PRESERVENICE:

Preserving Venetian Material Culture

An Interactive Qualifying Project Report
Submitted to the faculty of the
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In partial fulfillment on the requirements for the
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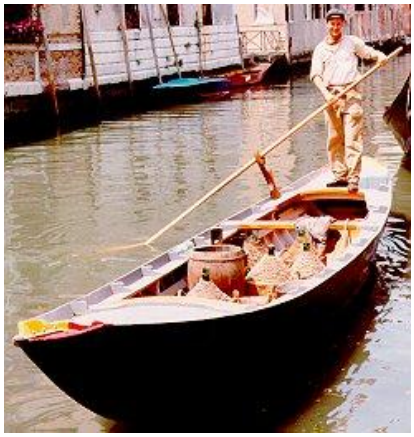

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I. Abstract

The PreserVenice initiative is dedicated to obtaining funding, providing documentation, and increasing awareness of material culture to contribute toward preservation. We created interactive maps, designed a mobile application, updated PreserVenice's website, and conducted an analysis of different measuring techniques for boats in order to provide the means for future restoration and preservation.

II. Executive Summary

Material culture consists of all artifacts that are created by a society, and provides insight into the society's traditions, values, and beliefs. There are two categories of material culture: monumental and vernacular artifacts. Monumental artifacts in Venice consist of larger items and locations, such as Piazza San Marco, the Doge's Palace, the Rialto, and Saint Mark's Basilica. Many of the monumental artifacts require constant maintenance and millions of dollars of financial support. While restoration work is being done in Venice, the focus is primarily on larger monumental structures, rather than the minor art forms located throughout the city.

Figure 1: Venetian Masks, an example of vernacular culture

Vernacular culture consists of artifacts typically created on a smaller scale by local craftsmen and artisans, including, among other things, carnival masks, Murano glass, furniture, public art, and traditional boats. There are thousands of pieces of public art and decades-old boats in Venice that need restoration, and are in danger of being lost. These pieces are deteriorating from exposure to the elements. Without action, hundreds of years of Venetian heritage will be lost, as a significant portion of the artifacts may become damaged beyond repair. In order to bring the focus of restoration efforts to these artifacts, funding, documentation, and increased public awareness is vital.

Figure 2: PreserVenice's Scope

PreserVenice is an initiative with many of the required resources to successfully preserve the vast catalog of vernacular culture. WPI students, in partnership with Archeoclub Italia and Earthwatch, have generated a catalog of over seven thousand pieces of public art and the Arzanà association has salvaged over fifty boats in need of restoration since 1990. To support these organizations, we have made significant progress towards turning this initiative into nonprofit organizations located in both the United States and Venice; all that

remains is funding in order for the organizations to contribute to the preservation of Venetian vernacular culture.

In addition to working to start non-profit organizations, we have made the data in the public art catalog accessible to the public by using a series of online interactive maps, available on PreserVenice's website (www.preservenice.org). Previous WPI project groups created static maps of Venice's public art, although these only show location. Our interactive maps identify each piece of public art on the map and provide both a picture and basic information about each piece. Users can also search for directions to a piece or follow a link to further information about a piece in a separate webpage.

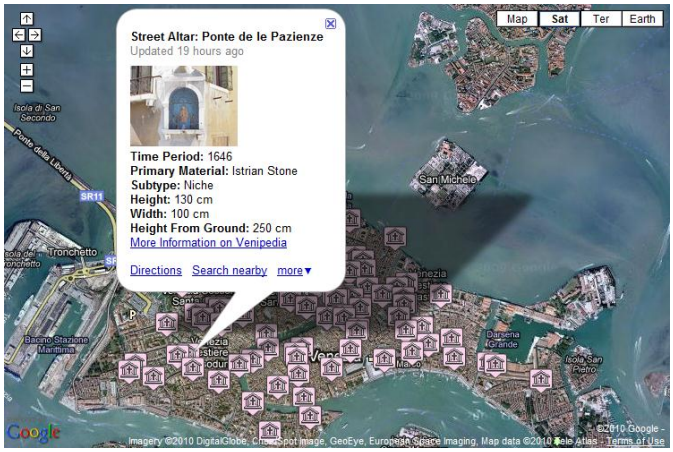

Figure 3: An interactive map of Venetian street altars

Our digital outreach was also able to go beyond the releasing of the public art catalog. We worked to strengthen the ties between field work, the end user, and researchers by designing several mobile applications, some of which have already been released to the public. The first application we developed overlays an image taken by the phone's camera with the geographic locations of the nearby public art. This unique design enables the user to walk throughout Venice while obtaining a better awareness and understanding for public art they may see, but not fully understand. The second application has been conceptualized, and will revolutionize how the user interacts with public art in Venice. In addition to including all capabilities of the first application, the application will be able to view the PreserVenice website, facilitate donations, report damage, communicate with PreserVenice, and even provide an interest-specific guided tour of public art.

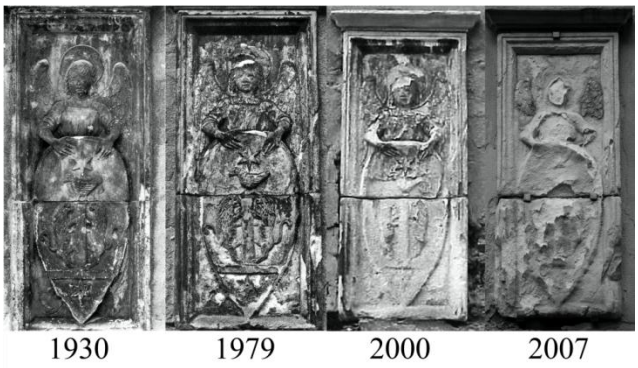

Figure 4: Deterioration of Coat of Arms in Cannaregio

Finally, we partnered with Arzanà, a non-profit organization dedicated to the documentation and preservation of traditional Venetian watercraft; determining the best methods for cataloging traditional Venetian watercrafts so that they may be reconstructed for generations to come. We researched and analyzed several different measuring techniques that could be used to document the traditional boats in Arzanà's traditional boat collection. The field testing we completed, using hand measurements and photogrammetry, produced highly accurate, reproducible results. Our research combined factors of cost, time, and accuracy to analyze the best method for long-term, three dimensional cataloging of their traditional watercraft collection. We have determined photogrammetry, a model developed from a series of pictures, is the most effective method. In addition to our research, we have presented Arzanà with an implementation framework for effectively cataloging the boats, and trained key Arzanà staff on the watercraft modeling process, using photogrammetry.

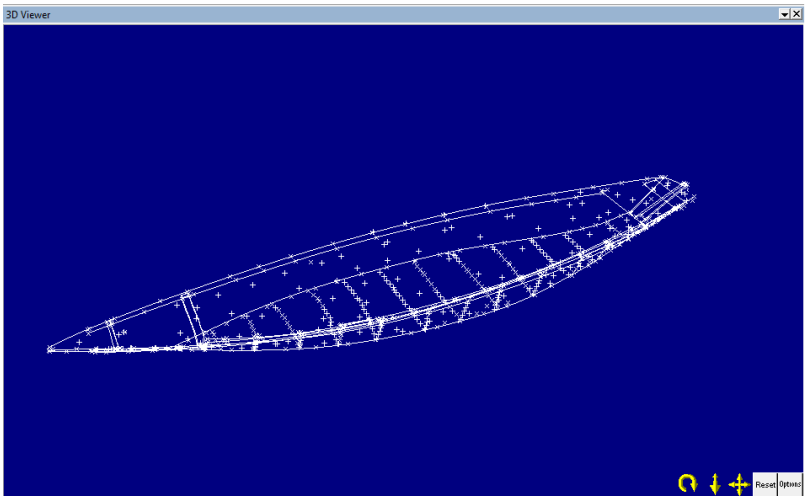

Figure 5: Using Photogrammetry to model a traditional boat

Through working to turn the PreserVenice initiative into an organization, digital outreach, and the expansion of PreserVenice's mission to include all aspects of material culture, our project has laid the groundwork for future restoration and preservation of Venetian material culture.

III. Acknowledgements

We would like to extend our deepest gratitude to those who helped make this project possible and our stay in Venice a memorable experience.

Arzanà Association- For the past two months, the members have invited us to their meetings, provided us with meals, and made us feel welcome in their culture. Additionally, we would like to thank them for allowing us to view their collection. We greatly appreciate their time and generosity.

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Professor Fabio Carrera- We would like to thank Fabio for not only organizing our project and providing vital assistance, but for doing everything to make our stay in Venice enjoyable. Fabio

spent countless hours helping us get essential information relating to public art and traditional boats, as well as visiting key people in the community with us to help us collect data and information crucial to this project.

IV. Authorship

This report was divided up between the project members based on the four main objectives of our project. Each of us was responsible for writing sections and appendices that pertained to our respective objectives.

- Alyssa Ascare wrote all the sections regarding traditional Venetian boats and edited the final paper.
- Holly Fletcher wrote all the sections regarding the mobile application.
- Amy Mazzucotelli wrote all the sections regarding the public art catalog and interactive maps and edited the final paper.
- Daniel Pierson wrote the introduction, all the sections relating to PreserVenice, and edited the paper.

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VII. Report Organization

Due to the nature and complexity of this project, this report is broken down into five main sections. They are:

A. Public Art
B. Traditional Boats
C. Non-Profit Organizations
D. PreserVenice
E. Future Activities

A. Introduction

Our past holds powerful insight into how our cultures have evolved into their present form. As a result, preserving heritage is vital to help guide us into the future by enabling us to learn and grow from our past.

One of the largest areas of global preservation is material culture. Material culture consists of physical objects that have been created by a culture out of necessity, decoration, or worship. Material culture can be broken down into two categories: monumental culture and vernacular culture. Monumental culture typically consists of larger pieces of architechture such as churches, palaces, tombs, and monuments. Conversely, vernacular culture consists of smaller artifacts created by artisans and craftsmen, such as masks, furniture, glass, boats, and fountains.

In Venice, the current restoration focus is primarily on monumental culture. Items such as Saint Mark's Basillica, the Doge's Palace, and the Bridge of Sighs receive hundreds of thousands of dollars in funding for preservation and attract millions of tourists annually.[1] Most of this preservation work is conducted by either Italian authorities, or the private committees established by United Nations Educational, Scientific and Cultural Organization (UNESCO). The private committees are comprised of over thirty organizationsVenice in Peril and SaveVenice are the two most notable of these committees. Vernacular culture, however, currently has very little prominance with the public and preservation authorities and organizations.

