus streamlining the research process.

- Free, industry-specific RSS feeds generally offer the most value through their press releases and newsletters.

- Occasionally revisit RSS sites to check on any new content or features.

Finally, remember that RSS content is only as reliable as the organization that creates and provides it. Before quoting or publishing data from an RSS feed, it's prudent to find at least a couple of corroborating news sources. When used well, RSS feeds can present the market researcher with an abundance of worthwhile information and leads.

About the author:

[photo]
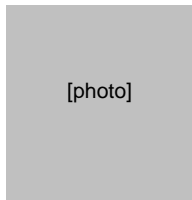
[name] is [title] for [company name]
[company URL]

THE RISE OF ELECTRONIC HEALTH RECORDS

In remarks delivered in 2012, Farzad Mostashari, M.D. noted that, "In 2009, only about one in every five physicians used even a basic electronic health records [EHR] system." (Dr. Mostashari is the National Coordinator for Health Information Technology.) "Within just a few years, we will have gone from EHR being something that was used in benchmark institutions, like the Mayo Clinic and Kaiser Permanente… to something that is now commonplace in our primary care providers." [1] In fact, by 2013, physician use of EHR systems is forecast to exceed 50 percent.

EHR supplants paper-based records

EHRs have the capacity to improve basic standards of patient care significantly, plus they can streamline the efficiency of medical organizations, from private practices to world-class hospitals.

Paper records are destined to become things of the past, and with good reason. Consider, for example, the expense of purchasing, moving, maintaining and reading charts. Legibility is an issue worthy of concern, as well. Then there are the matters of filing, printing, distribution and transcription. Also consider the time and cost incurred with mailing, copying and data entry. EHR looks ever more attractive as a practical alternative.

As the adoption of EHR becomes increasingly common and mandated by Federal law, physicians and other medical professionals can benefit from a clear understanding of some of the terminology, technologies and options for acquiring equipment and training resources.

EMR and EHR: not synonymous

You'll often hear the acronyms EMR and EHR used interchangeably despite the notable differences between them. For instance, an electronic medical record (EMR) is the digital equivalent of a patient's paper-based individual health record. Think of the EMR as a static object that remains in your office. In contrast, an electronic health record (EHR) is mobile and designed to be shared among medical professionals treating a patient. It holds the same data as an EMR, plus it includes a patient's comprehensive health profile, with information from all clinicians involved in a patient's care.

"Meaningful use" defined

In meeting the standards set by The Health Information Technology for Economic and Clinical Health Act (HITECH)[2] and its related organizations (including the U.S. Department of Health and Human Services, or HSS), you may need to prove meaningful use of your EHR system. The term "meaningful use" bears some explanation. HHS has proposed three stages of meaningful use, although as of January 2012, it has formally defined just one. Setting standards for Stage 2 has been postponed until sometime in 2014; for stage 3, sometime thereafter. The current Stage 1 standard defines the essential functions of EHR, including electronic data capture. Note that

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[1] U.S. Department of Health and Human Services: http://www.healthcare.gov/videos/2012/02/electronic-health-records.html

[2] HITECH is part of the American Recovery and Reinvestment Act of 2009 (ARRA).

failure to comply with Stage 1 disallows participation in the HSS incentives described below. Healthcare industry observers surmise that the content of Stage 2 and Stage 3 standards will focus on the efficacy of communicating patient information (including lab tests). Diagnosis and procedure coding might also be required.

Incentives help but fall short

HITECH pays incentives to healthcare providers who adopt (and demonstrate meaningful use of) EHR, particularly with regard to Medicare and Medicaid. For example, as a participating provider, you might receive an incentive up to $44,000 over five years from Medicare, and up to almost $64,000 over six years from Medicaid. However, you can apply for only one incentive, not both. Incentives aside, you still face fairly daunting cash outlays associated with hardware, software and training.

Equipment expenses: highlights

According to HSS standards, everyone who needs to read or add to an EHR must have access to a Windows-based EHR computer. Typically, a computer should be made available for every examination room, provider's desk, nursing workstation, and all other points of patient care and consultation. Desktop or notebook computers work well for EHR, and recent trends show a rise in popularity of tablet PCs. All computers in an EHR system should connect to a server-based network with high-speed Internet connectivity. In addition, every potential EHR user requires training.

