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# Unseen Napa

**Note:** This paper is accompanied by the *Unseen Napa* blog at [www.unseennapa.com](http://www.unseennapa.com) and a Windows Media File (unseennapa.wmv) containing images of project locations with QR code signs.

## Background

QR Codes are a form of 2-dimensional bar code developed in 1994 by Denso-Wave (a subsidiary of Toyota) in Japan. Although commonly used in Japan and South Korea, and increasingly in Europe, QR codes are virtually unknown in the United States, and certainly unknown to most people in Napa. The codes can contain data which, when scanned with a smartphone's barcode reader, will create an automatic connection to a website. Other data in QR codes can include contact information, links to audio or video, phone numbers, email addresses, and purchases and their payments. Here is a typical QR code:



## Project goals

In this paper, I will investigate the current awareness, and potential acceptance, of QR codes and their use as a media device for mobile Internet connection in the community of Napa, California. I will also examine use of QR code signs that are distributed during the course of this project, the users being the businesses and organizations that display the signs as well as the members of the public who might use their smartphones to decode the QR codes and visit the resulting World Wide Web destinations.

This project has two primary goals: first, to gauge the current awareness of QR codes within the Napa community; and second, to increase that awareness and plant the seeds for future, much more expanded, use of QR codes. It is to be a proof-of-concept aimed primarily at key business and organizational leaders who can then spread the word about the potential of QR codes. My hope is that the local community will continue to use QR codes in a variety of ways to facilitate the spread of useful and interesting information in order to enhance overall community self-awareness, to serve as methods of stimulating the culture and economy, and to strengthen the sense of community and interpersonal connectivity. There is also a third, perhaps more subjective, goal. That goal is to initiate a process whereby visitors and residents can begin to experience the fact that there is a wealth of unseen information about Napa existing at a virtual level that can be accessed through a currently unknown

portal—the mobile phones carried by nearly every person in the community.

## About Napa

Napa can be considered a third-tier city as categorized by Siegel and Waxman<sup>1</sup>. Siegel and Waxman exclude suburban cities or those that are clearly dominated by much larger cities within the same metropolitan area.<sup>2</sup> Napa is unique in that it is not considered to be in the San Francisco Metropolitan Area and is indeed the largest city in Napa County, yet in that county it is actually the rural areas—wineries and vineyards—that drive the county's economy. Siegel and Waxman divide third-tier cities into three types: declining, established and new. As a city that has grown since 1950 but at a moderate rate, they would consider Napa to be an “established city.”<sup>3</sup> One other interesting note is that Siegel and Waxman state that many third-tier cities were founded because they are located on rivers, and that such cities are using their riverfronts as a means to reenergize their economies.<sup>4</sup> This is exactly the case with Napa, which was originally a waystop and winter refuge for gold miners moving between San Francisco and the goldfields of the Sierra Nevada foothills. Today, as a result of a major flood control project, Napa's riverfront has been revitalized, with new hotels, shops, restaurants and office and condominium projects.

Napa has its own version of the “culture industry.” For the last three decades the Napa Valley has been in the forefront of not just the American but the worldwide wine culture. Over the past 10-15 years it has also acquired the status of a leader in fine food in the United States. Wine and food together have created a “gourmet media” whose influence has spread throughout the world. As John Urry states, “the effect of globalisation is often to increase local distinctiveness” with one of the reasons for this being “the enduring significance of symbols of place and location particularly with the decline in the popularity of the international modern style of architecture and the emergency of local and vernacular styles; and the resurgence of locally oriented culture and politics, especially around campaigns for the conservation of the built and physical environment.”<sup>5</sup> If Urry were to add “natural” to “built and physical environment” the description would perfectly match that of the Napa Valley. Urry also mentions the “legacy of derelict buildings from the Victorian era” in the north of England. Napa, too, has its Victorian buildings, in fact more than any other town in the San Francisco Bay Area, but thanks to good fortune and very active preservation efforts its own Victorians are far from derelict, and in fact would be excellent stops on any self-guided tour utilizing QR codes.