Vernacular culture within Venice consists of public art artifacts, such as wellheads, fountains, and church floors, as well as traditional boats. Due to constant neglect, twenty-five percent of Venetian public art is in danger of degrading beyond recognition. Furthermore, with the increase in motorboats since the 1970's, traditional Venetian boats have been displaced and neglected. Decades of neglect have put many of these boats in danger of disappearing.[2]

Funding, documentation, and increased awareness are necessary to fill the preservation gap and preserve vernacular culture artifacts in Venice.

For the past twenty years, Interactive Qualifying Project (IQP) groups from Worcester Polytechnic Institute (WPI) have been collecting data on the public art found in Venice and cataloging it. Beginning in 2007, IQP groups started an initiative called PreserVenice, which

[1] Information defined collectively from Save Venice and Venice in Peril
[2] *Museo Arzanà: Preserving the Traditional Boats of Venice*. 2007 IQP.Pg 59.

combined over twenty projects dedicated to researching public art and traditional boats within Venice. Since then, the PreserVenice initiative has been dedicated to refining the public art and traditional boat documentation, and identifying methods for raising public awareness. Our project expands upon the work of the PreserVenice initiative. We worked to consolidate the public art catalog, make the catalog available to the public, increase public visibility through mobile applications and the web, and identify the most effective methods for accurately documenting traditional boats.

B. Public Art

Decades of research from the Venice Project Center has provided vital information about Venetian public art and traditional watercraft. Prior to communicating the work conducted in 2010, it is important to understand the implications established by past research.

1. Public Art Background

Broadly, public art refers to any art that is available and intended for anyone to view. Usually, this implies that the art is on display in an outdoor public location, such as in an open square or on the side of a building. For the purpose of this project, however, public art encapsulates both structural and non-structural decorations in an attempt to more completely cover the unique culture and heritage of the city.

Figure 6: A map of 6,447 pieces of Public Art in Venice

Public art generally falls into one of two categories: erratic sculpture, or other vernacular art. Erratic sculpture includes any purely decorative ornament or statue with no structural function. The word "erratic" refers to the mobility of the piece, which can be removed from its original location without causing irreparable harm to the structure it was previously attached to.

Types of erratic sculpture include reliefs (*rilievi*), circular reliefs (*patere*), confraternity symbols (*simboli*), crosses (*croci*), coats of arms (*stemmi*), street altars (*edicole*), sculptures (*sculture*), inscriptions (*iscrizioni*), and fragments (*frammenti*).

Most of the other vernacular art in Venice serves a structural or functional purpose beyond ornamentation. This collection includes bells (*campane*), church floors (*pavimenti chiese*), decorative keystones (*mascaroni*), flagstaff pedestals (*pili portabandiera*), fountains (*fontane*), lunettes (*lunette*), monuments (*monumenti*), portals (*portali*), and wellheads (*pozzi*).

For brief descriptions of each type of public art included in the catalog as well as the total number recorded, see Appendix A: Types and Descriptions of Public Art.

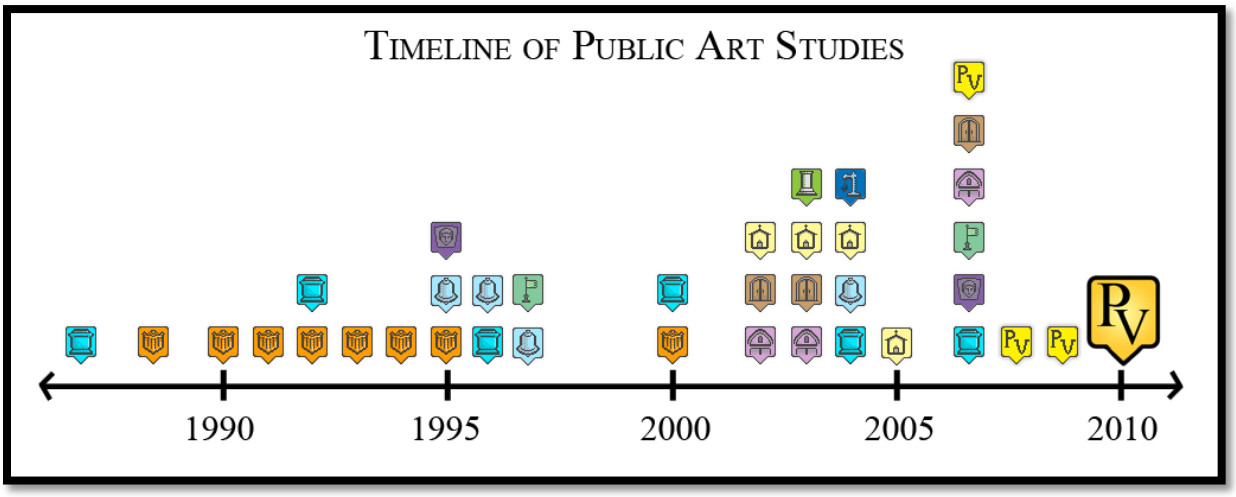

Figure 7: Timeline of Public Art Studies

The public art catalog is the result of over twenty years of work, and contains detailed information about the history, location, physical characteristics, and current conservations status of over seven thousand pieces of art. Figure 7 outlines the history of data collection for each type of public art, including project titles or the names of volunteer organizations that have contributed to the catalog and the scope of their work.

1.1 Reasons to Preserve Public Art

Public art is a form of cultural heritage, and there is overwhelming evidence that people care about the preservation of cultural heritage, particularly in the form of museums and historic preservation laws.[3] However, it is often true that "…for every masterpiece that earns international attention, there are thousands of artworks leading lives of quiet desperation."[4] There are thousands of pieces of public art located in Venice. However, contemporary restoration efforts have neglected to restore or preserve this vast collection in favor of individual, larger structures. The Venice Charter of 1964[5] begins with a call to action for the world's historic monuments:

> Imbued with a message from the past, the historic monuments of generations of people remain to the present day as living witnesses of their age-old traditions. People are becoming more and more conscious of the unity of human values and regard ancient monuments as a common heritage. The common responsibility to safeguard them for future generations is recognized. It is our duty to hand them on in the full richness of their authenticity.

Figure 8: A street altar that is still visited by Venetians

While the Charter calls for the preservation of monuments, Venice's smaller treasures, such as Christian street altars, are in similar need of attention. These artifacts can even contain more reminders of local history than monuments because of their intimacy with the lives of generations of Venetians. Therefore, the current generation must take on the responsibility of preserving the history of their ancestors by restoring and maintaining their historic artworks.

[3] John Henry Merryman, "The Public Interest in Cultural Property." *California Law Review* 77, no. 2 (1989): 343, http://www.jstor.org/stable/3480607.
[4] ErlaZwingle, "Italy's Endangered Art." *National Geographic* 196, no. 2 (1999): 94.
[5] IInd International Congress of Architects and Technicians of Historic Monuments, *International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter 1964).*(Venice, Italy: 1964).

It seems necessary to define rules to guide the preservation of artistic heritage in order to ensure that all pieces are accurately and authentically restored. In his article, *Public Interest in Cultural Property*, John Henry Merryman outlines the essential elements for the development of a cultural property policy. In declining order of importance, the core components are preservation, truth, and access.[6] Preservation deals with the physical conservation of the object in question, as nothing further can be done if the piece no longer exists.[7] While it may seem a daunting task to restore and preserve every piece of art in Venice, each piece is a part of Venetian history. According to Merryman, "… from a certain point of view the observation is tautological; if we don't care about its preservation, it isn't, for us, a cultural object".[8]

This project is concerned primarily with Merryman's second and third elements: truth and access. *Truth* strives for authenticity and information; the loss of a particular piece of cultural property is an irrevocable detriment to the pursuit of truth.[9] By compiling a catalog of all public art in Venice, even if a piece is lost or destroyed, its legacy will still survive. Finally, *access* is concerned with scholars' and civilians' abilities to gain knowledge about cultural property. This project will make the catalog accessible to the public through an online interface; scholars and historians as well as anyone with an interest in public art will have access to information about Venetian public art regardless of their geographic distance from the city.

1.2 Conservation of Public Art

While Venice is sometimes called a "museum city,"[10] the art on display receives so little care or maintenance that the title is hardly deserved. Venice's curators are her people, though a great part of her population consists of tourists and nonresidents, and the native population feels little responsibility to care for her treasures.[11] The public art of Venice is daily abused by both humans and the environment, and arguably deserves more attention than most objects housed in a conventional museum.

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[6]Merryman, "The Public Interest in Cultural Property", 355.
[7]Ibid.
[8] Ibid.
[9]Merryman, "The Public Interest in Cultural Property", 359.
[10] Robert C. Davis and Garry R. Marvin, *Venice The Tourist Maze*, (Los Angeles: University of California Press, 2004), 218.
[11]Zwingle, "Italy's Endangered Art", 95.

1.3 Venetian Stone

The majority of outdoor sculpture in Venice is carved from Istrian stone (*pietra d'Istria*). Istrian stone is best known for its color, a characteristic "dense, milky whiteness that loses none of its pallor when seen at a distance, particularly across water".[12] Commonly mistaken for marble, Istrian stone is a type of dense white limestone mined from the Croatian peninsula of Istria.[13] Although today it is valued for its artistic beauty, it was originally used for its water resistant qualities. Istrian stone typically lines the bottoms of Venetian buildings to keep out water during the *aqua alta*, or high water.[14]

Figure 9: Istrian Stone on the Palazzo Ducale

The second most common building material for Venetian public sculpture is marble. White marble, Greek marble, red marble, and beige marble are most commonly used in Venetian sculpture, in declining order of popularity.[15] Marble is a metamorphic rock made of crushed limestone and has a characteristic crystalline composition, while impurities give marble its unique "flecked" appearance.[16] Marble is a popular choice for outdoor sculpture due to its natural hardness and attractiveness when polished.[17] However, marble is more porous than Istrian stone and consequently absorbs more water so it is more prone to deterioration in damp environments.[18]

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[12] Paul Hills, *Venetian Colour: Marble, Mosaic, Painting, and Glass 1250-1550* (New Haven: Yale University Press, 1999), 65.
[13] D. Aljinovic, S. Cancelliere, and M. SimunicBursic, "Kirmenjak- Pietrad'Istria: a preliminary investigation of its use in Venetian architectural heritage", *Building stone decay; from diagnosis to conservation,* (London: Geological Society of London, 2007), http://sp.lyellcollection.org/.
[14] Ibid.
[15] Bezek, J. and others, *PreserVenice: Preserving Venetian Public Art*, 51.
[16] Antonia Boström, ed., *The Encyclopedia of Sculpture.*(New York: Fitzroy Dearborn, 2004), s.v "Stone".
[17] Ibid.
[18] Ibid.