An EHR software application itself (either off-the-shelf or customized, available from a variety of vendors) represents another considerable expense. Additionally, HHS recommends that users of an EHR system have access to a Clinical Application Coordinator. This individual (typically a specially trained nurse or medical technician is effectively a super-user and teacher. He or she knows the application thoroughly and can provide real-time support to clinical users.

Even HHS observes that EHR hardware requirements are considerable and the associated costs high. "Software installation and training are complex, incremental, and require external support," HHS also notes, and "Implementation of EHR is a complex process that affects every department and virtually every employee in an organization."[3] Naturally, one of the first questions asked among physicians is, "How can I pay for this?"

EHR equipment acquisition

Increasingly, both large and small practices (as well as hospitals and other medical institutions) look to leasing as the most attractive option for acquiring an EHR system. An equipment lease can finance an entire EHR/EMR project – including hardware, software, installation and training. Financing conserves cash, allowing you to avoid large down payments and preserve your bank line of credit. Equipment financing also offers greater flexibility, ranging from terms and payment plans to mid-term upgrade options, which protect against technology obsolescence. Consequently, you can update your system as needed to optimize evolving

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[3] Department of Health and Human Services http://www.ihs.gov/cio/ehr/index.cfm?module=faq

technology or accommodate growth and expansion goals. Financing also offers potential tax and accounting opportunities[4] not available through a direct purchase or traditional loan.

Summary
For all its complexities, EHR nonetheless presents opportunities for physicians to work more efficiently and productively, while providing enhanced record management and convenience to the patient, as well. Therefore a healthcare organization that complies with HHS standards for EHR stands to become more profitable and competitive in the medical marketplace.

Benefits of EHR compliance include:

- Access to patients' complete medical records – from all providers

- Improved patient care and privacy

- Incentives from Medicare or Medicaid

- Reduced costs and errors associated with paper-based records

- Potential tax savings[5]

Take a cautious approach in evaluating the EHR/EMR system most appropriate to your particular medical practice, both for now and for the future. Keep in mind that a system favored by a friend or colleague may not be the right fit for you. Exercise similar prudence when vetting finance partners: Consider only those with sufficient capital, longevity and a proven track record of healthcare IT experience.

For more information
[Key Equipment Finance statement here]

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[4] Key encourages clients to consult their tax advisors regarding the tax benefits of equipment financing.

[5] To qualify for current Section 179 benefits, assets must be purchased and installed between January 1, 2012 and December 31, 2012.

SignalSoft Wireless Location Services: Technical Perspectives

A SignalSoft White Paper

SignalSoft

Abstract

SignalSoft Wireless Location Services transforms a mobile network's raw subscriber-location data into refined, ready-to-use information. In turn, the information becomes an integral part of location-based services and applications that benefit the network, its subscribers, and its clients.

Accurate subscriber-location data forms the basis for mobile commerce and other consumer applications. It also provides greater efficiencies, myriad marketing opportunities, and enhanced profitability for the mobile operator. Wireless Location Services includes all software tools required for location-data refinement and management as well as a suite of products for location-sensitive billing, tracking, emergency services, and personalized consumer applications.

Executive Summary

Accurate subscriber-location data forms the foundation for the rapidly expanding world of mobile commerce and other consumer applications. It also provides greater efficiencies, myriad marketing opportunities, and enhanced profitability for the mobile operator.

Typically, the operator may acquire rudimentary forms of subscriber-location data via a network's existing Position Determination Equipment and Determination Technologies. SignalSoft Wireless Location Services transforms the raw subscriber-location data into refined, ready-to-use information. In turn, the information becomes an integral part of location-based services and applications that benefit the network, its subscribers, and its clients.

