NEW TO THE SCENE: THE EMERGING PARADIGM OF GEOGRAPHIC HYPERMEDIA AND ITS APPLICATIONS IN ST. LOUIS FILM TOURISM

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Abstract
Endless media images permeate today’s cultural environment. Tourism marketers have learned to compete by creating flashier representations of destinations. Through the use of geographic hypermedia, maps have become more dynamic and interactive. This paper explores the evolution of Geographic Hypermedia Systems and its growing relationship with the tourism industry. By establishing a case study of film tourism in St. Louis, Missouri, I describe the steps needed to create a basic hypermedia movie map using readily available resources.

Introduction
In an age of advancing technology, capturing an audience’s attention has become increasingly challenging. Endless images in film, television, the internet, and even our cell phones permeate the cultural environment. Whether one is a filmmaker, a tourism manager, or a website designer, getting one’s images to stand out amongst countless others can be quite a feat. Sometimes, flashier is better, and the use of hypermedia can present complex information in a much more appealing way.

When it comes to tourism, enhanced images of locations are the main draw. “There is scarcely an aspect of tourism which does not have some geographical implications, and there are few branches of geography which do not have some contribution to make to the study of the phenomenon of tourism” (Hall and Page 2002, 18). When people see landscapes portrayed in their favorite films or television shows, it often sparks an interest to see those locations in person, an activity known as “set-jetting.” To capitalize on this trend, tourism marketers have started developing movie maps showing exactly where movie scenes have been filmed. In this study of St. Louis, Missouri, the creation of a hypermedia movie map would help the city further stand out as a unique destination. “By better understanding how tourists experience these cultural landscapes, tourism operators and destination marketers can provide the experience film tourists are seeking and thus expand the beneficial effects of film tourism on destinations” (Carl et al. 2007, 49).

In this paper, I explore the evolution of Geographic Hypermedia Systems; relate Geographic Hypermedia to the tourism industry; establish a case study of film tourism in St. Louis, Missouri; describe the use of hypermaps in other film tourism marketing strategies; and apply the fundamentals of Geographic Hypermedia to a hypermap of St. Louis film locations. I seek to answer the following questions: What steps are involved in creating a basic hypermap? How can a hypermedia film map be created in a limited timeframe with minimal cost? What factors must be considered when deciding which movie locations to include on a hypermap that will be released to the general public? What are the delimitations and limitations of making a St. Louis movie map? How could the movie map evolve into a completely interactive map of St. Louis tourism hotspots?

Evolution of Geographic Hypermedia
Defined simply as “the collection and manipulation of geographic information,” Geographic Information Science has been driven by technological advances (Stefanakis et al. 2006, 2). Geographic Information System (GIS) tools are being applied to a growing number of fields, including business, environment, health, government, economic development, and tourism (Thomas and Ospina 2004). A GIS is defined as a computer database which can be used to capture, store, manipulate, and analyze...
geographic data (Lew et al. 2004; O’Looney 2000). It can effectively display information, characteristics, and relationships among places on a single digital map.

When multimedia is added to a GIS, it can take on a variety of names. For instance, the term “multimedia GIS” describes a GIS that combines multiple time-dependent media (i.e. video, audio) with time-independent media (i.e. text, graphics, tables, images) (Camara and Raper 1999). Similarly, “multimedia mapping,” (Hu 2010) “cybercartography,” (Cartwright et al. 2007) “web cartography” and “web maps” (Kraak and Brown 2001) also describe the integration of cartography and multimedia. As Figure 1 illustrates, all of these concepts contribute to the emerging paradigm of Geographic Hypermedia (GH) (Stefanakis et al. 2006). Stefanakis and other researchers explain that when geographic content is interlinked and exploited by “hypermedia” (hypertext and multimedia) in a GIS, it can be called a Geographic Hypermedia System (GHS). Researchers refer to the resulting interactive, digital multimedia map as a “hypermap,” a term first coined by Laurini and Milleret-Raffort in 1990 (Stefanakis et al. 2006).

Figure 1: Diagram of terms (designed by the author based on Stefanakis et al. 2006)
In 2007, Cartwright et al. outlined five basic principles of the multimedia cartography paradigm:

1) “Inadequacy of the paper medium” – “The surface depiction is no longer sufficient. People want to ‘go into’ the map, both spatially and conceptually” (Cartwright et al. 2007, 2). The Internet has enabled a shift toward more multifaceted and dynamic maps.