1.4 Deterioration of Stone

Figure 10: A deteriorated relief carving

Deterioration of stone and marble are the result of physical causes, chemical reactions, or organic growth.[19] Physical afflictions include human vandalism, abrasion from windblown particles or improper cleaning, extreme temperature changes, and even the carving techniques employed by the artist.[20] Tourism in Venice results in a high volume of visitors, which contributes to damage to public art caused by abrasion. Unlike in museums, there are no "no touching" signs on the public art in Venice.

Figure 11: A sculpture completely covered in plant growth in Castello

Chemical reactions commonly cause staining or discoloration of stone. Though this is usually a problem, it is not always an undesirable side effect; *patination* refers to stone discoloration that is desirable rather than detrimental.[21] Airborne pollution and overexposure to salts, including sulfates and nitrates in the air, can also contribute to the chemical deterioration of stone.[22] The nearby factories of Marghera and Mestre, along with engine exhaust from numerous motorized boats, have contributed to the increasing level of air pollution in Venice which has stained much of the formerly white Istrian stone black.[23] Figure 11: A sculpture completely covered in plant growth in Castello has been badly stained from chemical pollutants, though chips and abrasions show the stone's original color.

[19] Antonia Boström, ed., *The Encyclopedia of Sculpture* (New York: Fitzroy Dearborn, 2004), s.v "Conservation: Stone and Marble."
[20] Ibid.
[21] Ibid.
[22] Ibid.
[23] Davis and Marvin, *Venice, The Tourist Maze*, 211.

Organic growth is often not discernable to the human eye if it occurs at a microscopic level, though its effects are visible. Algae and mosses not only encourage dirt deposits on the stone's surface, but they also retain moisture, which will eventually harm even the least porous Istrian stone.[24]

1.4.1 Steps towards Conservation

Before conservation of Venice's public art can begin, several important steps must be taken to ensure that each piece is restored appropriately.

The first step toward conservation is prioritizing items for restoration based primarily on need, but also on historic and artistic importance.[25] The 2007 project, *PreserVenice: Preserving Venetian Public Art*, developed a prioritization algorithm and calculated the priorities for the collection of erratic sculpture.

The next step involves conducting a comprehensive diagnosis of the current state of each piece, along with monitoring the environment immediately affecting the piece.[26] Understanding the current state of the piece is essential so that the method used to restore the piece lasts and does not eventually cause harm to the piece. Figure 12: A relief carving of an angel in Cannaregio from 1930-2007 is an example of a relief carving in Cannaregio that has deteriorated over time, but was damaged beyond repair after an inappropriate restoration attempt in 2007 by an amateur unaffiliated with PreserVenice.

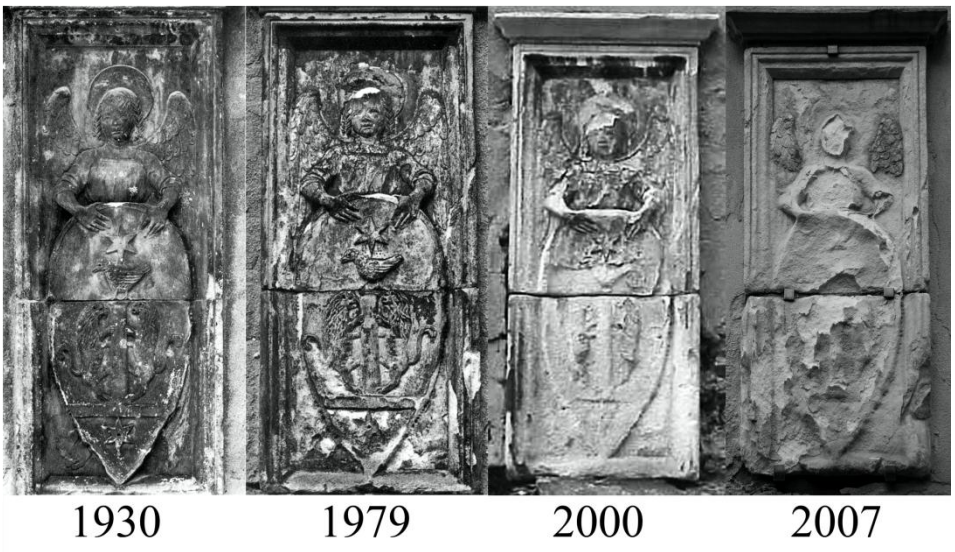

Figure 12: A relief carving of an angel in Cannaregio from 1930-2007

[24]Boström, *The Encyclopedia of Sculpture*,s.v. "Conservation: Stone and Marble."
[25]Boström, *The Encyclopedia of Sculpture*,s.v. "Conservation: Other than Stone and Marble."
[26] Ibid.

The third step is preparing a conservation project specifically tailored for each piece of art.[27] Due to the relatively small size of each piece of public art, this may seem inconvenient, though a bad restoration could cause irreparable harm to a piece that time spent planning could easily prevent.

After preparation, restoration work may begin. In this stage, specialists such as historians should guide the restoration process with the help of photographic or written documentation to ensure an accurate restoration.[28]

1.5 Maintaining Historic Accuracy

According to the Venice Charter, "[t]he process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents."[29] Thus, in addition to proper restoration techniques, several additional factors must be taken into consideration when planning a restoration in order to maintain historic accuracy and maximum authenticity.

Figure 13: A pipe around a relief

The object may not be removed from its site, and thus its historical context, unless deemed necessary for the existence of the piece.[30] Removing an object from its context usually removes any of its historic significance. However, even if an object is not moved, it is often true that "…many of Italy's works of art and monuments have lost their context. Often they are stuck in the worst possible spots, right where sewers, … houses, or streets need to go."[31] This is especially true in Venice today, as many pieces suffer from encroaching modern necessities such as pipes or electric cables. Figure 13, above, shows how industrialization often competes for space with an existing piece of public art. In some extreme cases, a bolt or fastening may even go through a piece of public art.

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[27] Boström, *The Encyclopedia of Sculpture*, s.v. "Conservation: Other than Stone and Marble."
[28] Ibid.
[29] *The Venice Charter 1964.*
[30] Ibid.
[31] Zwingle, "Italy's Endangered Art", 101.

A common problem occurs when a smaller piece of art is removed from a building for its protection during renovation but is never replaced, either accidentally or intentionally, when construction is finished. This should not be allowed to happen, but since there is currently no organization exclusively monitoring Venetian public art, it is difficult to enforce the replacement of all historic artifacts.

Figure 14: Small carving above an archway **Figure 15: Removed Carving**

According to Erla Zwingle of National Geographic, "Italy's efforts to conserve its past are hampered by a lack of data—no catalog exists of all the country's art and its conditions."[32] This project seeks to correct the lack of by releasing a catalog of all public art in Venice so that there is no longer an excuse for the disappearance of the city's cultural and artistic heritage.

[32]Ibid., 94.

1.6 Mobile Applications

One of the most important aspects of our project is to gain funding for the restoration of the public art we are examining. With over seven thousand pieces of art in our current catalog, it is necessary to raise awareness and create ways for the public to make donations toward restorations. We have created and designed several mobile applications to increase awareness of the public art in Venice that allow for quick, easy donations.

Figure 16: Layar Logo

For our project we created content for Layar[33], a pre-existing mobile application that adds context to the world around a user by overlaying important information onto what the user currently is seeing around them. See Appendix AB: Creating a Layar Application for further information. This application is most commonly used to search for nearby items of interest, such as apartments for rent, restaurants or movie theaters. Recently, museums and art foundations have been using this application to bring attention to pieces of art or develop entire digital exhibits around a city that can only be seen on the user's phone. This type of interaction between the real world and digital media is often called Augmented Reality.

According to the definition found on Wikipedia, Augmented Reality can be described as

> **…** a live direct or indirect view of a physical real-world environment whose elements are *augmented* by virtual computer-generated sensory input such as sound or graphics. It is related to a more general concept called mediated reality in which a view of reality is modified (possibly even diminished rather than augmented) by a computer. As a result, the technology functions by enhancing one's current perception of reality.[34]

[33] www.Layar.com
[34] http://en.wikipedia.org/wiki/Augmented_reality

It is also described in simpler terms on Dictionary.com as

"an artificial environment created through the combination of real-world and computer-generated data."[35]

Layar is considered an Augmented Reality browser since it enhances one's perception of the real world. When the user views an object through the camera on his phone, he will see both the real image of the object along with additional information about it.

Currently, there is already one Layar application that advertises the ability to find public art in Venice named "Art Detector"[36], although its primary focus is on monumental and not vernacular culture. This application covers some of the major tourist attractions such as the Rialto Bridge or Saint Mark's Basilica, but will not mention the smaller pieces between the two. As part of our project, we are remedying this by creating our own content for Layar that will focus on the overlooked pieces of public art located throughout the city.

[35] http://dictionary.reference.com/browse/Augmented+Reality
[36] http://www.artdetector.com/

2. Current Public Art Activities

One of the strongest attributes to PreserVenice, as an organization, is its catalog of over seven thousand pieces. Efforts to increase public visibility of this database, and the items in it, are vital to raising enough awareness to effectively conduct long term preservation.

2.1 Public Art Catalog

The public art database has been a work in progress for over twenty years and contains a vast amount of information on Venice's public art; our objective is to make it accessible to the public so that the collected knowledge can be put to use toward the preservation of Venice's material culture. We created a collection of interactive maps and designed a mobile application as both a publicity and fundraising tool for PreserVenice.

2.1.1 Researching Appropriate Methods of Catalog Presentation

The public art catalog was previously in an offline database, so only one user could view the catalog at any given time. The goal for this project is to present the catalog of public art in such a way that a wider audience can access it and understand the information contained in it.

A map-based interface for the public presentation of the catalog is ideal; addresses in Venice are often confusing and poorly labeled, so displaying information on a map will help to eliminate ambiguity as to where the piece is located. We have examined several different mapping software programs to determine which is accessible to the largest audience.