## Project locations

This researcher determined in advance the likely and appropriate locations for the testing of QR code signs. The initial focus was to be on historical sites such as Victorian homes and other 19th century buildings, and on-demand audio narration would describe the history of the buildings. However, it was

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<sup>1</sup> B. Siegel and A. Waxman, “Third-tier cities: adjusting to the new economy” *Reviews of Economic Development Literature and Practice*, No. 6, 2001.  
[http://www.eda.gov/ImageCache/EDAPublic/documents/pdfdocs/1g3lr\\_5f8\\_5fsiegel\\_2epdf/v1/1g3lr\\_5f8\\_5fsiegel.pdf](http://www.eda.gov/ImageCache/EDAPublic/documents/pdfdocs/1g3lr_5f8_5fsiegel_2epdf/v1/1g3lr_5f8_5fsiegel.pdf)  
Siegel and Waxman define a third-tier city as one between 15,000 and 110,000 in population, that serves as the primary economy base of its region, and that was incorporated prior to 1950 and has not tripled in population since that year. p.5

<sup>2</sup> Siegel/Waxman *ibid.* p.7

<sup>3</sup> Siegel/Waxman *ibid.* p.8

<sup>4</sup> Siegel/Waxman *ibid.* p.27-28

<sup>5</sup> J. Urry, “Reinterpreting local culture”, from *Consuming Places* (London: Routledge, 1995) p.153

soon decided that historical sites would not be appropriate for this project for two reasons: one, signs for such locations would need to be of a higher production level than the project's budget allowed; and two, and more importantly, the number of visitors strolling through the historical areas who might encounter such sign displays would be insufficient at the time of year the project was conducted (Spring, prior to the beginning of the major tourist season.) As a result, the project focused instead on signs at current businesses and organizations that attract relatively large numbers of customers and passers-by. These included such diverse places as wine tasting rooms, Napa City Hall, a hair salon, a women's clothing store, and the local community TV station (via home television sets).

## **QR codes/signs**


The initial step was to determine which web pages of the possibly participating locations were appropriate for the use of mobile phones. Currently most websites are not mobile-friendly, some are satisfactory merely by chance, and a few others are designed to be viewed by both desktop and mobile. This researcher selected business websites that consisted of home pages, menus, or event calendars. I then determined the URL (Universal Resource Locator: the web address) for each appropriate webpage. Next I created a webpage on the project's home website ([www.unseennapa.com](http://www.unseennapa.com)) for each QR code target. Each page would re-direct the user to the final webpage at each business website. The purpose of having the QR code go first to the Unseen Napa site was to allow for the use of analytics (specifically Google Analytics) to track usage of the QR code. The next step was to create a QR code that pointed to the appropriate page at the Unseen Napa website. However, in order to keep the URL short, which would create a QR code that was less visually complex and easier for barcode readers to scan and decode, I ran each URL through [www.bit.ly](http://www.bit.ly), a URL shortening site. I then entered the shortened URLs into Google's QR code generator (<http://zxing.appspot.com/generator/>) and created QR codes for each webpage. Using OpenOffice I then created a sign for each QR code location. This is an example:

# **Headfeathers**



**Scan code above  
with your smartphone barcode reader  
to see our website and Blues Concert schedule**

Potential location owners were shown, and could display if they wished, this sign:

 <p><b>To download a free QR code reader</b></p> <p><b>Connect to your phone's online application store and search for "qr code" to download a free app for your phone.</b></p>	<p><b>THIS IS A QR CODE</b></p> <p><b>QR codes are types of barcodes that contain data. As part of a research project, we've placed a number of these throughout downtown Napa.</b></p> <p><b>If you have an iPhone, Android, Blackberry or other smartphone, you can use your phone's barcode reader to "read" these codes in order to visit a website, make a phone call, or listen to a recorded message.</b></p> <p><b>www.unseennapa.com</b></p>
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The signs were printed and taken to a local shop for lamination, and were then ready for distribution.