2) “Problems associated with distributing maps on paper” – The Internet can deliver maps in a matter of seconds and make them interactive, customizable, and more easily updateable.

3) “Problems in map use” – It is estimated that more than half of the educated population do not have a basic competency with maps (Cartwright et al. 2007, 69). Interactive multimedia allows for a more user-friendly interface.

4) “Intrinsic value of multimedia” – The active participation associated with multimedia use fosters a more effective transfer of information and knowledge.

5) “Moral obligation of cartographic communication” – Not all maps have to perform spatial analysis in order to have value. Also, both traditional maps and GIS should be oriented to a broader audience, not just expert map users.

Recent developments in online mapping tools are putting the complex techniques of cartography and GIS “within reach of people without formal training in map-making or use of spatial information” (Deparday 2010, 12). The sharp increase in the non-professional use of online mapping tools (i.e. Google Maps, Yahoo! Maps) has led to a split between GIS for professionals and “GIS for everyone” (Cartwright et al. 2007, Rinner et al. 2008; Deparday 2010). Free, easy-to-use Application Programming Interfaces (APIs) such as those found at Google, Yahoo, Flickr, and YouTube, “do most of the heavy lifting, and the developer can combine functionality easily to create a simple but useful application in a relatively short amount of time” (Hu 2010, 2). The St. Louis case study explored later on in this paper demonstrates how a hypermedia map can be created with minimal cost and programming knowledge.

**Geographic Hypermedia Systems in the Tourism Industry**

An integrated GHS can help businesses and organizations save time and money, generate revenue, build an information base, manage knowledge, and increase accuracy (Thomas and Ospina 2004). The expanding field of tourism can benefit from all of these aspects. As one of the world’s largest industries, it has substantial economic, sociocultural, environmental, and political impacts from both the global and individual scale (Hall and Page 2002). Tourism shares several of geography’s approaches to understanding the world, including regional, behavioral, humanistic, cultural, and applied approaches (Hall and Page 2002).

Past studies on tourism establish a distinction between tourism, leisure, and recreation. As defined by Boniface and Cooper (1999), tourism is a “form of voluntary, temporary mobility in relation to where people live” (5). In contrast, leisure is simply the time left over after daily necessities (such as work, sleep, chores, and obligations), and recreation describes the variety of activities that are completed during leisure time (Boniface and Cooper 1999). The diagram provided by Boniface and Cooper (1999) shows where tourism lies on a geographical scale (see Figure 2).

Because most tourism planning issues are spatial, complex, and multi-dimensional, GIS can bring “significant value to decision making through data analysis, modeling, and forecasting” (Hasse 2001, 54). Despite this, most tourism research has been without the use of GIS (Hasse 2001; Kraak and Brown 2001; Lew et al. 2004). “Maps can play a very important part in providing information to tourists, so it is rather disappointing to find that maps are not used as much as they could be on tourist websites, and where they are, their design and use is often not very imaginative” (Kraak and Brown 2001, 123).
A survey found that “87% of online consumers use their computers to find travel destination information” and that 84% have visited travel web sites (Richmond and Keller 2003, 79). A tourism marketing strategy “therefore is not complete without incorporating the Internet” (Richmond and Keller 2003, 79). Those researchers also added that “web-based maps have the potential to facilitate visual communication of the geography of a travel destination, attracting and retaining attention, increasing interest and curiosity, and possibly improving comprehension and recall of a travel destination site” (Richmond and Keller 2003, 80). As more guidance and research emerges, online organizations should start to take advantage of all that geographic hypermedia has to offer.