2.1.1.1 GIS Cloud

GIS Cloud is a "Geographic Information System" that allows users to represent statistics in layers over maps.[37] While this has analytic possibilities that may involve facts drawn from the catalog, it may not prove to be the best implementation for the public art database, as GIS Cloud is good for displaying quantities and location, but has limited support for accessing information about a specific point.

Figure 17: GIS Cloud Beta

Most of the maps created by past WPI IQP groups were made in MapInfo (a similar type of GIS software); GIS Cloud can read these files which is useful in determining what past groups have already accomplished.

GIS Cloud is still in Beta and consequently does not have the full functionality of completed software. It also does not have a large user-base or adequate developer assistance due to its limited availability at this time.

1.1.1.2 Public Earth

Figure 18: PublicEarth

Public Earth, "The world's wiki of places"[38], is a website dedicated to mapping information about locations worldwide. One can search a city for any number of locations including hotels, attractions, or restaurants. The search locates the item on a map and links to a page with more information about it. PublicEarth has collected a vast amount of data about landmarks worldwide, edited by the general public.

This is the essence of what our project seeks to accomplish, but the PreserVenice catalog will be presented exclusively for the location of public art in Venice. We did not use Public Earth to host our catalog, but we utilized it as a reference.

[37] www.GIScloud.com
[38] www.PublicEarth.com

2.1.1.3 Google Maps and Google Earth

Google Maps is an online mapping software that is one of the leaders in global mapping. Each item can be labeled with a "place mark", often displayed as a pushpin or other icon on a map. Each place mark has a precise geographic location and can display textual information as well as images or hyperlinks. Google Maps is easily embedded into websites and is used by many non-Google endorsed sites for mapping.

Figure 19: A Google Map showing the locations of Venetian public fountains.

Google Earth is a satellite image-based mapping program with many of the same features as Google Maps. In early 2010, Google Earth completed mapping Venice's buildings in 3D.[39] This would greatly enhance the Augmented Reality experience for those who are not physically present in Venice. Additionally, Google Earth supports altitude as an optional parameter for location.

2.1.1.4 Reasons for Selecting Google Maps to Display the Public Art Catalog

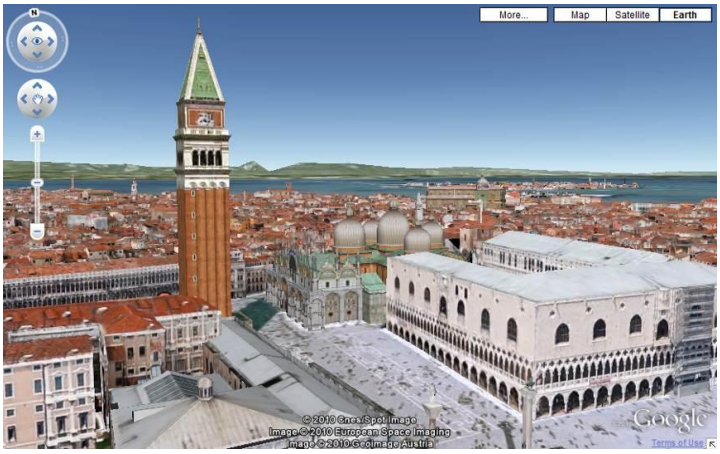

Figure 20: 3D Models in Google Earth

For the purposes of this project, Google Maps and Google Earth are the two most appropriate software programs for presenting the catalog of Venetian public art. While Google Maps and Google Earth are both powerful mapping tools, for this project Google Maps is the most suitable choice.

The advantages to using Google Earth include a more visually appealing interface and support for altitude display on the map.

[39] http://www.navigamus.net/2010/03/google-earth-and-venice

However, Google Earth requires the user to either install a plug-in for a web browser or to download and install the full Google Earth application. Computers need a 3D-capable graphics card in order to run Google Earth, as well as a strong network connection, which may not be possible for some users. Additionally, at the time of this writing, the full version of Google Earth has known compatibility issues with newer operating systems including the 64-bit version of Windows 7.

Google Maps requires no plug-in and is therefore more readily accessible to nearly anyone with an internet connection and is supported by all main internet browsers (Google Chrome, Internet Explorer, Firefox, and Safari). Google Maps will also load significantly faster than Google Earth due to lower graphical requirements than Google Earth. Since Google Maps is easier to access and compatible with a larger variety of computers and operating systems, we have chosen to use Google Maps as the primary digital outlet for the public art database.

Figure 21: KML File Icon

Since both Google Maps and Google Earth read from a common file type, Keyhole Markup Language (KML), there is support for a Google Earth implementation of the maps in the future. The code currently contains data for altitude, although this parameter is ignored when read by Google Maps. When Google Earth becomes accessible to a wider audience, the maps can be easily transferred to that format.

2.1.2 Creating a Map

Creating a map in Google Maps from a Microsoft Access file involves creating a KML file using data from Microsoft Access and then uploading the file to Google Maps.

See Appendix C: Basics of Google KML for a brief overview of how to write KML and upload it to Google. It is important to understand how to write KML before proceeding, as the methods we have used involve using code to write code. Creating a sample KML code by hand to use as a template for the next section is highly advised; it is much easier to find and fix errors in the KML at this point.

Appendix D: Using Visual Basic for Applications with Microsoft Access explains how to write to a file from Microsoft Access using the language Visual Basic for Applications.

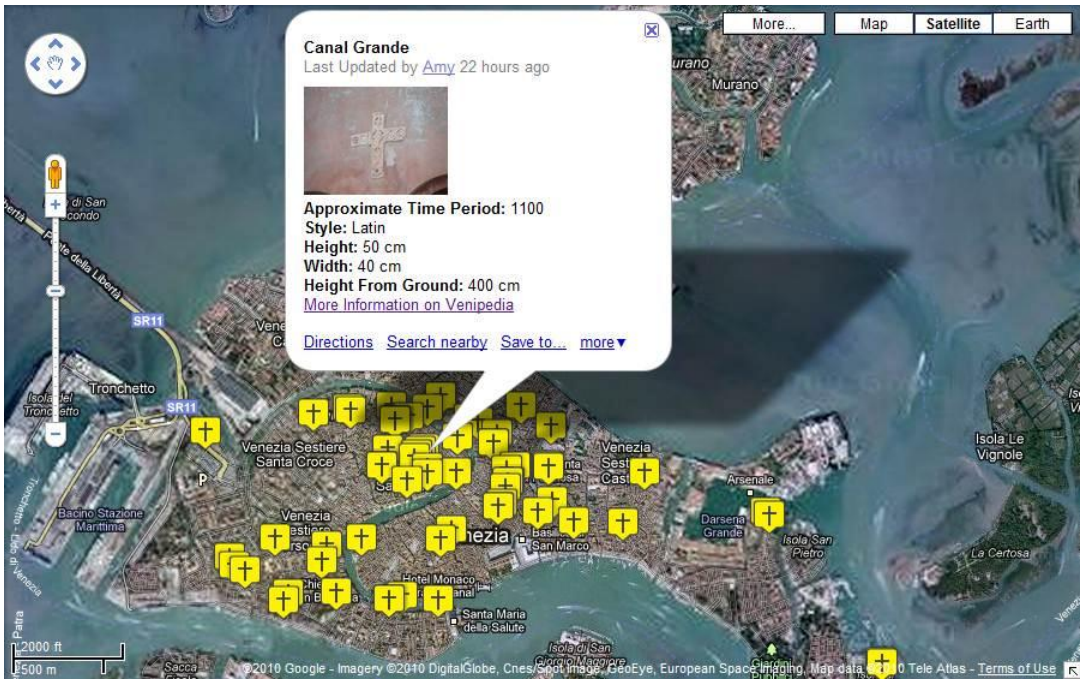

Figure 22: The Crosses Catalog Interactive Map

There are a total of 18 maps, one for each of the different categories of public except for the Keystones catalog.[40] Each piece of public art is marked on a map with an icon specific to the type of art. From left to right in Figure 23, the icons are: Coats of Arms, Confraternity Symbols, Crosses, Decorations, Fragments, Inscriptions, *Patere*, Reliefs, Sculptures, Street Altars, Bells, Churches, Flagstaff Pedestals, Wellheads, Fountains, Portals, Lunette, Keystones, and Monuments.

Figure 23: Map Icons

[40] Exact locations are not currently available for the Keystones catalog, so a map could not be created.

2.1.3 Integrating the Maps with PreserVenice.org and Venipedia

The catalog of Venetian public art is available on the PreserVenice website at www.preservenice.org. Users can navigate between different types of art by using links above the maps. Currently, the map does not support the display of more than one type of art at once.