This white paper explores the ways in which Wireless Location Services functions in both GSM- and ANSI-based network environments. It also examines key elements of the Wireless Location Services product suite, including:

- Location Manager™, the operating platform and Location Gateway
- Access Manager™, which secures and manages information for subscribers and clients
- MAPS™, an advanced GIS (Geographic Information System) for location provisioning

Finally, this paper looks into the location-based applications included with Wireless Location Services: Location-Sensitive Billing, W911/112 (emergency services), BFound ™ (for tracking), and local.info™ (for personalized mobile commerce services and other consumer applications).

For additional information concerning SignalSoft services and products, please visit www.SignalSoft.com. Thank you for your interest; we look forward to working with you.

Table of Contents

PART 1
An Introduction to Wireless Location Services

Of all the assets held by a mobile operator, few present as much potential value as subscriber-location data. Typically, the operator may acquire rudimentary forms of the data via a network's existing PDEs (Position Determination Equipment) and LDTs (Location Determination Technologies). In its raw form, however, such data is of little practical use.

The SignalSoft product suite of Wireless Location Services offers a proven, profitable solution. It transforms raw subscriber-location data into refined, ready-to-use information. In turn, the information becomes an integral part of location-based services and applications that benefit the network, its subscribers, and its clients.

Compatible with all phone networks, Wireless Location Services includes a variety of components to process, manage, access, and apply location information.
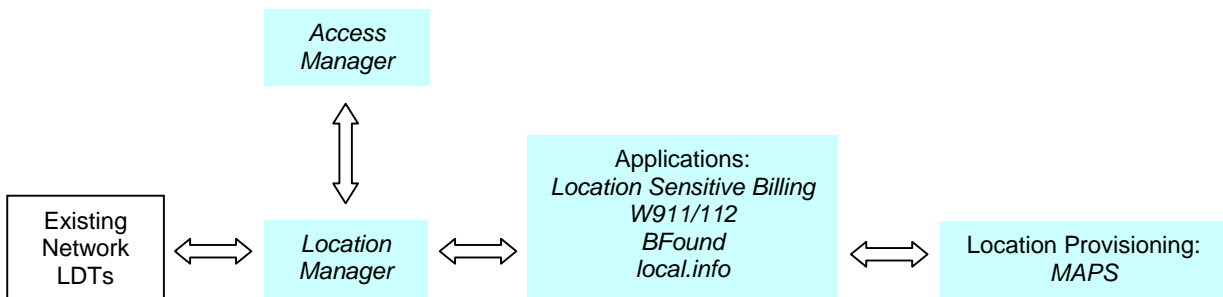
Figure 1. Basic Elements of Wireless Location Services

Figure 1 shows the basic elements (highlighted in blue) of Wireless Location Services. Note that Wireless Location Services interfaces with a wide array of LDTs, including Cell ID, AOA, TDOA, GPS E-OTD, and TOA TA, among others.

- Location Manager™ provides the operating platform and serves as a Location Gateway.
- Access Manager™ secures and manages information for subscribers and clients.
- MAPS™, an advanced GIS (Geographic Information System), supplies location provisioning.

Wireless Location Services location-based applications include:

- Location Sensitive Billing
- W911/112 (emergency services)
- BFound ™ (for tracking)
- local.info™ (for consumer applications)

Parascript's NHR™ Technology
An Overview of Natural Handwriting Recognition

PART I: Introduction

About Parascript and NHR Technology

In 1985 scientists studying computer recognition of handwriting formed a Russian-American joint venture called Paragraph. For nearly 10 years, members of Paragraph's Parascript division worked to integrate handwriting reco technology into market-ready applications. Parascript became a separate company in 1996. Based in Niwot, Colorado, Parascript employs 45 people. Among them are software engineers as well as tech support, marketing, sales and administrative staff. The company's experience in handwriting reco R&D spans more than 40 years.

Parascript offers a suite of reco software based on NHR™ (natural handwriting recognition) technology. The software is now used extensively by government agencies and private businesses.

NHR technology revolutionizes traditional recognition procedures. For example, NHR recognizes cursive handwriting, hand print and machine print -- individually or in any combination.