Tourism in St. Louis

St. Louis, Missouri, can be used as a case study to explore how tourism can be enhanced by hypermedia. The city’s official tourism website, sponsored by the St. Louis Convention and Visitors Commission (CVC) (http://www.explorestlouis.com), contains many interesting, detailed features. However, their online maps, a main ingredient for tourists, are static and disjointed. The small, hard-to-find interactive map of downtown holds little information. Even so, the lackluster maps do not reflect a lackluster city by any means. The rest of the website is creatively designed, with suggested itineraries, categorized guides (i.e. Music Lovers, Theater Lovers, Sports Lovers), neighborhood descriptions, meetings/conventions planning, and information about hotels, restaurants, events, nightlife, and family activities. The city itself hosts more than 21 million visitors each year, who spend an average of $4.2 billion annually (St. Louis CVC 2011). That seems impressive considering St. Louis offers more free major attractions than any other U.S. city outside of Washington, D.C. (i.e. zoo, art museum, science center, history museum, etc.) (St. Louis CVC 2011). During visits, tourists spend an average of $653 per travel party (average of 3.1 people), staying at area hotels for an average of 2.5 nights (St. Louis CVC 2011).
With a lucrative tourism market such as this, the St. Louis CVC website is a great candidate for a more complete, interactive tourism hypermap to showcase a wide variety of attractions and give St. Louis tourism an extra boost. The new comprehensive map could feature all the activities listed in the Official St. Louis Visitors Guide, as well as some unique features not included on other major city maps (St. Louis CVC 2011).

**Film Tourism in St. Louis and Elsewhere**

In this case study, the sub-field of film tourism can serve as a unique starting point. Film tourism has been defined as “tourist visits to a destination or attraction as a result of the destination’s being featured on television, video, or the cinema screen” (Hudson and Ritchie 2006, 387). While St. Louis cannot compare with the country’s largest cities in terms of filming locations, including this aspect on an interactive map can give the city an edge when it comes to offering unique attractions. “Places, and images of places, are fundamental to the practice of tourism,” and films contribute greatly to how a location is perceived by outsiders (Carl et al. 2007, 49). Over 100 feature-length films have been produced in St. Louis, mainly because of the area’s diverse geography of urban and rural settings all within close proximity (MOMMA 2008). Some films (i.e. The Game of Their Lives, White Palace) portray St. Louis proudly, while others (i.e. Up in the Air, Escape from New York) choose to disguise it as a different city altogether (IMDB 2011). Either way, it is important for tourism marketers to adjust their strategies accordingly since, unlike other traditional promotion tools, “destination marketers are not likely to have control about the way a place is portrayed in the motion pictures” (Kim and Richardson 2003, 232). Some films may feature landscapes in a negative light, so care must be taken when considering film tourism as part of a tourism marketing plan.

St. Louis has the potential to become the latest city to promote the growing phenomenon of film tourism, also known as “set-jetting,” movie-induced, or film-induced tourism (Hudson and Ritchie 2006). Falling loosely under the category of cultural tourism, film tourism is “based on a form of escape via simulation, spectacle and sensations created by the interplay of film representations and ‘real’ landscapes” (Carl et al. 2007, 51). Many recent studies showcase evidence of film tourism around the world. The effect of the Lord of the Rings trilogy in New Zealand is a well-known example. A 2003 survey showed that 65% of potential overseas visitors were more likely to visit New Zealand as a result of the films (MOMMA 2008). “Research suggests that the Lord of the Rings films at minimum increased awareness of New Zealand, but also likely have been a direct draw for visitors to the country” (MOMMA 2008, 8). Thanks to its extensive marketing campaign touting itself as the “Best Supporting Country” to the award-winning films, the New Zealand tourism industry has excelled dramatically (MOMMA 2008; Hudson and Ritchie 2006). Even today, specialized tours, museum exhibits, and maps of the Lord of the Rings sites continue to attract film buffs and tourists alike.

Different sites around England experienced similar tourist results after the release of the hugely popular Harry Potter film series. For example, Alnwick Castle, Britain’s second largest inhabited castle and home to Northumberland’s Duke and Duchess, is probably best known now as the exterior of the “Hogwarts School for Witchcraft and Wizardry” in Harry Potter. After the movies were released, Alnwick Castle saw a visitors’ increase of 230%, “with a benefit of up to £9 million extra spent due to the ‘Potter effect’” (VisitBritain 2011, online under “Success Stories”).