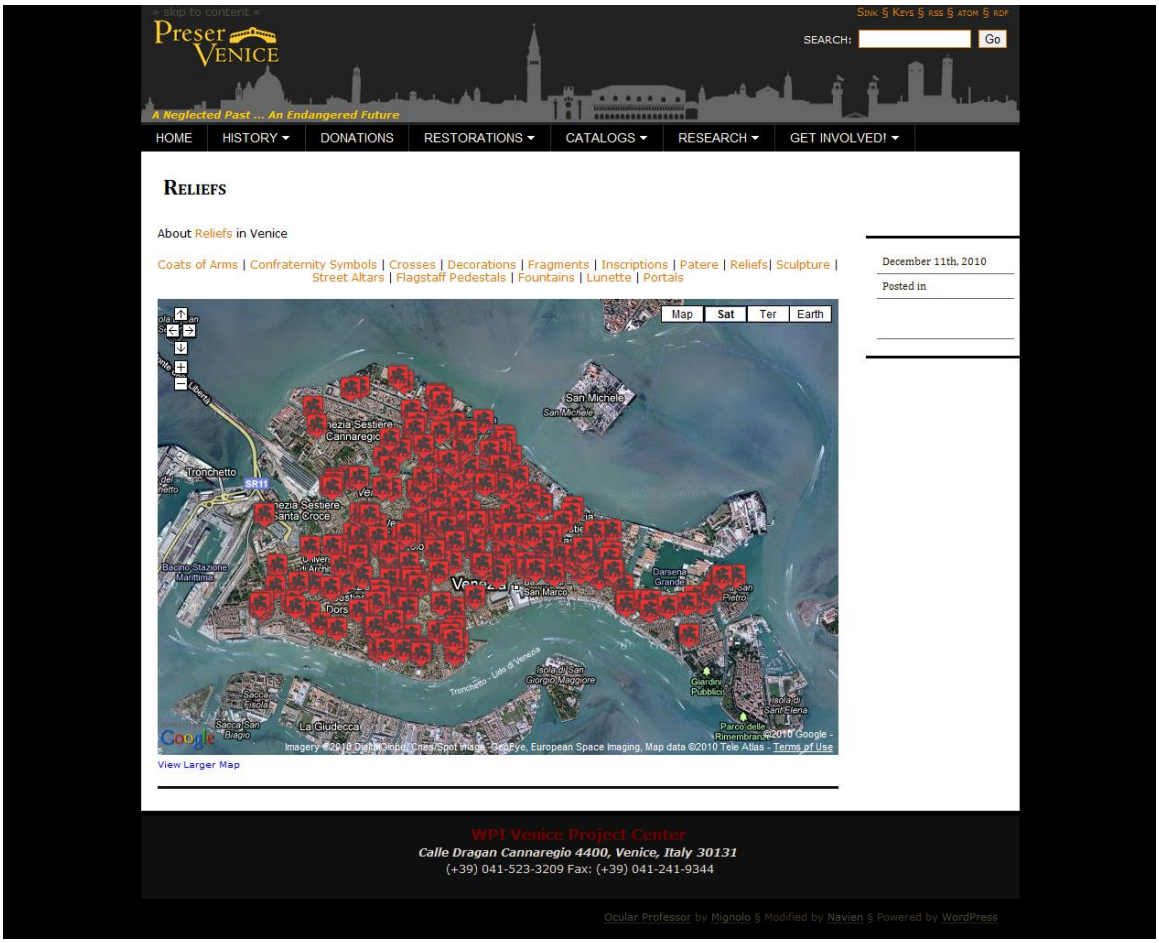

Figure 24: Map of Street Altars on PreserVenice.org

Every item is labeled with its street location and contains a picture and basic information including time period, material, style or subtype if applicable, and dimensions. Each item also contains a link to more detailed information on each piece, including a full condition entry where available. This information is hosted on Venipedia, the online collaborative encyclopedia for Venice.[41] Two catalogs, Crosses and Reliefs, have complete pages for each individual piece of art in the catalog. All other categories have generic links to sample information pages, which should be completed in future projects.

[41] www.venipedia.org

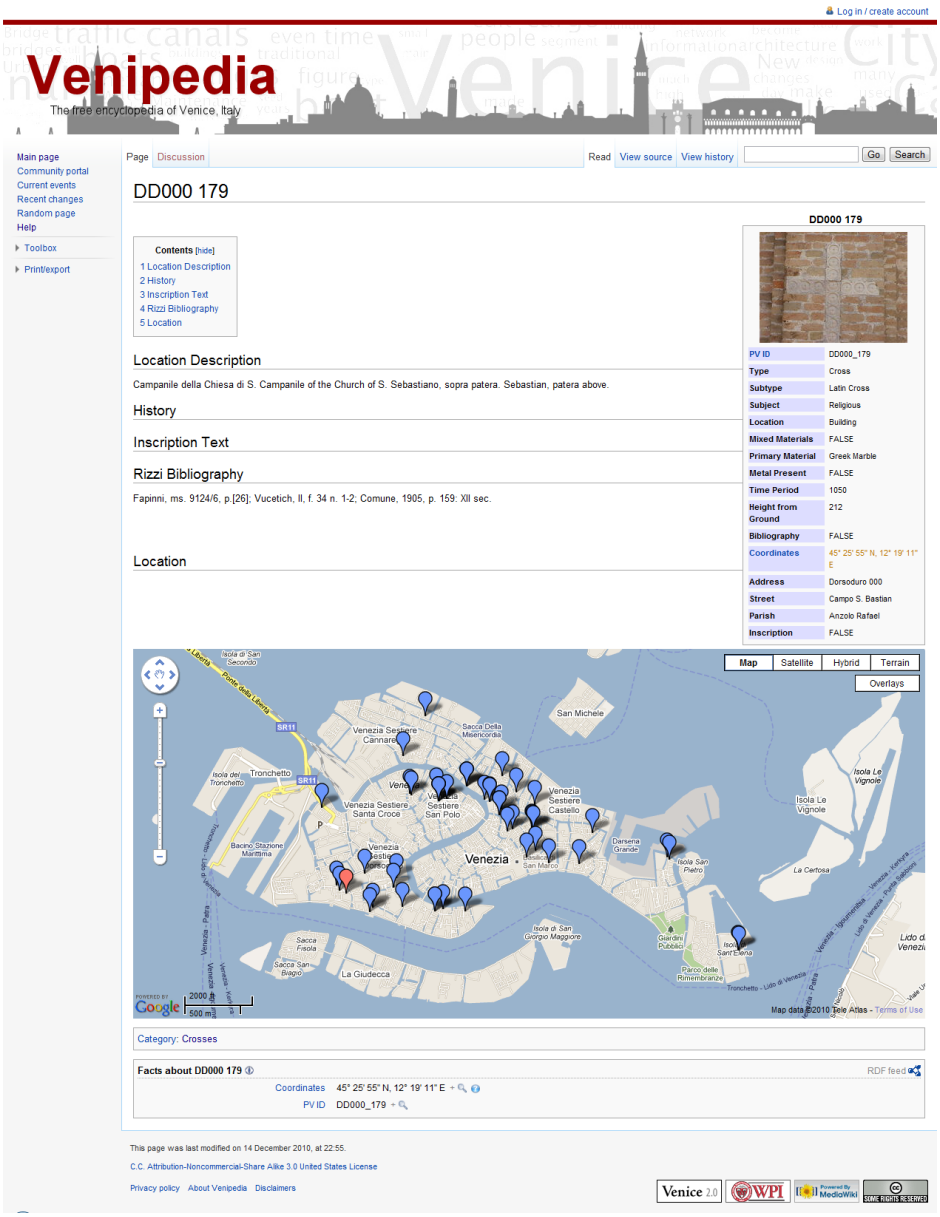

Figure 25: A page for a Cross on Venipedia

Each page contains a table of key information about each piece to the right side of the screen, called an InfoBox. At the top of each infobox is an image, if there is an image available. The body of the page may contain more detailed descriptions or longer explanations that cannot be included in the table. At the bottom of each page, there is a map that shows all pieces of art in a catalog with a blue marker, while the current item is highlighted in red. The user can navigate between pages about a specific type of art by clicking on points on the map.

We worked in parallel with another WPI project group[42] to import our data from the public art catalog into individual pages on Venipedia. We first had to create three templates for separate parts of a page on Venipedia: the Infobox, the Page body, and the Map. Following this, we formatted a Comma-Separated Values (CSV) file with data from our catalogs according to a specific syntax that could be read by Venipedia.org. We also uploaded images to Venipedia for use in the pages. Finally, we were able to upload our document to Venipedia.org, which automatically created pages from our file. The Venipedia project team also helped us troubleshoot errors that we encountered, including issues with maps not properly displaying and pages displaying artifacts from incorrect file encoding prior to uploading. Future project groups should refer to their report to learn how to create pages on Venipedia for the public art database.

2.1.4 Advantages and Disadvantages of Interactive Maps

We chose to create online interactive maps for the public art database to improve the public accessibility to the catalog. An interactive map is engaging to the user, who can click on different points on the map for more information and an image of the piece, or zoom in to get a better view of where the piece is located. A static map may show location, but it would not display any additional information that would help the user to learn about the piece or see what it looks like. Interactive maps also have the benefit of viewing options; the user can view the map in a traditional map view with only street names, or he can view the map as a satellite image that would show nearby buildings or landmarks.

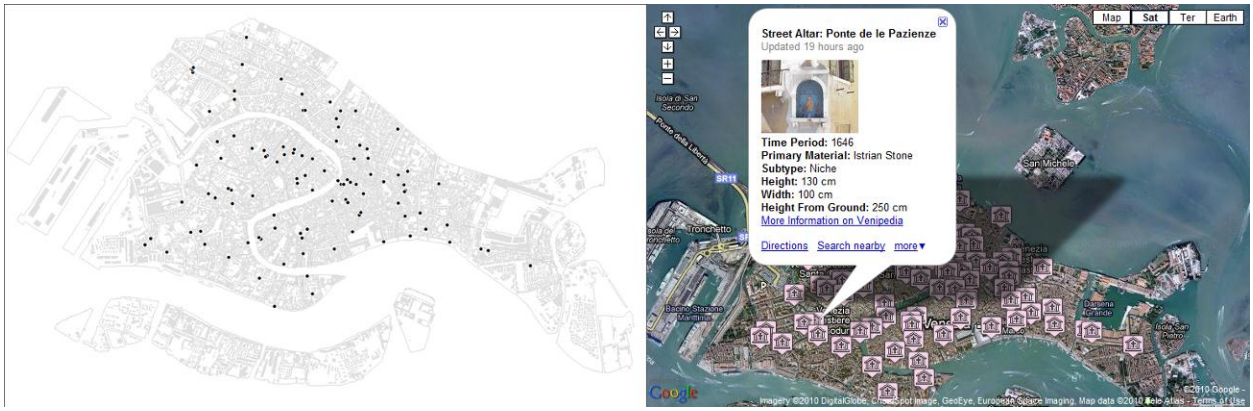

Figure 26: Static Map (left) and Interactive Map (right)

[42] *Venipedia A Modern Information and Data Wiki Dedicated to Venice*, Worcester Polytechnic Institute, 2010.

The inherent disadvantage to interactive maps is that they require a digital interface such as a computer or phone and an internet connection to view. However, if the user only needs directions to a point on the map and does not have a mobile device, he can select the "Directions" link at the bottom of each information bubble and print directions to carry with him.

Despite the vast amount of data presented, all of our digital media has been generated from existing data, which may not contain the most current information about certain pieces. Some of these pieces have not been analyzed for several years, and consequently the information may be out of date, or the piece may no longer exist. The primary focus of this project is to publicize the catalog rather than audit it, so we did not spend time extensively auditing the collection. However, people who use the interactive maps to find public art can help to keep the database up-to-date by notifying PreserVenice of any discrepancies that they notice via email or a form on the website. This will help in keeping the catalog current during the year while there are no project groups surveying the public art for changes.

2.2 Creating a Smart Phone Application

The first step in developing an application is deciding on the features that are most important and then creating a list of preferred features. For a PreserVenice application we placed high priority on being able to: provide the user with the location of the pieces of art in our database, find basic information about the pieces and PreserVenice, have the ability to donate, and contact PreserVenice with feedback. With this set of conditions in mind we looked at several pre-existing applications and chose Layar, an Augmented Reality Browser that allows for user generated content.

