

# Digital Narrative and Collaborative Design in the Chronicles and Legends of Mexico City

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## 1. Abstract

This essay describes the process, combining collaborative design, pedagogy, and research, used in the creation of a sample of digital video narratives of the legends and chronicles of the historic center of Mexico City. These digital narratives are to be published as part of an information technology product, namely the Map of Mexico 1550 Digital Facsimile. The narratives were created by a group of students in the program in Interactive Design and the *Universidad Iberoamericana de ciudad de México*. Key words: Boundary objects, collaborative design, cultural heritage, digital narrative, ontology.

## 2. Background and Introduction

### 2.1 The Map of Mexico 1550 research project

The concept of Digital Facsimile has been described as a digital representation of an original object cultural heritage object of such a high quality, in terms of resolution, color, volume and shape accuracy, that it is accepted by researchers who would normally require to get access to the material version of the object. As a design solution, the Digital Facsimile makes it possible to develop diverse types of digital cultural heritage artifacts targeted to different audiences.



Figure 1: Digital three-dimensional reconstruction of the Map of Mexico 1550.

During the years 1997-2004 such an artifact was created of Alonso de Santa Cruz' Map of Mexico 1550. The project was realized as a collaborative endeavor between the University of Helsinki, Media Lab, the Helsinki University of Technology, Department of Photogrammetry,

and the Uppsala University Library, that is the keeper of the original item. (See Figure 1.)<sup>1</sup> The object has been painted on two sheets of parchment joined together at the center. The map that shows the city surrounded by water and with canals between its buildings, provides abundant information about the ethnography and the flora and fauna of the region during the early colonial days.<sup>2</sup>

## 1.2 The Art Center Nabi Digital Storytelling competition

The plan for a content layer to be added to the Digital Facsimile of the Map of Mexico 1550 began during the spring of 2004. With this objective, in 2004 a proposal was submitted to the Art Center Nabi Digital Storytelling competition.<sup>3</sup> In this proposal, the case was presented for the development and inclusion the Digital Facsimile of narratives based on the Chronicles and Legends of the historic center of the city of Mexico into the facsimile.

The reasoning behind this endeavor was based on the rich tradition of these narratives as repositories of the collective popular memory. In the proposal, the argument was also made for the gathering of documentary video footage, photographs and narratives by local people and in situ. At the moment, in addition to the video narratives of the legends that are described in this essay, the content layer includes photographs from the 19<sup>th</sup> to the 21<sup>st</sup> century. However, it is expected that this layer will continue to evolve so as to include a growing corpus of historical material.

## 2. Digital Cultural Heritage

### 2.1 The concept of cultural heritage

Cultural heritage is a broad term used to refer to forms of cultural and artistic expression inherited from the near or distant past of a given country or cultural area.<sup>4</sup> As precious evidence, cultural heritage is often seen as both a *record* and manifestation of the human past in the present.<sup>5</sup> Because of its links to notions of identity and social cohesion through time, cultural heritage is also *valued* as a legacy, or commodity bestowed from the past to the future generations.

In recent years, partly through the development of the Information Society with its associated trends of globalization, growing interconnectedness, and instant multi-modal communications that erode the boundaries of traditional societies, the concept of cultural heritage has evolved to encompass other qualities beyond those pertaining recording and preservation of cultural objects. Within the scope of UNESCO's activities for example, these changes have already influenced the original idea of cultural heritage. According to UNESCO, the concept initially

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<sup>1</sup>. Nuikka, Milka, Díaz-Kommonen, Lily, Henrik Haggren, "Photogrametric Reproduction of the Map of Mexico 1550", in *Proceedings of the XXth Congress of the International Society of Photogrammetry and Remote Sensing*, Istanbul, Turkey, 12-23 July 2004.

<sup>2</sup>. Larsson, Lars-Olof, & Lily Díaz-Kommonen. "Catalogue Entries" in *Aztecs*, Thames & Hudson, Ltd., London, UK, 2002, 492.

