

“Tagging” Your Program: A New Tool for Educators

Catherine H. Daniels, Pesticide Coordinator, Washington State University, Puyallup, WA, cdaniels@wsu.edu

Abstract

A technology that is fairly new to academia—tagging—is easy to do, inexpensive, and guaranteed to expand the range of ways you communicate with your clients. Tags, readable by smartphones, can open web pages, play videos, display pictures and PDFs, provide your contact information, or even dial phone numbers. Software to create and manage tags is available and for one system, is free. This article discusses one program in detail, including how to get started, possible PSEP program applications, and ways to track and create reports on client access.

Keywords: tagging, tags, smartphone, communication

Introduction

Educators frequently need to communicate a lot of information about a topic, but are constrained by the space available on a poster, a pamphlet, a printed article, or a handout. Production costs can also be a factor. A technology that is fairly new to academia can help you overcome the space and cost problems, while enabling you to connect and engage directly with your clients.

This new technology is called tagging. Tagging is easy to do, inexpensive, and guaranteed to expand the range of ways you communicate with your clients.

Methods

What are Tags?

A formal definition of “tags” might read something like this: Data encoded into patterns that can be read by any Internet-capable mobile device that’s equipped with a camera and tag-reader software. An informal definition is easier: A design that can be read by an iPhone, BlackBerry, Windows Mobile phone, or Android-based phone to give a user some piece of information.

By year-end 2011, 50% of Americans will have smartphones, according to The Nielsen Company (Toefel), making smartphones an attractive option for educators.

Think of tags as a UPC bar code on steroids. The latest generation of tags performs much the same function as old-fashioned commercial bar codes (i.e., information storage), but offers vastly greater functionality and data capacity: Nearly 3,500 alphanumeric characters—nearly two pages of printed text—for some tag systems. UPC codes, by comparison, can transmit just 12 numerals, and no letters or other symbols at all (BBC News, Wikipedia UPC).

But tags offer far more than simple text displays. Tags can open web pages, play videos, display pictures and PDFs, provide your contact information, or even dial phone numbers—vastly expanding your opportunities as an educator.

Proprietary tag systems have been created to read different types of patterns. One system, common in Japan and emerging in the U.S. business sector, is called Quick

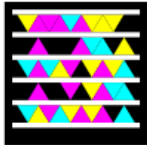
Response, or QR for short. These codes are 2-D matrices of black rectangles arranged on a white background.

Another system is called High Capacity Color Barcode (HCCB), but is better known as Microsoft Tag. These tags use clusters of colored triangles inside a black-bordered grid. Examples of both QR and HCCB codes are shown in Figure 1.

Figure 1. QR and HCCB codes, respectively.



(Wikipedia QR)



(Wikipedia HCCB)

How Do Tags Work?

A tag is a machine-readable web link. The software on the phone, either QR or Microsoft Tag, reads the embedded link and then contacts a server. The server returns the information you want your clients to see without any additional effort on their part. The tag server may direct your client's mobile device to dial a phone number, display a web site, provide your contact information (vCard) in a way that can be directly imported into the phone's contacts list, or provide instructional text as an SMS message.

Tags can vary greatly in size to meet your needs. At the extreme, billboard-sized tags enable readers to capture information from several city blocks away. The smallest readable tag is about ¼-inch on each side, which is perfect for inclusion in an email signature line. Readers can capture tags displayed on a variety of media: Signboards, projector screens, hard copy newsletters and computer screens all function very well as tag hosts.

Although both QR codes and HCCB codes were introduced earlier, the QR code is primarily used by commercial businesses, particularly among companies distributing catalogs or magazines. Based on her research, the author believes Microsoft Tag is the better technology for educators. The rest of this article will be devoted to explaining the Microsoft Tag system in more detail.

Reading a Tag

The user must first download the tag reader app to their phone. The Microsoft Tag Reader can be downloaded for free at <http://tag.microsoft.com/consumer/index.aspx>, or from <http://gettag.mobi>. Once downloaded, the user opens the app, points their

smartphone camera at the tag of interest, and centers the sights on that tag. The smartphone will automatically contact the server and return the information.

Settings can be adjusted by using a reader icon at the bottom of the phone screen. For example, while in the Tag app, the vibrate feature (which indicates when the tag has been read) can be turned on or off. The History feature allows users to show the material to others at a later date by simply selecting that link again, much as with a web browser. By using standard smartphone features, the user can also email the link to another party or bookmark the link.

For examples of different tags, see Figure 2. Consider downloading the app to your smartphone, in advance of viewing Figure 2, in order to test-drive the experience your clientele will have when using this technology.

Figure 2. Examples of tags encoding different types of information.

The author's v-Card information, directly downloadable into your phone contact list:



One of UNL's PSEP Video selections currently available on YouTube:



The link to the Streamlined Web-Distributed Labeling Virtual Pilot web site:



Making a Tag and Tracking Results

To create a Microsoft Tag, go to <http://tag.microsoft.com/consumer/index.aspx> and create an account. To do so, either sign in with an existing Windows Live ID or create a new one. (A Windows Live ID is an email/password combination that is used for many Microsoft Live services. If you have a Hotmail account, for example, you already have a Windows Live ID.) Creating a Windows LIVE ID is free. It's also handy at this point to have either a smartphone with the Microsoft Tag app installed, or access to one for testing purposes.