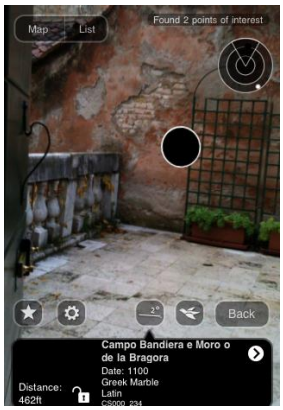

Figure 27 Layer displaying Crosses in the area of our apartment

Layar's main feature is the ability to supply a list of Points of Interest (POIs). Layar takes these POIs and places them in a map with directions for the user. You can also select a specific point of interest for more information in a Google Maps style dialogue box, and from that box you can connect to webpages and e-mail. In our case, it can connect to the http://www.preservenice.org/, more information about specific pieces, a donation page, and provide a link to e-mail PreserVenice. The downside to

this application is that it does not easily allow for multiple types of art to be in the same layer, so each type from the database has been placed into its own layer.

Creating our Layar content is the first step but we have also designed a more complex application for the future. Although Layar can satisfy our basic goals, it is not the complete solution. Instead, we have designed a larger application that is not only capable of embedding Layar but also displaying the names of past donors, making donations easier, allowing the user to create a list of favorite art pieces, providing recommendations based on the favorites they select, identifying art as they find it on their own, and reporting status updates directly to PreserVenice. An example of a change would be if new graffiti has appeared since the last time a piece was audited.

Figure 28 Examples from future Design

2.2.1 A Simple Layar Application

For more information on how to create your own content for Layar, refer to Appendix AB: Creating a Layar Application.

2.2.2 Further Application Design

For the future application we created a mock-up using Photoshop and a free GUI package that contained most common Android assets. Using our list of features we decided that our larger application would have a few main features. These features would include embedding Layar and Google Maps into a larger application to give both better context and make it easier for the user to search for different art types at the same time. It would also be able to identify a piece of art through the camera on the phone to quickly provide information to the user when they are near a point of interest. Another part of this function would be after the phone identifies a piece of art, checking it against our current pictures to detect changes (such as cracks or graffiti) and reporting it back to PreserVenice to keep our catalog up to date. The biggest improvement over only using Layar though would be able to allow the user to create their own account. With this, they can safely enter personal information to make donating to the organization, or a specific piece of art, extremely simple. They would also be able to create a favorites list after logging in and request recommendations for other pieces of art from our catalog they might be interested in seeing.

Figure 29: Flow Chart of Ideal Application

See Appendix AA: Explanation of the Mock-Up for an expanded diagram.

2.2.3 Uses for Interactive Maps and Mobile Application

The interactive maps of Venice's public art are intended to be used as a publicity tool for PreserVenice. Interested individuals can browse the collection of public art through the Augmented Reality interface to explore Venice's streets. Patrons and donors to PreserVenice can use the maps to survey public art in a given area and to choose which pieces to sponsor for restoration based on condition and importance. As an example, they could use the Top Ten map, pictured in Figure 30, to choose from the pieces of public art in most need of restoration.

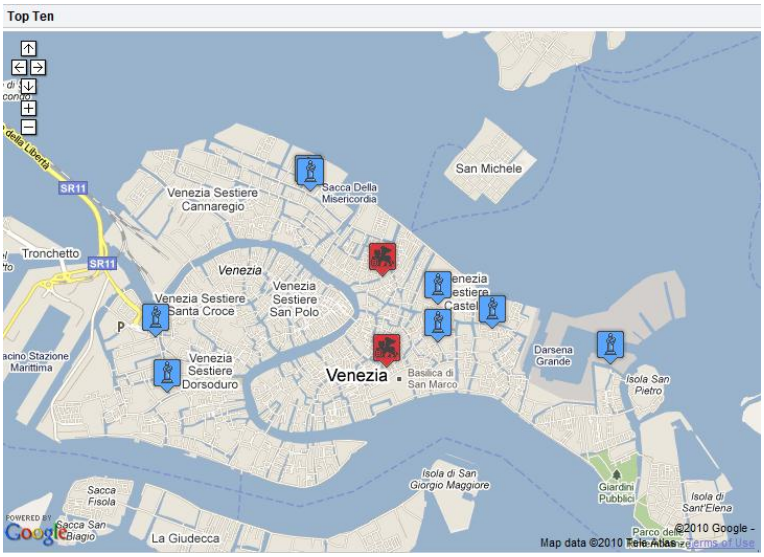

Figure 30: Map of ten highest priority pieces.

The mobile application is also designed to raise awareness of the danger that Venice's public art is in, but it would also actively encourage the user to donate to restoration efforts organized by PreserVenice. When a person is standing in front of a piece of art that they like, but it is deteriorating or in danger of being lost, they are far more likely to donate impulsively. This application would allow for donations with a simple press of the button while looking at the piece that they are helping to save. Using the personalized "favorites" feature, they can then find other pieces that they want to help save.

2.3 Migrating the Catalog to an Online Database using SQL

All of the databases containing the public art catalog have also been migrated to an online location on the Venice Project Center server through Bluehost, a web hosting software at www.bluehost.com. Databases are stored in Structured Query Language (SQL) on this server. See Appendix E: Converting Microsoft Access to SQL for an explanation of how we converted the databases from Microsoft Access to SQL.

The databases can now be accessed and updated by more than one person simultaneously, and all users can see the most current version of the database instantaneously. This is an improvement from the previous method of data access because Microsoft Access files are local to one computer, so only one person could edit the database at any given time. Additionally, no specific database software is required to view the databases, as they can all be viewed and modified from an internet browser as long as the user has an internet connection and the username and password for the PreserVenice account on Bluehost.

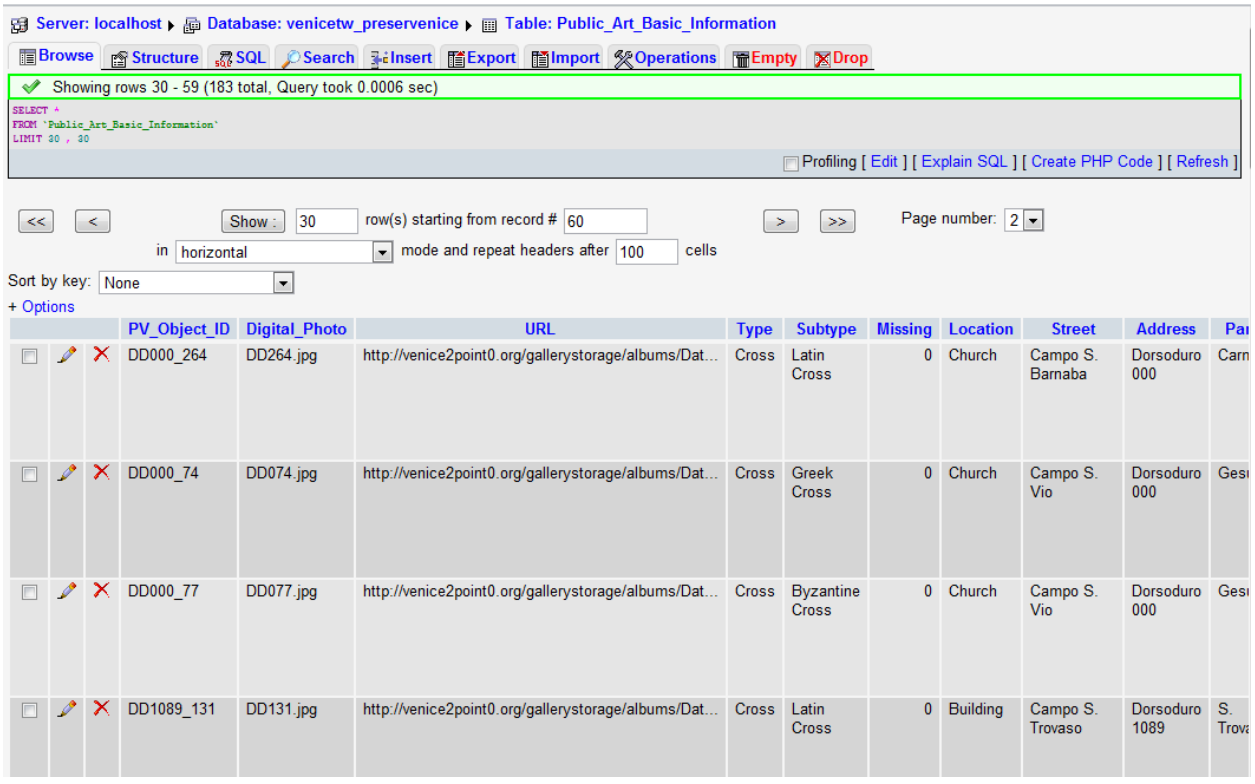

Figure 31: The database in phpMyAdmin on Bluehost.

The size limit for a database in SQL is much larger than the size limit of a Microsoft Access database, so rather than having individual database files for each type of public art, the

catalog exists as a single large table for basic information, with a separate table for condition status and several smaller tables for information specific to certain types of public art. These several tables can be sorted using the "Sort" tab or by using SQL Queries. This way, it is possible to search the entire database at once rather than through nineteen individual files.

2.3.1 Establishing a Permanent Repository of Digital Images

All available pictures are currently stored in the Venice2Point0 Gallery at http://venice2point0.org/gallery/v/Database. Many of the images were already hosted here, and the remaining available images were added to the gallery, separated into albums by type of art. This provides a common location for the images for easy integration with the PreserVenice public art catalog. Since the Venice2Point0 Gallery and PreserVenice's website are both on the Venice Project Center server, the images are not hosted on an independent site, reducing the potential that the images will be moved or deleted unexpectedly.