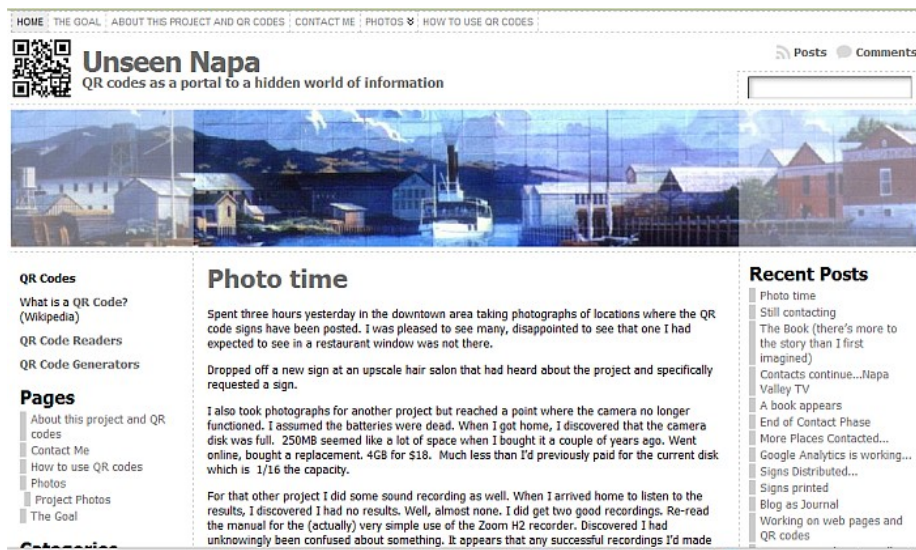
The process then was as follows: Someone would see a sign on a storefront window. If they were carrying a smartphone with a barcode reader, they could then scan the QR code on the sign. The code would resolve to a webpage on the Unseen Napa website where the "page view" would be logged. The server would then automatically re-direct the user's mobile phone browser to the final webpage, which in the case above would be a website and concert schedule. This webpage would then be displayed on the user's mobile phone.

I then began contacting local businesses and offices to see who would be willing to accept the signs for the length of the project. Reaction was varied. Some business owners were very willing, others hesitant, others thought it was a marketing tool they would like to use in the future but not at this time. After approximately eight locations were confirmed, I changed tactics. Since I now had a sufficient number of locations for the experiment, and personally visiting each potential location was time-consuming, I began to simply email the signs to prospective locations, along with an explanation of their use, offering to come by personally to provide more information. This brought in a few more locations. Several others that I thought would be very appropriate did not respond, so with those I

persevered with one or more additional emails. Perseverance paid off, and several more locations were added to the list. As it turned out, however, some locations that had stated that they intended to display the signs, did not. In the end, nine locations actually displayed a total of 15 signs.

## Journal

As part of the project, this researcher kept a journal/blog on the project's Unseen Napa website. It can be accessed at [www.unseennapa.com](http://www.unseennapa.com). Here is a view of the home page:



## Publicity

Residents and visitors were notified about the project through:

- Napa Valley Life Magazine (a bi-monthly lifestyle magazine with a circulation of 35,000)
- Napa Life newsletter (a weekly subscription e-newsletter with a circulation of more than 600)
- Twitter posting
- Facebook posting
- NapaNow.com (website with approximately 16,000 unique viewers per month)
- Unseen Napa.com (the project's own blog—see above)

## Analytics

Although some signs were in position several weeks earlier, I decided to make the official start of this phase of the project 16 April 2010, and end the phase on 16 May 2010. The following is a list of the participating locations, the number of page views for each sign over the one-month period, and relevant comments.

Fifteen signs were displayed at nine physical locations, another was printed in a bi-monthly magazine

for both residents and visitors, another in a paid subscription e-newsletter, and two others appeared in frequent rotation as public service advertisements on the two local community television stations.

Asterisk (\*) indicates sign publicly displayed at location.

<b>Location</b>	<b>Number of page views</b>	<b>Comments (“No response” indicates no response to email request)</b>
Sala Salon*	16	Very interested. Displayed. High number of hits is likely due to the extreme interest of the staff.
Napa Valley Life Magazine*	9	Ran short article on QR codes and intends to use them in ongoing issues.
Back Room Wines* (events)	4	Displayed.
The Goal	4	Page on Unseen Napa website
About this project and QR codes	4	Page on Unseen Napa website
Oxbow Market (calendar)	4	No response.
Napa Valley TV – Channel 27*	3	Displayed among community service ads on this cable community TV station and at station window.
How to use QR codes	3	Page on Unseen Napa website
Vintners Collective	2	No response
Napa Valley Register	2	Interested but “didn't have the time.” QR code would be a natural in their “house ads” for their mobile news service
Napa Valley TV – Channel 28*	2	Displayed among community service ads on this cable community TV station and at station window.
Contact me	2	Page on Unseen Napa website
Photos	2	Page on Unseen Napa website
Agricultural Commissioner's Food Forum	2	Interested for future.
Petfood Express (Pets for Adoption)	2	Linked to Pets for Adoption page at the Napa Humane Society website
Napa Valley TV	2	Pages on Unseen Napa website resolving from QR codes shown on TV
Downtown Joe's	1	No sign apparently displayed
Zuzu (menu)	1	Showed interest but not displayed. Owner intended to use codes on wine labels.