Once you have an account, click on Tag Manager to create and manage tags, or generate tag activity reports later on. Tags can be created in PDF form or as graphic files (e.g. jpeg, png, gif, etc.) and saved. Later they can be printed directly on your materials or embedded in graphics such as posters or Microsoft PowerPoint®

presentations. By so doing, you choose to direct the client’s smartphone to information in the form of text, vCards, URLs, online photos, or videos (e.g., YouTube).

Your Microsoft Tag Manager account offers easy data collection, because each time a user reads a tag, the server is contacted and saves a record of the interaction for you. Standard reports include total scans per tag and number of scans over any specified time period. In addition, there is also a reporting feature that enables you to map the geographic locations where your tags were scanned. If you are interested in identifying which project locations, either manned or unmanned, are most heavily visited, this feature might be very useful.

Potential Program Applications

Uses of this technology are limited only by the user’s imagination and the needs of their program. In the current budget environment, tagging expands opportunities to share information without paying for printing, burning CDs, mailing, etc. Here are just a few examples:

- **Field Day**
Place tags around a field site to explain experimental results. Those who can’t hear well or are late will appreciate it.
- **Unmanned Demonstration Sites**
Put tags around a demonstration garden or other public site. Think of hand-held devices used for museum tours, and design your “tour” in a similar manner.
- **PESP Training Sessions**
Make a game by placing tags around the meeting site. This is especially useful in introducing your applicators to this technology. Rewards, such as coffee gift cards or imprinted travel mugs, can spur participation.
- **Professional Meetings**
Insert your vCard on a poster so interested persons can capture your contact information. In addition, provide your program URL or a PDF of your poster on a separate tag, thus enabling interested parties to learn more about your area of study at a later time.
- **Website**
Provide maps to your field site or PSEP meeting location. Google maps will provide not only the exact address, but help people get there. This is particularly useful for those who have issues with written directions.
- **Newsletters**
Use tags to provide pest identification videos or pictures that users can transport into the field via their smartphones.
- **Email**
Insert a tag into your email signature. Many professionals include their full contact information in text. Add a tag containing expanded vCard data.
- **Conferences**
Provide tags on imprinted materials such as ball caps, thumb drives, briefcases and t-shirts handed out at paid-attendance conferences.

- **Multilingual Outreach**

If you provide printed information in more than one language, print a master sheet instead, list the languages and provide a corresponding tag next to each one. Users can then access their language-specific material and take it home to share or reference. If you provide translation services, a tag with the translator's phone number is the equivalent of having their number on speed-dial.

With tags, your effort is expended primarily up front in getting your applicators and colleagues up to speed on the use of this new tool. The best way to do that is to create a small poster or handout with the app download information and a short explanation of how you will be using tags to share information. For an example of a WSU poster that does just this, go to http://ext.wsu.edu/pd/documents/TagPoster_Lindstrom.pdf. Develop an equivalent poster and hang it on your office door, place it next to your material at a professional meeting, or display it prominently at your next PSEP meeting.

Discussion and Conclusion

Tags should not be considered a stand-alone educational tool, but rather a very useful delivery tool within the overall toolbox. No doubt, different client groups will adopt tag technology at different rates. Older age groups may not adopt it at all, even if they own smartphones. The fact that this technology increases the transportability of certain information out into the field will definitely appeal to some clientele. At the same time, during an age of increasing accountability, having a reporting feature to tell educators how often their information is being accessed is also appealing.

Our clear goal is to provide information to clientele in ways in which they like receiving it. As educators, we should assess our clientele and the information which we need to impart, then measure how well tagging will work within our individual circumstances. It's highly likely there will be at least one good fit.

Acknowledgments

The author wishes to express sincere thanks to Dr. John Winder, WSU Extension Assistant Director (retired), for introducing her to the subject of tags.

References

BBC News. Colour barcode system to hit DVDs. April, 19, 2007. Accessed 12/21/2010 from <http://news.bbc.co.uk/2/hi/technology/6570871.stm>.

Toefel, Kevin C. 1 in 2 Americans will have a smartphone by Christmas 2011. March 26, 2010. Accessed 12/21/2010 from <http://gigaom.com/2010/03/26/1-in-2-americans-will-have-a-smartphone-by-christmas-2011/>.

Wikipedia, HCCB (High Capacity Color Barcode). Accessed 12/21/2010 from http://en.wikipedia.org/wiki/High_Capacity_Color_Barcode.

Wikipedia, QR (Quick Response) Code. Accessed 12/21/2010 from http://en.wikipedia.org/wiki/QR_Code.

Wikipedia. Universal Product Code. Accessed 12/21/2010 from http://en.wikipedia.org/wiki/Universal_Product_Code.