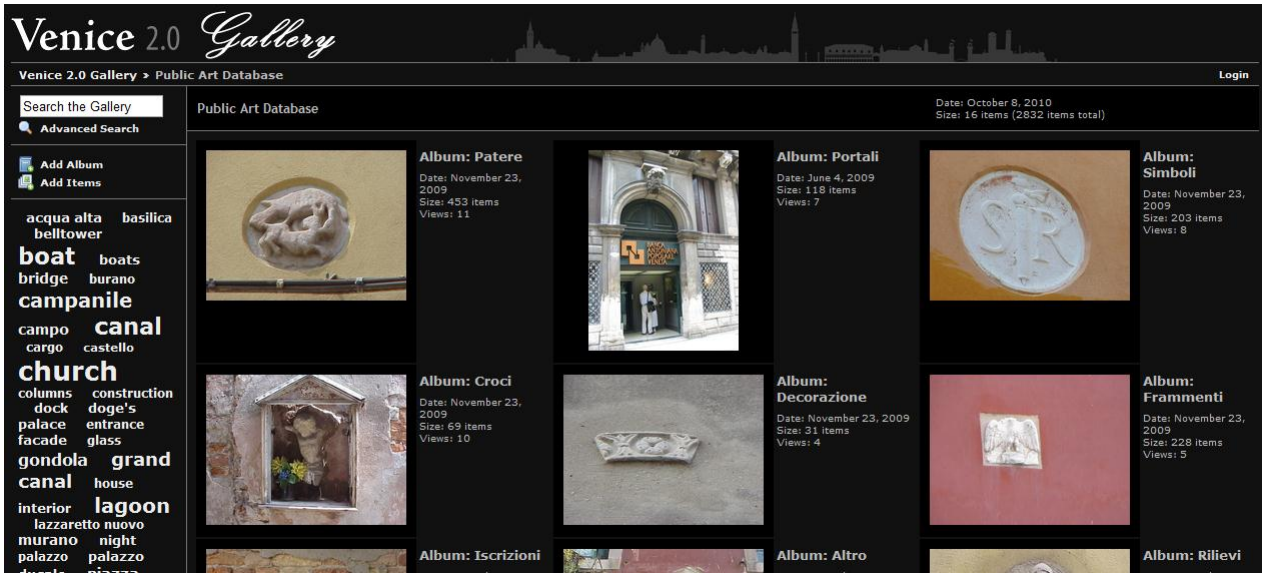

Figure 32: The Venice 2.0 Gallery contains all of the public art photographs

2.4 Prioritization Chart

In addition to creating smart phone applications and migrating the catalog to an online database, we also created a prioritization chart, tested with fountains, that takes key information

	A	B	C	D	E	F	G	H	I	J	K	L
1		Running	Algae	Graffiti	Rust	Original Paint	Surface Damage	Grime	Missing Pieces	Material		Condition
2	SM5509F	1	0	5	60	0	20	0.6	1	1		4.45
3	CS417F	1	35	0	15	2	20	1	0.5	1		4.18
4	SM3089F	1	0	5	90	0	4	0.6	0.5	1		4.09
5	CN2648F	1	0	0	50	20	15	0.6	1	1		4.05
6	DD277F	1	0	0	95	1	1	0.6	0.5	1		4.05
7	SM2058F	1	0	0	95	0	0	0.6	0.5	1		4.05
8	DD3090F	1	0	1	75	0	10	0.6	0.5	1		3.96
9	CS685F	1	0	5	60	0	20	0.6	0.5	1		3.95
10	CN3215F	1	0	0	80	0	3	0.6	0.5	1		3.93
11	SM3299F	1	0	0	70	5	15	0.6	0.5	1		3.9
12	CS1971F	1	0	25	70	5	20	0.3	0.5	1		3.9
13	CS3637F	1	0	0	95	5	20	0.3	0.5	1		3.9
14	CS3214F	1	0	0	95	0	10	0.3	0.5	1		3.85
15	SC595F	1	0	1	80	10	1	0.6	0.5	1		3.82
16	SM983F	1	0	1	95	0	5	0.3	0.5	1		3.81
17	CN4174F	1	0	0	40	0	10	0.3	1	1		3.8
18	CN3275F	1	0	30	40	60	35	0.3	1	1		3.75
19	CS254F	1	0	0	50	0	15	0.6	0.5	1		3.75
20	CN6253F	1	0	0	50	0	5	0.6	0.5	1		3.65
21	SM1552F	1	5	5	35	0	10	0.6	0.5	1		3.65
22	CN3577F	1	5	5	35	1	5	0.6	0.5	1		3.59
23	DD476F	1	45	0	1	5	5	0.6	0.5	1		3.56
24	CN2140F	1	0	0	85	0	10	0.6	0	1		3.55
25	CN3401F	1	0	0	90	0	0	0.6	0	1		3.5
26	CS3037F	1	0	0	5	0	15	0.3	1	1		3.5

Figure 33: Prioritization Chart

into account. As you can see in Figure 28, the chart displays the fountain's id number, then uses a formula to evaluate the piece on a scale of one to five, five being the worst. Factors such as algae buildup, rust, material type, and water flow are all taken into consideration while calculating the priority. All information was taken from the fountains database, and the chart is easily reproducible for all other databases.

C. Traditional Boats

In addition to over two decades of research in public art, WPI students have spent several years researching and understanding traditional Venetian watercraft. They have looked at why and how they are used, where they are built, and how to best preserve them for future generations.

1. Background

Since Venice's inception, traditional boats have filled the canals and played a key role in daily life. Before discussing the need to preserve and restore them, it is important to first understand their importance to the Venetians and their culture.

1.1 Overview of Venice's Maritime Heritage

Venice is a city of land and water. The land is so closely tied to the water that in the city's early years there were no *fondamenta*, or foot-paths. Today, these foot-paths enable people to walk around the city. In the past, the land met the water via a gentle slope so that the Venetians could move from land to sea effortlessly. Venetians rowed in a standing position because that was the position of a walking man. These boats and styles of rowing have given Venice a unique quality that no other place in the world has.[43] Traditional Venetian watercrafts "are the true heart of the city because they represent the meeting of land and sea, that symbiosis which is Venice and which makes it unique in the world."[44]

Figure 34: A *Gondola* stop in Venice

Since their inception, traditional watercraft in Venice have filled the twisting and turning canals of the city. It was not until the 1970s that there was a drastic decline in traditional watercraft. Today, the *gondola* is the only traditional Venetian watercraft that is still being made for work purposes. What most people do not know is that the *gondola* is only one of about forty different documented boats considered to be

[43] The Boats of Venice.Pg 7.
[44] The Boats of Vence.Pg 8.

traditional watercraft. This lack of knowledge is not from "tourist ignorance," but from the fact that traditional boats are extremely rare today.[45]

Motor boats now dominate the canals that were once filled with the traditional rowed boats. Due to this overwhelming increase of motor boats, or *mototopi*, traditional boats are no longer being maintained and, as a result, are being abandoned. The decline of these boats can most clearly be seen with the decline in *fitabatele*, or rowboat rental facilities. People could rent rowboats for work or fun, but between 1930 and 1960, 18 of the facilities closed down. Then in the next 15 years, 17 more facilities shut down. At one time in history, there were 52 *fitabatele*, but today there are none.[46]

Venice was considered to be a maritime republic since the 5th century and a dominant naval power since the 10th century when it began gaining control of the Adriatic.[47] As Venice gained power from its naval force, it gained privileges in the eastern Mediterranean ports and began to capitalize on the advantages it had over other medieval trading city-states at the time.

Figure 35: The Gates of *Arsenale*

The city's location, government policies, and skills gave Venice distinct advantages over other city states. This made Venice the prime trading center between the eastern Mediterranean ports and Europe in the 12th century.[48],[49]

By the 15th century, Venice was known as the "queen of the seas" because it was the main trade link between Europe and Asia.[50] The city's strength was felt all around the world because of its ambassadors, who were the creators of modern diplomatic service. Its arsenal, the *Arsenale*, which was founded in 1104 and rebuilt in the 15th and 16th century, was one of the world's wonders at the time.[51]

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[45] *Museo Arzanà: Preserving the Traditional Boats of Venice*. 2007 IQP.Pg 59.
[46] *Museo Arzanà: Preserving the Traditional Boats of Venice*. 2007 IQP.Pg 70.
[47] "Venice." The Columbia Encyclopedia, Sixth Edition. 2008. *Encyclopedia.com.* 12 Oct. 2010 <http://www.encyclopedia.com>.
[48] Martin, Lillian Ray.*The Art and Archaeology of Venetian Ships and Boats.*Pg. 3.
[49] "Venice." The Columbia Encyclopedia, Sixth Edition. 2008. *Encyclopedia.com.* 12 Oct. 2010 <http://www.encyclopedia.com>.
[50] Ibid.
[51] Ibid.

At its peak in the 15th century, the *Arsenale* employed 16,000 men and could produce a *galley*, a Venetian warship, during a lunch break.[52] The senate of the Venetian government, the *Signoria*, was able to successfully focus on trade in the 16th century as state-of-the-art watercrafts were built quickly and constantly improved. Watercraft during this time period was a vital part of Venetian life.[53]

John Garner, a pioneer of small boat preservation, once said "Wood was meant to rot", just as metals that make up boats, such as iron and steel, rust.[54] Boats are designed to have a working life span of about twenty-five years, but storms, rain, and sea water are constantly degrading their structural integrity. When they sink, they are forgotten. Documentation of these boats is the only way to preserve them.[55] The preservation and reconstruction of traditional Venetian boats is crucial for anyone wishing to experience this vernacular culture form because without these preservation and reconstruction efforts, these boats could be lost forever.

Figure 36: A *Batele* in the *Arzana* collection

1.2 Traditional Venetian Boats

There are many types of traditional Venetian boats, but each type has a common characteristic. In this case, the term "traditional boat" refers to boats with flat bottoms and shallow draft hulls.[56] The shipbuilders constructed these boats with a flat bottom to prevent the bottom of the boats from scraping along the bottom of the shallow canals.[57] The hull design provides more stability and balance to passengers entering, exiting, or standing on the boat and it also lessens the structural damage to the boat when it is dragged to shore.[58]

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[52]"Venice Naval History Museum."*Europe Travel - European Vacation Travel Guide*.Web. 12 Oct. 2010. <http://goeurope.about.com/cs/venice/l/aa021703a.htm>.
[53] Martin, Lillian Ray.*The Art and Archaeology of Venetian Ships and Boats.* Pg. 3
[54]Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 4. eBook.
[55]Ibid.
[56]The Boats of Venice.Pg. 7.
[57]Ibid.
[58] Ibid.

These characteristics came about when Venice was united with the water via gentle slopes in the land. The flat bottom and shallow hull was originally used to increase maneuverability between land and sea. See examples of these boats in Appendix F: Types of Traditional Venetian Watercraft.

1.3 Brief History of Squeri and Squeraroli

Figure 37: "Squero" for Ships in St. Marta

Venice is made of 125 different islands, connected by 182 canals and 473 different bridges.[59] However, this structure did not always exist. When the city first began, the only contact its residents had between islands was wooden planks and boats. These early Venetians realized the importance of boats for their livelihood and success as a city.[60] As a result, shipbuilding became an integral part of Venetian culture because of its importance in Venice's past.