A U.S. example of film tourism is the case of Dyersville, Iowa, setting of Field of Dreams, starring Kevin Costner (see Figure 3). Over two decades since the movie’s release, small-town Dyersville continues to attract hordes of fans, up to 60,000 per year (MOMMA 2008).
2008). The famous baseball field and house in the middle of the corn field still exist, open to the public for free and maintained with proceeds from gift and concession sales (MOMMA 2008). Benefits continue to pour into the rest of the town, including additional revenue at hotels, restaurants, and gas stations. After owning the farm for over 100 years, the Lansing family sold the site in 2011 to a group of investors looking to develop an “All-Star Ballpark Heaven” (Guy 2011). The premier baseball and softball tournament complex, set to open in 2014, will be designed for youth players and is expected to attract a whole new generation of fans (Guy 2011). Lead investor Denise Stillman recognizes the importance of maintaining the town’s biggest draw. “We will keep the movie site as pristine as we can. That’s the magic of the place. We want to keep the memories of it like in the movies” (Guy 2011, online 12th paragraph).

The recent boost in the number of films being produced in St. Louis makes it a great candidate for the promotion of film tourism and the creation of a hypermedia movie map. With its diverse urban environments and beautiful natural landscapes, along with what was once a competitive tax break, the state of Missouri has seen increased interest from big-budget film producers in recent years. In fact, more than half the movies shot in Missouri were filmed in the 2000s (see Figure 4) (MOMMA 2008).

State tax breaks are largely responsible for attracting film productions away from Hollywood. Missouri began its own film tax incentive program in 1999. Over the next decade, twenty-five films qualified for tax credits, and film companies have spent more than $14 million in Missouri for wages, equipment, accommodations, catering, rentals, and other expenses (MOMMA 2008). Each year, the Missouri film industry employed over 7,600 workers with an average wage of $55,000 (above the state average of $35,670), adding several million dollars to Missouri’s economy (MOMMA 2008). In addition to production companies, the industry also includes film school programs, post-production companies, and specialized equipment rental companies. When a big-budget feature comes to town, it affects other local industries as well, such as food service, hospitality, retail, accounting, information management, design services, and management for public figures, independent artists, writers, and performers. These auxiliary industries can add around 9,900 additional jobs (MOMMA 2008).
Despite proven economic impact from past film productions, recent state government budget cuts slowed Missouri’s progress. In 2011, Governor Jay Nixon shut down the Missouri Film Commission, transferring its responsibilities to the Missouri Department of Economic Development, in essence to people with less specialized filmmaking expertise. The decision was met with great backlash by the local industry, with one commenter accusing the governor of “tripping over dollars to save dimes” (Hartmann 2011, online under “Reader Comments”). At the time of this writing, it is still undecided who will maintain the Missouri production company directory, act as official point of contact for visiting filmmakers, or update the Film Commission’s website in the future. One suggestion involves the creation of a new, revamped “St. Louis Film Office” to replace some of those duties and at least promote filmmaking in the city, if not for the entire state (Hartmann 2011). The proposed St. Louis Film Office, as well as St. Louis tourism as a whole, would seem to benefit greatly from a multimedia map of filming locations, helping to re-energize the previously booming local film industry.

**Hypermaps in Film Tourism Marketing**

A movie map shows tourists the specific locations of different movie scenes. An example is the *Sideways* movie map the Santa Barbara Conference and Visitors Bureau created in 2004 (see Figure 5). With more than 10,000 copies sold, the map featured all the diners, hotels, and wineries used in the film (Hudson and Ritchie 2006). A hypermap would be able to offer additional information with links to photos, video, audio, and related websites. Just before the release of the 2005 movie *Closer*, London’s VisitBritain website collaborated with Sony Pictures and Columbia Pictures to create a movie map that showed all the iconic London locations used in filming. The site also had a direct link to Sony Pictures, which in turn advertised the movie map on its home page (Hudson and Ritchie 2006; VisitBritain 2011). The VisitBritain website features movie maps, micro-sites, costume displays, and smart phone apps dedicated to helping tourists explore England’s film destinations. A more specific London movie hypermap can be found on the website [http://www.movielondon.net](http://www.movielondon.net), designed by Tony Reeves, author of *The Worldwide Guide to Movie Locations* (Reeves 2009) (see Figure 6). Also, when the New Zealand Ministry of Tourism dedicated a portion of its website to *The Lord of the Rings* filming locations, complete with a movie map, the website experienced more than 1 billion hits within a year (Hudson and Ritchie 2006).