<sup>3</sup>. The proposal was awarded first prize. The monies resulting from this were utilized to produce the workshop described in this essay.

<sup>4</sup>. Greenfield, J., *The Return of Cultural Treasures*, Cambridge University Press, 1996.

<sup>5</sup>. World Bank, "Cultural Heritage in Environmental Assessment", *Environmental Assessment Sourcebook Update*. No. 8, September, 1994.

arose in response to the proliferation of conflicts based on cultural diversity during the 20<sup>th</sup> Century. However, nowadays, in its approach to development, the agency also recognizes cultural heritage as an irreplaceable source of knowledge with a significant role to play in the present as part of the goal towards a sustainable future.<sup>6</sup>

From a knowledge management perspective UNESCO's work has expanded to include the two major classes of tangible and intangible heritage. Whereas tangible heritage includes the diverse physical expressions created by diverse human cultures in the past<sup>7</sup>, intangible heritage—also referred to as *living* heritage—is used to designate present “practices, representations, expressions, as well as the knowledge and skills, that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.”<sup>8</sup>

Oral traditions, the myriad of rituals and festive events and knowledge that are part of social practices; the performing arts, traditional craftsmanship as well as practices concerning nature and the universe are now encompassed under this rubric of intangible cultural heritage. Arguably, a basic distinction from previous approaches is that in this framework, cultural heritage is not seen as the end in itself but rather as an instrument of mediation. As collective receptor and transmitter of memory, cultural heritage reifies the symbolic value of abstract notions such as individual and collective identity making it a fundamental reference for structuring society. Because it operates as an external manifestation of the spiritual, intellectual and emotive life, it enables us to understand not only ourselves but also others.

## 2.2 Tangible and intangible heritage in the Map of Mexico 1550 project

Although realized independently, the project of the Digital Facsimile of the Map of Mexico 1550 fits clearly within UNESCO's agenda. The intensive data gathering strategy aims at preserving and providing accessibility to a unique cultural artifact. The physical representation and reconstruction, with its magnification capability, makes use of digital media to render aspects of the object that are beyond the scope of unaided human vision.

The content layer for the facsimile, containing contemporary photographic depictions of the urban landscape and the narratives such as those created by the students in Mexico, aims to restore the object from the obscure and lonely environment of the exhibition cabinet and into the realm of living heritage. Digital cultural heritage should not be thought of as a substitute of a physical experience but rather should help in revealing and confronting what is out there in the world. As Cassirer noted, “all cultural forms are *active forms of expression*.”<sup>9</sup>

## 3. Collaborative Design

### 3.1 Collaborative design activity and boundary objects

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<sup>6</sup>. UNESCO website: <http://whc.unesco.org/en/about/> (August 28, 2005).

<sup>7</sup>. UNESCO website: [http://portal.unesco.org/culture/en/ev.php-URL\\_ID=2225&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/culture/en/ev.php-URL_ID=2225&URL_DO=DO_TOPIC&URL_SECTION=201.html) (August 28, 2005).

<sup>8</sup>. Idem.

<sup>9</sup>. Cassirer, Ernst, “Perception of Things, Perception of Expression”, *The Logic of the Cultural Sciences*, Yale University Press, 2000, p. 51.

Collaborative design is an activity whereby the product, or outcome, is created through the individual actions of multiple actors on a *shared object*. Because of the inherent complexity, in collaborative design the requirements, constraints, and desires that coalesce within a design project must be understood and shared by the members of the group working together. The object of activity (its ultimate goal) must be envisioned as a collective entity, with multiple facets each seeking different forms of expression at diverse points in time.