The technology does not require constraining boxes or combs. Instead of relying on character-by-character recognition, NHR recognizes entire words and phrases. For additional accuracy and speed, NHR cross-validates data during the recognition process.

NHR vs. Earlier Reco Systems: A Quick Comparison

To understand the scope and power of NHR technology, it's helpful to take a look at two older reco technologies: OCR (Optical Character Recognition) and ICR (Intelligent Character Recognition). OCR and ICR are typically used for reco of machine print and hand print, respectively. The technologies can perform satisfactorily, but they exhibit the limitations and problems summarized in Table 1.

OCR or ICR Limitation	Problem
1. Does not accept cursive handwriting	Limited applications
2. Reco is character-based	Inaccurate and slow
3. Demands high-quality image	More manual processing
4. Uses static look-up tables	Inaccurate and slow
5. Requires combs or boxes	Increased error margin; slow processing

Table 1

Compare these limitations and problems with the features and benefits of NHR technology shown in Table 2.

NHR Feature	Benefit
1. Reco of hand print, machine print and cursive handwriting	"One-stop" reco
2. Field-based reco	Accurate and fast
3. Accommodates low-quality images	Cuts manual processing
4. Dynamic, in-context vocabularies	Accurate and fast
5. Does not require constraining boxes or combs	Higher accuracy, greater versatility and faster processing

Table 2

Through these and other features, NHR technology dramatically reduces the time, cost and labor commonly associated with data-field recognition.

Character-Based vs. Field-Based Approaches to Recognition
OCR and ICR use a character-based approach to recognition. Both technologies segment a word into a sequence of characters. Then they reference the lines and curves found in each character to "guess" what letter a character probably represents.

Of course, humans do not read just one character at a time. Instead we read complete words – often entire phrases – as whole and intelligible units. NHR takes the same holistic, field- based approach. The technology uses a special description language that now includes over 64 elements and a set of rules to regulate their interpretation. NHR provides a reco result for a whole field, not for each character.

NHR: A Principle of Motion
In its most basic form, cursive handwriting can be viewed as a series of movements made by a writing instrument. That idea underlies NHR technology. The movements are represented by eight fundamental elements (Figure 1) which describe the trajectories found in all cursive letters. The elements (called XR elements) form the basis for a hieroglyphic alphabet and special description language.

Figure 1

XR Elements

Figure 2 shows XR elements in an image of the cursive letter "d."
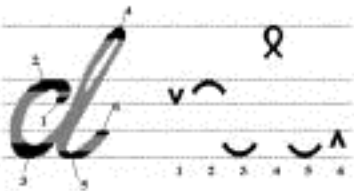
Figure 2

XR Elements Found in the Letter "d"

Because cursive handwriting exhibits so many variations, the same character can often be represented by different sets of XR elements. Figure 3 shows four versions of the cursive letter "a" and the XR elements that correspond to them.

Figure 3

Static vs. Dynamic Vocabularies

Character-based reco cannot handle the complexities and ambiguities of cursive handwriting. When dealing with hand print, however, an ICR process might use a static vocabulary (also called a look-up table). In that event, the reco process follows a time-consuming and often inaccurate course. (1) A word image is segmented into symbols. (2) Each symbol is grouped into levels of probable

validity. (3) All combinations of the symbols are used to generate a word list. (4) The word list is compared with entries in the static vocabulary. (5) The closest match is considered the answer.

In contrast, NHR's dynamic vocabularies are referenced during – not after – the reco process. They also provide context sensitivity. The use of dynamic, in-context vocabularies results in the highest possible level of reco accuracy. For example, the images in Figure 4 might be read as "clear" or "dear". Either word could be considered a correct reco response.
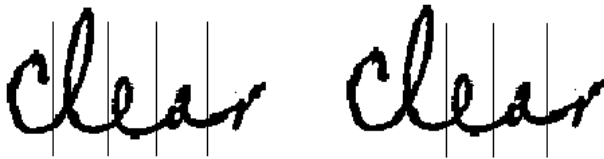

Figure 4

Suppose, however, that the images occurred in the context of a form field that specified the color of eyeglass lenses. In that case, an NHR context-sensitive vocabulary would eliminate the word "dear" *during the reco process* and return the word "clear" as the correct answer. Accuracy, speed and efficiency are hallmarks of a dynamic vocabulary.