*Figure 5: Sample printable movie map (SBCVB 2011)*
Overall limitations of a hypermap include access to the internet, long downloads, and the expectation of up-to-date information. However, adding an interactive map to a tourism website costs close to nothing and can be easy to update. Many design programs and APIs can be utilized free of charge. Furthermore, the information presented on a tourism hypermap can be accessed year-round and reach a wide, diverse market. Its effects can be enduring, continuing to draw visitors year after year, especially when the films themselves undergo multiple releases, including theater debuts, DVD releases, TV showings, and anniversary re-releases (see Table 1).

Data Collection
To ensure a movie map was feasible for St. Louis, I gathered information from various local film offices (i.e. Missouri Motion Media Association, Missouri Film Commission). While over 100 feature-length films have been produced in St. Louis, my map is limited to sixty-two sites from just sixteen different films. In order to maximize accuracy, it was important for me to only include sites whose exact addresses could be verified through cross-checking with local media sources (i.e. newspaper articles, television news archives). Though my research revealed limited data availability, I decided that sixty-two sites were enough to make a substantial movie map.

With cost and technical expertise, a professional could design a hypermap from scratch by building custom parameters into an XML code. A variety of commands would be needed just to integrate multimedia from a Flickr or YouTube account into tabbed information windows. Since part of my
The purpose is to show how everyday users can access GIS applications. I searched the internet for more beginner-friendly interfaces. I settled on Community Walk (http://www.communitywalk.com), a website which takes the guesswork out of coding by providing more intuitive ways to customize a Google map. Changing marker icons and editing information bubbles only require clicking a few buttons, and the results are instantaneous.

**Marker Creation/Customization**

While users can start adding markers one-by-one simply by clicking on the map, Community Walk also gives the option to upload marker data all at once using an Excel spreadsheet. Modeling after my past Chicago movie map, I had already created an Excel database with all the movie data I had collected. I just had to re-format a few fields in order to match the sample sheet provided by Community Walk. My final fields consisted of: Title, Description, Website, Category, Address, Phone Number, Photo URL, Photo Title, and Photo Description.

Once I uploaded my spreadsheet, a basic version of my movie map was created in seconds (see Appendix B). Through the process of geocoding, Community Walk automatically transformed the addresses into points of a layer on a Google-powered map, without me having to enter latitude/longitude.