In collaborative design, this quest for a shared understanding can be a source for both enrichment and discord. As has been noted, creativity does not just occur inside people's heads, but in the interaction between a person's thoughts and a socio-cultural *milieu*.<sup>10</sup> Bridging the temporal, conceptual and technological distances among team members from different disciplines and with diverse levels of expertise is one among many obstacles commonly encountered.<sup>11</sup> This is why in collaborative design actors should consciously make use of structures that facilitate coordination and promote exchange of information, cooperation, and sharing of the tasks involved in the activity. So-called *boundary objects* play an important role in assembling such structures.<sup>12</sup>

The primary function of these artifacts is to enable dialogue, reflection, and sharing of the object of the activity. By creating apertures where it is possible to *talk about, think, and do*, these objects allow for fruitful trans-disciplinary collaboration.<sup>13</sup> As tools of design, boundary objects help to gather and steer the focus of the activity in a manner that promotes a final *envisioned* outcome. Also they promote the externalization of tacit and non-verbal modes of knowledge. At the same time, as artifact-tools morphing from shared object and focus of activity into tools for doing, they remain sturdy enough so as to allow for meaningful exchange and communication among a team of expert coming from diverse disciplines.

Boundary objects come in different shapes and formats. One example of how boundary objects are routinely used in design is that one of storyboards. A storyboard is an object that visually describes the different components and events in an audio-visual production. In a storyboard, the descriptions can be broken down to different levels of detail and adjusted to accommodate the viewpoints and vocabulary of diverse disciplines. Storyboards can be used as guiding posts to anticipate and plan ahead. They can also be used as historical devices that record and illustrate the progress of an activity through time. As a tool for reflection, they have the advantage that they can be used iteratively, or as part of a development and testing cycle.

A collaborative structure is not to be regarded as static but rather, as a flexible organization, with objects and concepts emerging on an as needed basis. For future endeavors, it might be

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<sup>10</sup>. Engeström Yrjö, As cited in "Social Creativity: Turning Barriers into Opportunities for Collaborative Design" by Gerhard Fischer, In F. deCindio, & D. Schuler (Eds.), *Proceedings of the Participatory Design Conference (PDC'04)*, CPSR, P.O. Box 717, Palo Alto, CA 94302, University of Toronto, Canada, July, p. 152.

<sup>11</sup>. Idem.

<sup>12</sup>. See: Katherine Henderson: *On line and On Paper: Visual Representations, Visual Culture, and Computer Graphics in Design Engineering*, The MIT Press, Cambridge, MA, 1999.

<sup>13</sup>. Arias, Ernesto & Hal Eden, et al. "Transcending the Individual Human Mind—Creating Shared Understanding through Collaborative Design," *ACM Transactions on Human-Computer Interaction*, Vol. 7., No. 1, March 2000, p. 87.

a worthy endeavor to investigate techniques that facilitate the visualization of such structure in time, with its components broken down according to participating actors.

### **3.2 Collaborative structure**

For this project the collaborative structure was instantiated as a group of documents that initially included the following boundary objects: The legend sample with summarized versions of the narratives to be used by the students with their respective locations already identified, and a proposed schedule of activities including time allotted for the creation of an ontology about the legends by the students. This latter was eventually merged with a production matrix and also used to monitor the production of the works throughout the workshop.

The documents including the legend sample and schedule were prepared in Helsinki and sent to the professor in Mexico who distributed it among 8 teams comprising 3-4 individuals for an approximate total of 32 students. As part of preparation tasks, the students were requested to create storyboards describing the treatment of their legend and specifying which digital tools they would utilize and how these would be employed. These storyboards, or boundary objects, were presented during the first day of class. Although most students fulfilled this requirement, not all of the storyboards were ready in the first day of the workshop and some were presented during the second day of class. In the end these objects remained as part of the documentation and knowledge produced throughout the project.