PART II: NHR Word Recognizers

To maximize reco accuracy and speed, NHR integrates two types of word recognizers: handwritten and analytical. A detailed description of their functions is beyond the scope of this paper. However, even a quick look at how the recognizers work offers insight into the power and versatility of NHR technology.

The Handwritten Word Recognizer

The Handwritten Word Recognizer deals with a word as a whole, unsegmented unit. During the Handwritten Word Recognizer reco process, a word is represented by a set of XR elements. See Figure 5.

Figure 5

The set of XR elements is matched to a corresponding entry in a dictionary. See Figure 6.

Figure 6

The Handwritten Word Recognizer then produces the word in ASCII form and also provides a confidence level. See Figure 7.

Figure 7

The Analytical Word Recognizer

This recognizer is used mainly for numerals and print. The Analytical Word Recognizer is composed of two interdependent classifiers: (1) a Graph-Based Character Classifier and (2) Neural Network Classifiers.

Graph-Based Character Classifier

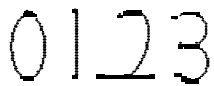A Graph-Based Character Classifier uses a set of symbol prototypes similar to those shown in Figure 8.

Figure 8

During the reco process, a numeral (such as the "3" shown in Figure 9) is reduced to its essential components.
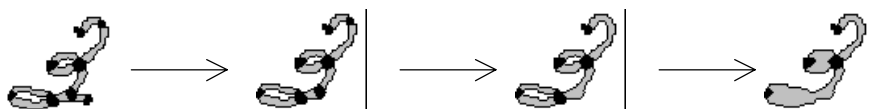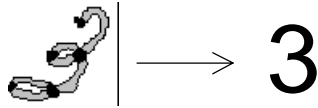

Figure 9

As shown in Figure 10, the reduced image is matched to its corresponding prototype.

Figure 10

Neural Network Classifiers

A Neural Network Classifier is intended to recognize a single character or of a unit composed of a few characters. To optimize reco accuracy, several Neural Network Classifiers are used to recognize the same character.

Combining Results

The combined recognition results of both the Graph-Based Character Classifier and the Neural Network Classifiers provide a confidence level and the character in ASCII form. See Figure 11.
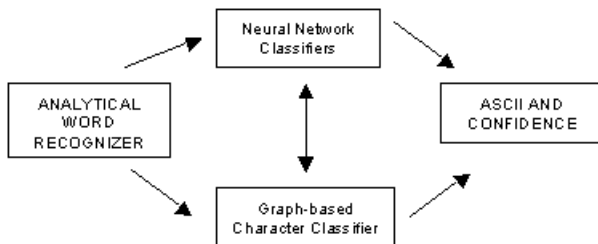
Figure 11

PART III: NHR Applications

All NHR technology products accept scanned or faxed images and are available as software development kits from Parascript, LLC.

Field*Script*

Field*Script* executes fast, accurate reco of data fields found in virtually any style of form. Typical applications: insurance claims and forms; loan applications; tax, census and other government forms; mail order forms; and outdated or hard-to-scan forms.

Address*Script*

Address*Script* recognizes a complete U.S. mailing address as it appears on an envelope, postcard, parcel or mailing label. Compared to other reco software, Address*Script* offers higher read rates and faster processing. It exceeds U.S. Postal Service requirements for reco accuracy. Typical applications: mail sorting, address validation and mail delivery.

Check*Script*

Check*Script* identifies the amount for which a personal check was written. The software recognizes and cross-validates both the legal (alpha-numeric) and courtesy (numeric) fields found on a check. The complete Check*Script* reco process takes only 750 milliseconds per check. Typical applications: remittance and proof of deposit.

Script*Search*

Script*Search* indexes handwritten documents that exist on paper, microfilm or CD-ROM. Its search engines and cross-referencing technologies establish electronic access to the indexed material. Typical applications: archive research and analysis.

Learn more

[contact info]