<table>
<thead>
<tr>
<th>Film or TV Series</th>
<th>Location</th>
<th>Impact on Visitor Numbers or Tourist Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braveheart</td>
<td>Wallace Monument, Scotland</td>
<td>300% increase in visitors year after release</td>
</tr>
<tr>
<td>Heartbeat</td>
<td>Geathland, North Yorkshire, England</td>
<td>Three times the number of normal visitors in 1991</td>
</tr>
<tr>
<td>Deliverance</td>
<td>Putnam County, Georgia</td>
<td>20,000 film tourists a year Gross revenues $2 to 3m</td>
</tr>
<tr>
<td>Dances With Wolves</td>
<td>Fort Hayes, Kansas</td>
<td>25% increase compared with 7% for previous 4 years</td>
</tr>
<tr>
<td>Close Encounters</td>
<td>Devils Tower, Wyoming</td>
<td>75% increase in 1975 20% visit now because of the film</td>
</tr>
<tr>
<td>of the Third Kind</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theima and Louise</td>
<td>Arches National Monument in Moab, Utah</td>
<td>19.1% increase in 1991</td>
</tr>
<tr>
<td>Field of Dreams</td>
<td>Iowa</td>
<td>35,000 visits in 1991 Steady increase every year</td>
</tr>
<tr>
<td>Dallas</td>
<td>Southfork Ranch, Dallas</td>
<td>500,000 visitors per year</td>
</tr>
<tr>
<td>The Lord of the Rings</td>
<td>New Zealand</td>
<td>10% increase every year 1998 to 2003 from UK</td>
</tr>
<tr>
<td>Steel Magnolias</td>
<td>Louisiana</td>
<td>48% increase year after release</td>
</tr>
<tr>
<td>Last of the Mohicans</td>
<td>Chimney Rock Park, North Carolina</td>
<td>25% increase year after release</td>
</tr>
<tr>
<td>The Fugitive</td>
<td>Dilisboro, North Carolina</td>
<td>11% increase year after release</td>
</tr>
<tr>
<td>Little Women</td>
<td>Orchard House, Concord, Massachusetts</td>
<td>65% increase year after release</td>
</tr>
<tr>
<td>Bull Durham</td>
<td>Durham, North Carolina</td>
<td>25% increase in attendance year after release</td>
</tr>
<tr>
<td>Harry Potter</td>
<td>Various locations in U.K.</td>
<td>All locations saw an increase of 50% or more</td>
</tr>
<tr>
<td>Mission: Impossible 2</td>
<td>National parks in Sydney</td>
<td>200% increase in 2000</td>
</tr>
<tr>
<td>Gorillas in the Mist</td>
<td>Rwanda</td>
<td>20% increase in 1998</td>
</tr>
<tr>
<td>Crocodile Dundee</td>
<td>Australia</td>
<td>20.5% increase in U.S. visitors 1981 to 1988</td>
</tr>
<tr>
<td>The Beach</td>
<td>Thailand</td>
<td>22% increase in youth market in 2000</td>
</tr>
<tr>
<td>All Creatures</td>
<td>Yorkshire Dales</td>
<td>Generated $5m for Yorkshire Dales</td>
</tr>
<tr>
<td>Great and Small</td>
<td>Cricket St Thomas, Leisure Park, England</td>
<td>37% increase between 1978 to 1980</td>
</tr>
<tr>
<td>To the Manor Born</td>
<td>Stamford, Lincolnshire, England</td>
<td>27% increase in 1994</td>
</tr>
<tr>
<td>Middlemarch</td>
<td>The Crown Hotel, Amersham, England</td>
<td>Fully booked for at least 3 years</td>
</tr>
<tr>
<td>Four Weddings and a Funeral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mrs. Brown</td>
<td>Osborne House, Isle of Wight, U.K.</td>
<td>25% increase</td>
</tr>
<tr>
<td>Notting Hill</td>
<td>Kenwood House, England</td>
<td>10% increase in 1 month</td>
</tr>
<tr>
<td>Saving Private Ryan</td>
<td>Normandy, France</td>
<td>40% increase in American tourists</td>
</tr>
<tr>
<td>Sense and Sensibility</td>
<td>Saltarn House, England</td>
<td>39% increase</td>
</tr>
<tr>
<td>Pride and Prejudice</td>
<td>Lyme Park in Cheshire, UK</td>
<td>150% increase in visitors</td>
</tr>
<tr>
<td>Cheers</td>
<td>Location in Boston</td>
<td>$7m in unpaid promotional advertising each year</td>
</tr>
<tr>
<td>Miami Vice</td>
<td>Miami</td>
<td>150% increase in German visitors 1985 to 1988</td>
</tr>
<tr>
<td>Forrest Gump</td>
<td>Savannah, Georgia</td>
<td>7% increase in tourism</td>
</tr>
<tr>
<td>Troy</td>
<td>Canakkale, Turkey</td>
<td>75% increase in tourism</td>
</tr>
<tr>
<td>Captain Corelli's Mandolin</td>
<td>Cephalonia, Greece</td>
<td>50% increase over 3 years</td>
</tr>
</tbody>
</table>

Sources: Riley and van Doren (1992); Tocke and Baker (1996); Griffland (2003); Croy and Walker (2003); Cousins and Anderock (1999); Buseby, Brunt and Lund (2003); Riley, Baker, and van Doren (1996).
coordinates. The rest of the data from my spreadsheet appeared in pop-up windows for each marker. By clicking “Edit” on a particular marker, I could tweak the information and add more photos if needed.

Since some of the movies shared filming locations, many of my markers overlapped. I discovered I could simply click and drag markers in edit mode, without affecting the address listed in their attributes. Even if I moved markers only slightly away from each other for aesthetic purposes, it was important that the addresses stayed the same in case someone wanted directions to that particular site.

To help further distinguish one movie from another, I created custom icons in Corel Paint Shop Pro (although any preferred image editor can be used), saving them as .png files with transparent backgrounds. I uploaded and applied a custom icon for each category of markers (see Figure 7). In this case, the movie titles acted as separate categories, which could consequently be turned on or off as separate layers.