Vintners Collective (Pfeiffer Building History)	1	No response
[doesn't exist]	1	Unknown – probably a deleted page on Unseen Napa website
Photos	1	Page on Unseen Napa website
Napa Local Food	1	New local food website
Petfood Express (Lost and Found Pets)	1	Linked to Lost and Found Pets section of Napa Human Society website
Headfeathers*	0	Displayed. Hair salon
Wildcat (Yelp reviews)*	0	Displayed. Women's clothing from 60s and 70s
Wildcat (website)*	0	Displayed.
Napa Landmarks*	0	Displayed, and will use for future self-guided tours.
Napa Historical Society	0	Interested in using for future self-guided tours
Petco (Lost and Found Pets)*	0	Displayed.
Petco (Pets for Adoption)*	0	Displayed.
City of Napa (website)*	0	City public information officer very interested and displayed four signs at front door of city hall.
City of Napa (News)*	0	Displayed.
City of Napa Today*	0	Displayed.
City of Napa (History)*	0	Displayed.
Napa Chamber of Commerce (website/calendar)	0	Interested but did not display.
Napa Downtown Association (calendar/phone/email)	N/A	Mild interest but did not display.
Uptown Theater	N/A	Interested, but not until after grand re-opening (after being closed 8 years.)
New Technology High School		No response
Napa Valley Opera House (website/calendar)	0	Initially interested, but no further response
Napa Valley Arts Association	0	No response
Napa City-County Library (website/catalog/events)	0	No response

Brad Wagenknecht for Supervisor (website/on the issues)	0	No response
Napa Firefighters Museum	0	No response
Napa Valley Destination Council (website/calendar/phone/email)	0	Serves as information bureau for tourists and conducts marketing for the entire valley. Interested, but did not display.
Ceja Vineyards*	0	Displayed.
Napa General Store (website/concert calendar/menu)	0	Interested, but did not display
Napa Valley Wine Train	0	Aware of QR codes, interested, but did not display
Silo's Jazz Club	0	Interested, but did not display
Baylink Ferry	0	No response
Cordair Art Gallery	0	Interested, but did not display
Napa Valley Museum	0	No response

There were a total of 114 page views over the test period. The above figures add up to only 70 because the balance (44) of the page views were of the home page, which was not reached through a QR code. According to Google Analytics, peak viewing times were between 11 am and 1 pm, with slightly more than 48% of all page views occurring during this time. Peak viewing days were on Fridays, with 47% of all page views occurring on Fridays. There is nothing in the data which suggests an explanation for the concentration of page views at these times and on this particular day of the week.

## Mobile devices

The most commonly used mobile device was the series of Android operating system (developed by Google) phones with 55% of visits made by these phones. Apple's iPhone was the second most frequently phone used with 40%, Blackberry had 2.5%, and iPad 2.5%. Since the iPad does not have a camera, it could have been used only to visit the Unseen Napa site without using a QR code first.

## Project advantages and disadvantages

In retrospect, the project offered a number of advantages: the project required minimal expense; it demonstrated uses of QR codes; it increased public awareness of QR codes; it revealed an unseen layer of the city—that information associated with different sites but unknown to most passers-by; it served as a proof-of-concept that can later be used in many ways by this community and others; no new software needed to be designed, and all necessary software was available at no cost. Disadvantages were that QR codes are for all practical purposes totally unknown in Napa, as in the rest of the United States; permission from property owners was required; public participation was essential for the project's success; and the short time frame made creating the necessary public awareness difficult.