## **4. Research and Content Development**

### **4.1 The sources: chronicles and legends of the historic center**

The legends of Mexico have long been recognized as a source of popular knowledge about the history of the city. The idea that they could be inserted as content to the Digital Facsimile of the Map of Mexico arose from a lifetime interest in this genre and from the author's childhood memories of a popular Mexican comic book series, *Tradiciones y Leyendas de la Colonia*. This series was published in Mexico throughout the 1960's and well into the 1980's.<sup>14</sup> A venerable grey-haired narrator always introduced the story by citing the place-name, or street-name of the sites rendered in sepia-toned pages where convoluted plots and colorful characters mingled with the history of the city.

During a recent trip, for a teaching assignment in 2004, I found myself asking colleagues and students as well as roaming through the old bookstores of Mexico City looking for specimens of these magazines. The search for these samples, however, met with little success: Everybody was very much aware about the legends themselves, but nobody seemed to have any recollection about their printed counterparts in comic book format.

Because of the inability to locate exemplars of the series, other sources, such as issues of *Crónicas y Leyendas Mexicanas*, a magazine currently published in Mexico City by urban chronicler Jerman Argueta, were consulted. However, in the end the main source utilized by

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<sup>14</sup>. *History of Mexican Comic Books*: [p://www.angelfire.com/az/monjeloco/60s.html](http://www.angelfire.com/az/monjeloco/60s.html) (August 21, 2005).

the students as a study guide and to create the content in the project was Luis González Obregón's *Las Calles de México*.

This anthology of legends, created by a highly esteemed Mexican historian dates back to 1923 and is currently in its 12<sup>th</sup> edition. In addition to the narratives, the author provides abundant data about the city, its localities, its people and the events in its history. Since this is an economical book that is also widely available it also meant that the students could have a textbook providing access to the same versions of the stories.<sup>15</sup> Also, a high standard of academic quality for the project was ensured, by relying on such canonical source.

#### 4.2 The importance of these narratives as a source of historical knowledge

González Obregón begins his book by remarking how the ideal and physical history of a city is linked with the Street-Names. Though Tenochtitlán, the ancient capital of the Aztec empire was destroyed, the original trace of the city remains and it can be discerned by studying the layout of the historical center of Mexico City. This is visually recorded in the Map of Mexico 1550 and subsequent plans of the city. It is further corroborated by the existence of ruins that have been uncovered through archaeological excavation.

Indeed, as Tenochtitlán was re-built into Mexico—the capital of the New Spain—new political and administrative structures were transplanted from overseas and conformed into the existing ruins of the conquered metropolis. From the place where in ancient times the important ceremony of the new fire and where the ritual of *El Volador* was celebrated, *Plaza del Volador*, for example, was transformed first into the site for the *Actos de Fe* of the Inquisition, then into a gathering spot where a provisional bull rink was installed for festivities, later into a market, and finally into the current site of the Supreme court.<sup>16</sup>

When speaking of the street names and location names Obregón suggests that they (as well as their changes through time) should be studied. He likens these terms to a dead language that “becomes corrupted so that it is lost more and more and for which someday there might not be any interpreter.”<sup>17</sup> Similarly, when speaking about place-names systems as a viable component in anthropological study, Keith Basso suggests that they are more than handy vehicles for reference. They are containers that spatially anchor and situate narrative to its historical and social context, as well as to a physical, embodied, frame of reference.<sup>18</sup>

Street names and place-names are an important component of the legends and chronicles of Mexico. Regardless of whether they are presented in comic, or traditional book format the narrator always introduces the story by citing the place-name or street-name where the events depicted in the stories take place immediately after the title. Most likely these components assist the reader in envisioning a particular symbolic landscape and point of view. From this perspective, the historical space of the legends conflates with that one of the contemporary so that the reader (or the viewer) can feel herself to be a part of the narrative.

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<sup>15</sup>. Obregón González, Luis, *Las Calles de México, Leyendas y Sucesos, Vida y Costumbres de Otros Tiempos*, Editorial Porrúa, SA de CV, México, 2003.