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**Map Design Evaluation**

In order to judge what makes a good tourism map, I turned to a case study done by Erin R. Richmond and C. Peter Keller in 2002. They evaluated 181 maps within forty official national tourism destination websites and found that “interactive maps, when thoughtfully designed, are more powerful and useful than static maps” (Richmond and Keller 2002, online Ch. 8 link). Through an online user survey, they were able to get feedback on the use, role, content, design, and effectiveness of current tourism website maps. From these results, Richmond and Keller came up with design tips in seven categories. As described next, I tried to incorporate their tips into the design of my own tourism map.

1) **Purpose/Use:** “Maps included within tourism destination web pages should have a clear goal or purpose” (Richmond and Keller 2002, online Ch. 8 link). Because the internet reaches such a broad audience, the researchers claim it is better for a tourism website to offer a variety of maps covering a wide variety of topics. Having the map be interactive also allows users to select only information that is of interest to them. Putting my movie map on the St. Louis tourism website would offer a unique addition to their featured attractions. Also, the interactive version gives users the choice to turn certain layers on and off and sort the markers in three different ways (see Figure 8).
2) Information: Many survey participants complained that the sample maps simply did not contain enough information (Richmond and Keller 2002, online Ch. 8 link). In my St. Louis movie map, each marker reveals at least the following: the location name, the address, links for directions to and from the location, a photo of the location, a photo of the movie poster, the movie title, a hyperlink to the movie’s Internet Movie Database (IMDB) webpage, the data sources used, and the photo sources used (see Figure 9). If available, the location’s phone number, a description of the movie scene that took place there, additional photos, and a hyperlink to the location’s website are also included.

3) Organization: The most common suggestion among the survey respondents was “keep it simple” (Richmond and Keller 2002, online Ch. 8 link). While every effort was made to reduce clutter in the paper version, the interactive version of my movie map has to include advertisements in exchange for free usage. However, for $4.95 a month, Community Walk does offer a professional version that eliminates advertisements and can be embedded directly into an organization’s website. Of course, map creators with coding experience could always develop their maps from scratch and avoid ads altogether.
4) Elements: Every item should add value. Pictures, for example, were considered “very important” by 50% of the survey participants (Richmond and Keller 2002, online Ch. 8 link). Text should be added sparingly to avoid boredom, and sounds/music should not be used at all, as 53% of participants deemed them “very unimportant” and sometimes annoying. Important metadata such as a north arrow, legend, and a scale should always be included. As for tools, zooming and panning are considered the most highly desired (both of which are included in my map). The ability to turn off/on layers is also a plus, since it increases the map’s flexibility. As seen in Figure 10, users can display whichever movie markers interest them.

![Figure 10: The St. Louis Movie Map with only three layers turned on](image)

5) Functionality: As mentioned in the previous category, dynamic and/or interactive elements need to have value in order to be useful. Care must be taken when adding flashy animation, as most survey participants found it to be pointless and annoying. “As one participant noted, ‘Interactivity MUST add value and not be fluff or show-off’” (Richmond and Keller 2002, online Ch. 8 link). The researchers also mentioned the importance of offering the option to print online maps. While there is a print option located at the corner of my interactive movie map, I also designed a printable .PDF version that includes a list of location descriptions. That way, users can still view details about each marker.
6) **Style:** Form and function should go hand-in-hand, and maps within a website “should be designed to enhance and complement the overall style or theme of the web site” (Richmond and Keller 2002, online Ch. 8 link). In this case, that would mean essentially designing the movie map to match the style of the St. Louis CVC website. In general, a quality hypermap should blend seamlessly into the overall layout of an organization’s website, utilizing the same font, color scheme, etc.

7) **Quality:** This last category describes how well the map addresses each of the previous categories and how each part interrelates. “The quality will ultimately depend upon how well the design of the map meets the intended function, purpose, and use of the map” (Richmond and Keller 2002, online Ch. 8 link). I believe the movie map I created using Community Walk’s interface conveys all the information needed and offers a variety of customizable options. Its actual interest value will depend upon the viewer.