## Conclusion

It is perhaps useful to recognize that the community of Napa is not on the leading edge of technology. While the Napa Valley is certainly in the forefront of winemaking technology and cuisine, it has been relatively slow to adopt new communications and computer technologies. For example, this researcher was involved in an attempt to get the community on the Internet in the late 1980s, but it was six or seven years later before this finally happened. Another attempt in the early 1990s to interest the community in using the World Wide Web did not come to fruition until the early 2000s. The community is not behind technologically; it simply moves along at the same rate as the majority of the United States.

It would appear that the same will be the case with the use of QR codes. Few people in the United States are aware of the codes, and this appears to be the same in Napa. Of the 22 people I directly talked to, only three were familiar with them. While some contactees saw immediate value and opportunities in the codes, others listened to a presentation and saw them demonstrated but were still unable to grasp how they might be of personal or business use. Unfortunately, those to whom their use was not obvious included some key people in the tourism industry. While this could be attributed to a poor presentation by this researcher, the fact that others immediately saw possibilities would seem to negate that likelihood. It would seem that QR codes will slowly become familiar and gain acceptance in Napa at the same rate as throughout the rest of the country. An exception might be if an influential organization conducted an aggressive campaign to promote the codes throughout the community. This has, for example, been done in the town of Manor, Texas for both residents and visitors<sup>6</sup>, in Long Beach, Washington<sup>7</sup> to aid visitors in discovering the scenic areas of that community, and recently in Turin, Italy (using Microsoft's Tag instead of QR codes) for visitors to learn about key sites of interest in that city.<sup>8</sup> For Napa to act ahead of the curve in use of QR codes would take, as Charles Landry states in *The Creative City*, “visionary individuals, creative organizations, and a political culture sharing a clarity of purpose” as well as “open-mindedness and a willingness to take risks.”<sup>9</sup> Or as Richard Florida implies in “Cities and the Creative Class,” a significant number of gay bohemians<sup>10</sup>.

Actual usage of the QR codes during the project's analytics phase was slight in most cases. This can be

<sup>6</sup> D. Haisler, “Redefining government communication with QR-codes,” *white paper*; City of Manor, Texas, September 2009, at [www.cityofmanor.org/comwhitepaper.pdf](http://www.cityofmanor.org/comwhitepaper.pdf) on 3 May 2010. Produced by the Chief Information Officer of Manor, Texas, this paper discusses the planning, deployment, benefits and results of a QR code campaign in that town to assist citizen communication, emergency management, and information on historical sites.

<sup>7</sup> Long Beach Peninsula Visitors Bureau, “Long Beach, Washington is first in the Northwest to use QR codes to target visitors at points of interest,” *press release*, 5 May 2010, at <http://funbeach.com/qrpress/first-in-northwest> on 14 March 2010. Long Beach uses QR codes at 29 different locations to provide smartphone-equipped visitors with location-specific text information. The project includes a self-guided tour of an 8.5-mile long paved, coastal interpretive path. Future plans call for linking to video clips, audio recordings, and slide shows.

<sup>8</sup> Turismo Torino e Provincia, “Technology for tourists from the new interactive destination website [www.turismotorino.org](http://www.turismotorino.org) to microsoft tag technology!,” *press release*, 12 March 2010, Torino, Italy, at [http://www.turismotorino.org/pdf/Press\\_release.pdf](http://www.turismotorino.org/pdf/Press_release.pdf) on 16 March 2010. Announcement by the Turin Tourist Board that Turin has become the first “colour tagged” city in the world. The tourism office will, at no charge, install the Microsoft Tag reader on visitors' phones (or they can download it prior to their visit). Colored tiles on the ground in front of various tourist attractions in the city will contain Microsoft “tags,” similar in some ways to QR codes. Visitor will receive information in text, video or audio format, or even gain access to reserved areas.

<sup>9</sup> C. Landry, *The creative city* (London, Comedia, 2004)

<sup>10</sup> R. Florida, *Cities and the Creative Class* (New York: Routledge, 2004). Florida states that both his Gay Index and his Bohemian Index are excellent predictors of high-tech industry. It seems logical, therefore, that a sizable population of gay bohemians might help Napa create a high-tech “Silicon Wine Valley,” as Napa is only an hour and a half's drive from the real Silicon Valley and could offer a more relaxing place for technologists to live and work.

attributed to the relatively small number of tourists in the downtown area at this time of year, the limited shopping opportunities for residents in downtown Napa, and the fact that few smartphone owners are aware that they can obtain and use a barcode reader for their phone at no charge. Thus the potential pool of QR code users was very small. Combine this with the lack of awareness of the existence of QR codes, let alone of their use and possible value, and the slight usage in this test is not surprising.