<sup>16</sup>. Obregón González, Luis, pp. 76-89. The term *Actos de Fe* generally refers to the burning at the stake.

<sup>17</sup>. *Idem.*, p. 1.

<sup>18</sup>. Basso, Keith, *Wisdom Sits in Places*, University of New Mexico Press, 2001.

Such conceptual frameworks, or mind maps, are integral to our understanding and experiencing of living cultural heritage. For example, like a lot of the popular knowledge about historical center, the location and significance of *Plaza del Volador* is fading from collective memory. Nowadays, the ritual game of *El Volador* can still be seen as performed by the *Voladores de Papantla* in the courtyard of the Museum of Anthropology, one of the main keepers of the indigenous cultural heritage of Mexico. In *Plaza del Volador*, one of the video narratives created by the students, the ritual is shown in its current location in the Museum. However, the video narrative also uses graphics superimposed to a representation of the Map of Mexico 1550 to restore the ritual to the approximate location where it might originally taken place.

#### 4. 3 Creating the legend sample for the workshop

The process of identifying important locations associated with key historical events in the Digital Facsimile of the Map of Mexico 1550 is an activity that has been a part of the project's tasks since its initial stages in 1997. In this manner the artifact resumes the original purpose for which it was created, namely to communicate to others significant information about the city of Mexico. This allows for assembling layers of singular events that are related to a historical location in space and time. Through the use of digital design and technology it is possible to represent all these layers and contents in a manner that can be appreciated by a viewer.

Among the most important criteria used to determine the choice of narratives in the legend sample for the workshop was that the location of the events of the story should occur in a site that could be clearly identified as existing in the Map of Mexico of 1550. These locations were identified through a combination of archival research and surveying. The Digital Facsimile of the 1550 map was compared to a selection of contemporary and historical maps from the city. The information obtained through this procedure was checked with literary sources, such as González Obregón. Though many maps have been consulted throughout the entire duration of the project, a Plan of the City of Mexico from 1906 has been particularly useful.<sup>19</sup> Another important source has been S. Linné seminal work on the Map of Mexico 1550.<sup>20</sup> Contemporary popular maps of the Historic Center have also been used.<sup>21</sup>

An onsite survey with photographic documentation of locations was also made in 2002 as part of the process of preparing materials for the Aztecs exhibition held at the Royal Art Academy in London. In this survey, a researcher followed a route through the city that is partly based on the famous Cervántez de Salazar dialogue dating back to the 16<sup>th</sup> Century. Through this conversation that is reproduced in Linné's work, two imaginary characters engaged in an

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<sup>19</sup> . Campbell, Reu, *Campbell's New Revised Complete Guide and Descriptive Book of Mexico*, Roger & Smith Chicago, 1907.

<sup>20</sup> . Linne, S. *El Valle y la Ciudad de México en 1550, Relación histórica fundada sobre un mapa geográfico que se conserva en la biblioteca de la Universidad de Uppsala, Suecia*, The Ethnographical Museum of Sweden, New Series Publication, No. 9, Stockholm, Sweden 1947.

<sup>21</sup> . Some examples are Jorge Escudero's *La Gran Ciudad de México, Mapa Artístico y Crónica Gráfica* and *Guía Roji*, S.A. de C.V. San Miguel de Chapultepec, México, D.F. 2002.

afternoon stroll, describe the wonders of the city. (Linné's study also indicated the locations in the Map of Mexico 1550.)

The processed film (6 rolls of 36 exposures) and a contemporary street map from Mexico with marks indicating the locations photographed, were returned to Helsinki. These materials have become an integral part of the documentation of the research project: In addition to the handwritten notes of the researcher, the map contained the correct nomenclature of the streets showing the current situation of the city. This map was used during the 2005 workshop as an orienteering device as well as a tool to assist the students in scoping their shooting location.

This earlier work done from Helsinki complemented the work done by the students in Mexico who, in preparation for their participation in the workshop also visited the locations of the events in the stories and interviewed the people in the area.