**Dissemination**

Once I was satisfied with the final look of my interactive map, I assigned it a URL name of “STLMovieMap,” making the direct link: http://www.communitywalk.com/STLMovieMap (see Appendix C). If a hypermap were to actually be included as part of an overall marketing strategy, it would be important to remember that not every potential tourist enjoys regular access to the internet. To ensure the largest audience, I created a hard-copy version as well (see Appendix D). First, I took screenshots of the hypermap to build a complete picture of the area in Corel Paint Shop Pro. I added a close-up view of the downtown area where the markers appeared a little too cluttered. Next, I added text, a north arrow, a logo, and other elements, and saved the final design as a JPEG file. At the bottom left of my hypermap, there is a link to “view locations on separate page.” I used this option as the basis for a supplemental location guide, which I further edited in Microsoft Word. The guide was necessary since users cannot “click” on the hard-copy version to get more information. Instead, they will have to use the numbered markers as a key. It made sense to present both the JPEG image and the guide together, so I packaged them as one .pdf file using a free, downloadable program called “PDFCreator.” The final hard-copy product could then be printed out and distributed manually, or uploaded to an organization’s website as a printable PDF.

**Final Observations**

Although my main limitation was data availability, technology also had an effect on the final product. Ultimately, the appearance and functionality of my hypermap were shaped by the Community Walk interface, although the available options exceeded my expectations. While my hypermap contains ads I would otherwise like removed, I believe the free version fulfills the goal of creating a fully interactive map with multiple customizable views. Still, some internet browsers may display the map differently and limit its look and functionality beyond my control.

Looking at the overall purpose of the St. Louis Movie Map, other considerations arise. If a map like this were to be included on a St. Louis tourism website, it is important to be aware of the possible repercussions of attracting more people to a particular movie site. Certain locations might not have the carrying capacity to cope with large increases in visitors. This may create safety concerns and overcrowding. Some locations used in films, such as private homes and high-class establishments, might not be interested in frequent onlookers. Also, an increase in tourists could lead to the destruction of the natural environment, as in the case of Phi Phi Lae Island in Southern Thailand, the main setting of Leonardo DiCaprio’s *The Beach* (Hudson and Ritchie 2006). Lastly, if the location appears different than portrayed in the film, it could result in a loss of visitor satisfaction, counteracting the purpose of the movie map. It may also unknowingly lead tourists through undesirable sections of the city. Because of these reasons, each featured site should be given careful consideration before actually releasing a map like this to the general public. I avoided most of these concerns in my own map by only featuring locations in
well-known public places. For a private residence used in the movie *Up in the Air*, I omitted the actual house number and only highlighted the street, which is adjacent to Lafayette Square, an ideal tourist spot with unique restaurants and eclectic shops.

**Conclusion**

Geographic hypermedia and hypermaps will continue to gain popularity as more media outlets compete for audience attention. The addition of a hypermedia movie map to the St. Louis visitors’ website would act as one more way to generate interest in the city. With more time, a complete, interactive map could eventually be made to include all of St. Louis’ main attractions. In a recent survey, visitors cited the “variety of things to see and do” as their main reason for coming to St. Louis (St. Louis CVC 2011). This would make the need for such a map all the more relevant. One cohesive hypermap specifically designed for tourists could make its way from the website into a cell phone app version, maximizing mobility for visitors as they made their way through the city. “It is safe to forecast that tourist website designers will increasingly be on the lookout for ways of making their sites and the maps on them as attractive and efficient as possible” (Kraak and Brown 2001, 132).

This applied project explored the link between films and tourism, and demonstrated how the developing field of geographic hypermedia can play an integral role in promoting film tourism. “The influence of popular culture in an increasingly global society is expanding exposure to, and interest in, destinations. For this reason, relationships of film, and other forms of popular culture, to tourism must be further critiqued, researched, and understood” (Kim and Richardson 2003, 234). Set-jetting and film tourism are growing trends that cross-over many fields and will continue to open up multiple research opportunities.
Appendix A: Past Chicago static movie map created in ArcMap

Appendix B: Basic version of St. Louis movie hypermap with original markers
Appendix C: Screenshot of the final version of the interactive St. Louis Movie Map (found at http://www.communitywalk.com/STLMovieMap)

Appendix D: Screenshots of the final .pdf version (Full-size version included as a supplement)
REFERENCES