The key positive results of this project are that a number of business owners and non-profit organizations are now aware of the existence and potential of QR codes, the City of Napa government is now aware of them, and many members of the public have seen the codes, although they may not yet have any real comprehension of their purpose. At the very least, experience from the project can be helpful to the next phase of their introduction into this specific community.

## Future possibilities

It is likely that Napa will adopt QR codes at the same rate and time as the rest of the country. That process could perhaps be accelerated by a promotional effort by a key community body such as the city government or chamber of commerce. Such a promotion will occur only if that body recognizes that there are marketing and commercial benefits for early adopters, as all businesses and communities are struggling to find ways to set themselves apart and appear more interesting and worthwhile than their competitors. The fact that the use of QR codes requires no extra cost other than that of adding them to existing marketing materials should make them attractive to those seeking new customers, increased business, and increased tourism.

Another interesting and frequently overlooked benefit is that QR codes can encourage walking. Paradoxically, through the use of QR codes, the computer technology that has helped contribute to our lack of walking by keeping us indoors can help restore our interest, enjoyment, and desire to walk, particularly throughout our community. As Jacks says in his paper “Reimagining Walking,” “The practices of walking—modest and ordinary, rebellious and subversive—offer a grounding and a path in which beauty and social goals are united.”<sup>11</sup> Walking brings neighbors and communities together; QR codes can add an element of attraction, education and even play to neighborhood and downtown walking.

## Reflections

I consider this project to have been a success, as it both gave an indication of the current awareness of QR codes in the Napa community—something between ten and fifteen percent from my very informal experiential survey—and planted seeds for the future awareness and use of the codes. Although no standards were pre-established that would allow me to empirically and objectively determine whether or not the project achieved certain goals, the project was intended to be an investigative process. Finding suitable locations was not done *prior* to the project because that search was intended to be *part* of the project. Data were received from analyzing the number of hits for each QR code, but there was no way to distinguish tests by the owners of the location from actual use by the public, so the data were more interesting than substantive.

In my mind, the two most important potential uses of QR codes for the Napa community are: firstly, enhance the tourist experience and increase the numbers of tourists; and secondly, give residents a

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<sup>11</sup> B. Jacks, “Reimagining walking: four practices,” *Journal of Architectural Education*, 2004, Vol. 57 (3), p.5-9

greater connection with locations in their community and the hidden layer of information that permeates the community and can be contacted through QR code portals. The project was not able to solidly address either of these uses.

Through display of the signs in storefront windows, and through prominent mention in local magazines<sup>12</sup>, television<sup>13</sup> and other media, the community has for the first time been exposed to QR codes. In addition, a number of business owners and other key people are now aware of QR codes and will likely be using them in the future. Examples of this include the owner of an upscale hair salon who is excited about the codes and already looking at other ways he can use them; the publisher of Napa Valley Life Magazine, who intends to use the codes extensively in future issues; a print shop owner who is already offering QR codes on business cards; and the local arts council, which will be using the codes on a brochure accompanying a city-sponsored exhibit of public art—ten sculptures which will be on display in the downtown area for the next one year. This will be a variation on the current use of QR codes with *indoor* exhibits in museums and art galleries, one example of this being the Mattress Factory in Pittsburgh, Pennsylvania.<sup>14</sup> In addition, a Napa Valley winery and the local historic building association and historical society will be using the codes for self-guided tours. These could be similar to tours already researched in Venice, Italy that used QR codes to connect tourists with videos of the interiors of buildings not otherwise accessible.<sup>15</sup> The City of Napa will likely be using QR codes to convey information to the public—as already mentioned, the town of Manor, Texas has been a leader with this tool of government transparency; and there has been some discussion with a local association of neighborhoods in Napa about using QR codes to connect neighbors with their neighborhood's history and to present their neighborhood to visitors. This would be similar to that currently done by [murmur], a program that started in Toronto, Ontario and has been expanding to other countries.<sup>16</sup> Although the Napa City-County Library did not respond to the invitation to participate in this project, it