#### 4.4 Reinterpreting history

Preserving the works of culture necessitates constant renewal through their re-creation and every act of creation begins from something taken up and reestablished in a renewed expression.<sup>22</sup> Through the textbook the students had access to the full texts of the legends, as well as the summaries contained in the legend sample. These abbreviated versions contained only the episodic, significant events of the plot that move the narrative forward. Most likely, a combination of these two items was used as the foundation upon to research the history and build new interpretations.

The process of creating summaries for each of the legends was loosely informed by methods used in anthropological myth analysis and reconstruction that approach narrative from a systemic perspective.<sup>23</sup> From this point of view, the stories in the legends can be seen as a system of ordered episodes, with every narrative having its own logic and rationality. The latter is at the same time related to the social context and environment in which the stories unfold. How do people live? What is their environment and social context like? The narratives gather within them the collective knowledge of the people with respect to these matters. At the same time, they might provide additional meaning and provide possible solutions regarding conflictive and situations in the social order.

With their persistence through time, the chronicles and legends of the historical center of Mexico City possess elements of the mythical. As such can be treated in a similar manner and different possibilities can be explored regarding the social context and situations that the stories address. By looking at Themes category in Ontology of the Legends for example, we can read the different interpretations of the Mexican students: *Ecce Homo* and *El Ahorcado*, are tales which deal about the corruption of society. (See Figure 2.) *La Quemada* deals with the effect of jealousy in love relationships. *La Virgen del Perdón*, a narrative about injustice and religious persecution that takes place in *calle de la Moneda* and *Catedral de México*, on

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<sup>22</sup>. Cassirer, Ernst, "The Tragedy of Culture" in *The Logic of the Cultural Sciences*, Yale University Press, 2000.

<sup>23</sup>. Jacopin, Pierre-Yves, "On the Syntactic Structure of Myth, or the Yukuna Invention of Speech", *Cultural Anthropology* 3(2), May 1988.

the other hand, deals with hope and the use of creativity in seeking the solution to a bad situation.

#### **4.5 Narrative and collaborative ontology design**

Representing the knowledge and meaning that oozes from the map itself as well as from the diverse layers of content materials in the system is a major concern in a digital cultural heritage application. This is why creating the ontology collaboratively with the students was a key objective of the project from the beginning.

Through a brief presentation, the students were introduced to the topic of ontology and its importance to digital design. The legends were then analyzed and discussed in class. Different interpretations regarding the plot and objectives of the story were debated. What is the story about? What is the physical location? Are there any characters? Who are they? What elements of the plot are absolutely necessary and could not be changed without changing the story? Is there a purpose or function to the story? Is it a lesson? Does it explain a phenomenon? Does it provide more information about a conflict? All the participants in the project pondered about these questions

This exercise also helped all parties involved to obtain a clear, and timely, articulation regarding the student's interpretation of the legends and how these would be illustrated visually. This latter aspect was of key importance given the fact that the materials to be produced were destined for an item of great historical value. At the end of the workshop, each student group submitted the ontology that, in their opinion, best described the contents of their legend. These elements were combined to create the ontology for the narratives included in this essay. This ontology will, most likely, still be modified when it is implemented in the final system design.

### **5. Summary and Conclusions**

In this essay I have reviewed some of the activities and results of a research project that made use of collaborative design and pedagogy methods to create a content component for the Digital Facsimile of the Map of Mexico 1550, a valued information technology object of the cultural heritage sector. The process of transferring intangible heritage in the form of historical narratives such as the chronicles and legends of the historic center of Mexico City has been reviewed under the light of digital media.

In the future, such activities that make use of art and design to record historical and oral narratives could be further standardized and be adapted for use in workshops in similar urban locations. In this manner, a methodology for documenting and reinterpreting intangible, living heritage of the cities could be brought into being.

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