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<sup>12</sup> The publisher of *Napa Valley Life Magazine* stated: "I feel the whole concept will revolutionize how we will get information in the future. Most of the feedback I have received from the magazine is that people are intrigued, but they are not quite sure how it fits into their lives yet. It's similar to when cell phones first emerged. People had no idea how much we would become dependent on our cell phones. The QR codes will make it easier for people to get information on items they need to make a decision about while eliminating the need to carry a lot of extra material with them." (personal communication)

<sup>13</sup> As the executive director of Napa Valley TV said: "I think the QR codes are a great concept. I am glad we can take advantage of an idea that has yet to see its full potential." (personal communication)

<sup>14</sup> J. Inscho, "Do-it-yourself QR codes: A 4-step guide," *Mattress Factory: Art you can get into*, blog post, 10 September 2009, at <http://artyoucangetinto.blogspot.com/2009/09/do-it-yourself-qr-codes-4-step-guide.html> on 21 March 2010. The Mattress Factory is a museum of contemporary art in Pittsburgh, Pennsylvania, USA. This blog offers very practical guide to the use of QR codes in a museum, gallery or other indoor space, designed to help other museums create similar systems without the cost of using outside consultants.

<sup>15</sup> M. Epstein and S. Vergani "History unwired: mobile narrative in historic cities," *Proceedings of the working conference on advanced visual interfaces*, AVI 2006, 23-26 May 2006, Venezia, Italy, ACM Press, 2006. p.302-305, <http://portal.acm.org.ezproxy.brighton.ac.uk/citation.cfm?doid=1133265.1133327>. History Unwired investigates the narrative uses of mobile technology in historic cities. This paper focuses on a particular neighborhood in Venice. All information was on a handheld device, provided to each visitor involved in the test. A building that was "off limits" could still be seen virtually as visitors watched, from outside the building, an audio video tour of the inside of the building on their handheld device. (See <http://web.mit.edu/frontiers> for an interactive view of the project and the tour.)

<sup>16</sup> [Murmur] Toronto, *website*, at [www.murmurtoronto.ca](http://www.murmurtoronto.ca) on 22 March 2010. [Murmur] is a documentary oral history project that records stories and memories told about specific geographic locations. A visitor (or new neighbor) can go to designated points in a neighborhood and listen to a recording of the voice of a knowledgeable neighbor relating their memories about the spot and its significance to them. Initially the program placed actual phones at the locations. Currently they are providing phone numbers, which visitors can dial from their own personal phones. The advantage of phone numbers is that the user does not need an Internet-enabled/barcode reading phone. The disadvantage is that the user has to dial a number, and the retrieved information can only be audio. QR codes could be used in Napa.

is hoped that they will soon recognize the benefits of QR codes. Librarians tend to be at the forefront of technology, and many libraries throughout the world are already using them successfully.<sup>17</sup> Also, the local daily newspaper will likely be using them to promote their soon-to-expand mobile website.

Personally, it has been a learning success. It has become obvious to me how critical it is to devise projects over which I have as much control as possible of the *methodology and resources* used in the project, and minimal dependency on others (in this case business owners and non-profit directors) to even carry out the project. I once again realize how important it is to keep a project as small and focused as possible, in order that a project be completed within its designated time span and within its resource and funding parameters. I also recognize that it is desirable, but perhaps not always possible, to establish markers that will determine whether or not a project has achieved pre-established goals and objectives. Finally, research into and use of the codes, as well as experiencing the reaction of people to them, caused me to search out a book which I could recommend to give people a better understanding of the potential uses of QR codes. Such a book apparently does not yet exist. So I am now 2/3 of the way through the process of writing such a book.

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<sup>17</sup> N. Hill, "Hyperlinking reality," *Library Journal*, July 2009, p. 38-39, at <http://www.libraryjournal.com/article/CA6668443.html> on 22 March 2010. Article by a public librarian on the growing use of QR codes in public and university libraries where they are being used to obtain call numbers for individual books as well as for access to the full online catalog. The article discusses the value of QR codes for social media, so that a QR code can connect not just to a static image or article but to an active website such as a blog, producing "dynamic graffiti" that enables many people to take part virtually in a location-linked discussion. In one sense, entire discussions can be considered to "inhabit" a single QR code. The code is not just a link but an open portal into a virtual world, or as Hill calls it "a mirror of a specific location in the real world."

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