The *squeri*, the shipyards for building traditional boats, were developed all over the city for different functions. Some were small in size and were dedicated to building or repairing small boats, while others were larger in scale and were dedicated to building bigger boats with greater carrying capacities.[61] The most well-known of the *squeri* is the *Arsenale.*[62] Unfortunately, there are only a few *squeri* left in the city and they continue to decline as more advancements in technology are made. Today, the *Arsenale* is a naval base that sits adjacent to the Naval History Museum of Venice and is part of the biannual art exhibit conducted by the city of Venice.[63]

Figure 38: Squeraroli at Work[24]

The *squeraroli* are the shipbuilders and artisans who work in the *squeri* to create the traditional watercraft.[64] They do not use blueprints or line drawings; instead, they use the knowledge they have learned from

[59] *MuseoArzanà: Preserving the Traditional Boats of Venice*. 2007 IQP.Pg 60.
[60] Ibid.
[61] "The Gondola, Its History and Useness." *SitoUfficiale Della Gondola Veneziana*.Web. 12 Oct. 2010. <http://www.gondolavenezia.it/history.asp?Capitolo=9>.
[62] Ibid.
[63] *MuseoArzanà: Preserving the Traditional Boats of Venice*. 2007 IQP.Pg 62.
[64] "The Gondola, Its History and Useness." *SitoUfficiale Della Gondola Veneziana*.Web. 12 Oct. 2010. <http://www.gondolavenezia.it/history.asp?Pag=19>.

the "masters" in their field.[65] The knowledge is passed down from generation to generation. Unfortunately, new technologies and the arrival of motorboats are modern-day rivals of the *squeraroli*. The few that remain are dedicated to the construction of traditional lagoon-watercrafts and *gondole*.[66]

1.4 Threats to Traditional Boats

The modernization of transportation in Venice has led to a drastic decline in the use of traditional Venetian watercraft. As the need for these traditional boats decreases, their owners are not maintaining them, and are throwing them away when they are deemed no longer usable. This is leading to their disappearance which, in turn, is a significant threat to the cultural and historical characteristic of Venice. While traditional watercrafts, like gondolas, are still seen on a daily basis, other watercrafts are being replaced by motor boats such as the *mototopi* and *vaporetti*.[67]

Recently there has been a small increase in interest of preserving traditional boats by the *regate*, rowing clubs, and increased number of gondolas.[68] However, the increasing number of motorized boats is making traditional boats obsolete, and is causing a decline in the number of traditional watercraft which can clearly be seen in decreased number of *traghetti*, or ferries. In 1687, there were forty-three active *traghetti* stations but, in 2004 there were only eight active ones.[69]Figure 38 shows a map of the active *traghetti* in 1687(left) and the remaining active *traghetti* in 2004 (right).

Figure 39: Traghetti in 1687 (left); Traghetti in 2004 (right)[70]

[65] Ibid.
[66] Ibid.
[67]"Living Venice."*Grit and Grazia: A Story of Venice, Voga, and a Few Unwavering Women*. Web. 12 Oct. 2010. <http://vogadoc.org/home/>.
[68]Ibid.
[69]*The Traditional Boats of Venice*.2004 IQP.Pg 55
[70]*The Traditional Boats of Venice*.2004 IQP.Pg 90.

There are still many traditional boats in Venice. However, there is nowhere to store them. *Arzanà*, a nonprofit organization, has collected approximately fifty boats, but many are stacked on top of each other, which causes substantial damage to the boats.[71] The boats best maintain their shape when they are in the water, so when they are out of water for long periods of time, they are even more susceptible to damage.[72]

These examples of the closed *traghetti* and traditional watercraft show the impact of motor boats and their threat to traditional watercraft. This proves that there is a need to develop some way of documenting and preserving them.

1.5 Previous and Current Restoration Programs

There is a strong desire to restore and preserve traditional boats. To better understand how to contribute to this effort, it is helpful to evaluate other restoration programs dedicated to the same goal. By doing so, we create a strong foundation for our efforts for this preservation and restoration mission.

1.6 Maritime Museums

Just as there are programs and organizations dedicated to the preservation of public art, there are organizations dedicated to preserving nautical heritage. The International Congress of Maritime Museums (ICMM) is a "professional guild of associations, organizations, and individuals in the maritime preservation field" dedicated to documenting and raising public awareness for the need to preserve maritime heritage.[73] The Maine Maritime Museum is focused on educating people about the importance of Maine's maritime history through the collection, preservation, and dissemination of historic materials and information. By doing this, the museum is able to connect past and present problems to future problems.[74]

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[71]Arzanà*: Per Lo Studio E La ConservazioneDelleImbarcazioniVeneziane*. Web. 12 Oct. 2010. <http://www.Arzanà.org/>.
[72]Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 14. eBook.
[73]*ICMM - International Congress of Maritime Museums*.Web. 12 Oct. 2010. <http://www.icmmonline.org/pages/home.htm>.

[74]"Maine Maritime Museum: About » Mission & History."*Maine Maritime Museum: Welcome*. Web. 12 Oct. 2010. <http://www.bathmaine.com/about/mission_and_history.php>

Figure 40: Entrance to the Mystic Seaport Museum

The Mystic Seaport Maritime Museum in Mystic, Connecticut, also known as the Museum of America and the Sea, has a similar mission to the ICMM and Maine Maritime Museum. The museum has a variety of nautical exhibits that includes fun activities, like ship tours, in the hopes to create a connection between America's past, present, and future maritime experiences.[75]

Organizations like these will greatly help the global mission to preserve traditional watercraft.

1.7 Arzanà

Figure 42: A *Batelin* in the *Arzanà* collection before restoration

Figure 41: A Batelin in the Arzana collection after restoration

Founded in 1992, *Arzanà* is a non-profit organization that specializes in the study and conservation of traditional Venetian boats because of their important historical and cultural significance to Venice. Since its creation, it has collected over fifty traditional Venetian boats, as well as some boat tools and other artifacts from the *squeri*.[76] Many of these boats are the only remaining ones of their kind.[77] These pieces are currently preserved in the Calle Pignatte, a small Venetian boat yard in Cannaregio.[78]

Their primary objective is to acquire and preserve traditional boats that are in danger of disappearing. Many of the boats they currently have need a radical restoration to be maintained

[75] "Mystic Seaport: The Museum of American and the Sea." *About Mystic Seaport.*Web. 12 Oct. 2010 <http://www.mysticseaport.org/index.cfm?fuseaction=home.viewPage&page_id=A784C282-CB84-5602-93B7252E0D68F149>

[76] Arzanà*: Per Lo Studio E La ConservazioneDelleImbarcazioniVeneziane*. Web. 12 Oct. 2010. <http://www.Arzanà.org/>.

[77] *MuseoArzanà: Preserving the Traditional Boats of Venice*. 2007 IQP. From ArzanàStatuto

[78] Ibid.

and if possible, returned to their original rowing and sailing capabilities. However, the preservation efforts to maintain these boats are costly, forcing *Arzanà* to standby helplessly as boats of "high historical value" are destroyed.[79]

1.8 Venice's Application for World Heritage Status

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Venice to apply for World Heritage status for gondolas

Venice is to apply for its famous wooden gondolas to be given World Heritage status, amid fears that the centuries-old tradition of crafting the elegant boats is being threatened by plans to produce cheap plastic replicas.

By Nick Squires in Rome
Published: 6:07PM BST 12 Oct 2010

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There are fears that plastic gondolas on the canals and backwaters would push the city further down the path of becoming a pastiche Photo: ALAMY

Figure 43: Screen shot of the article

On 12 October 2010, Venice announced that it was applying for the wooden *gondolas* to be granted World Heritage status. The city is concerned that the centuries of tradition of building the *gondola* are being threatened by plans to create cheap plastic replicas of this famous traditional Venetian boat. It takes months to build a *gondola* because each boat is made of exactly 280 pieces that come from eight different types of wood. The Gondolier's Association finds the idea of weather-resistant fiberglass *gondola* replicas ridiculous and believes that "safeguarding the tradition of the *gondola* is fundamental".[80] This shows the

[79] Ibid.
[80] Squires, Nick. "Venice to Apply for World Heritage Status for Gondolas - Telegraph."*Telegraph.co.uk - Telegraph Online, Daily Telegraph and Sunday Telegraph - Telegraph*. The Telegraph, 12 Oct. 2010. Web. 08 Dec. 2010. <http://www.telegraph.co.uk/news/worldnews/europe/italy/8059717/Venice-to-apply-for-World-Heritage-status-for-gondolas.html>.

importance of traditional boats to Venice and is just one example of the recent move and need to document these boats to preserve tradition.[81]

There are a variety of ways to document these boats. Some of these methods include measuring techniques such as hand measurements, photogrammetry, structured light, and laser scanning.

2. Current Traditional Boat Activities

In addition to conducting several forms of public outreach, PreserVenice is working in close partnership with Arzanà, a non-profit organization dedicated to the documentation and preservation of traditional Venetian watercraft.

2.1 Documenting and Measuring the Traditional Boats of Arzanà

There is a need to help *Arzanà* in its effort to preserve and restore the traditional boats of Venice. Through data collection, such as taking measurements and pictures of traditional boats, the creation of three dimensional models of the boats can be made and thereby provide *Arzanà* the information needed to construct or restore them.

To accomplish this, the following objectives have been identified:

1. Document the location of the traditional boats of *Arzanà.*
2. Accurately measure and document traditional boats via manual hand measurements and photogrammetry methods.
3. Obtain corporate sponsorship to send boat specialists to the United States and Venice to help with the preservation mission.

The key focus of this project is to determine what measuring technique is the fastest, cheapest, most accurate, and ultimately, the best option for *Arzanà* to use to document the boats in their collection.

2.2 Documenting the Location of the Traditional Boats of Arzanà

Since its creation, *Arzanà* has collected over fifty traditional Venetian boats. However, only a handful of these boats are located at *Arzanà.* A majority of the boats are at Terre Perse,

[81] Ibid.

located on the Venetian island, Lido. Other boats can be found at Venice's famous *Arsenale* or in Mira, a town on the mainland.

Arzanà has a spreadsheet listing the different locations. However, to make it easier to visualize and track where the boats are, we created a Google Map documenting their locations. This interactive map is easily updated and maintained and offers the ability to obtain directions to the different locations. This may prove to be helpful for those participating in the restoration and preservation mission.

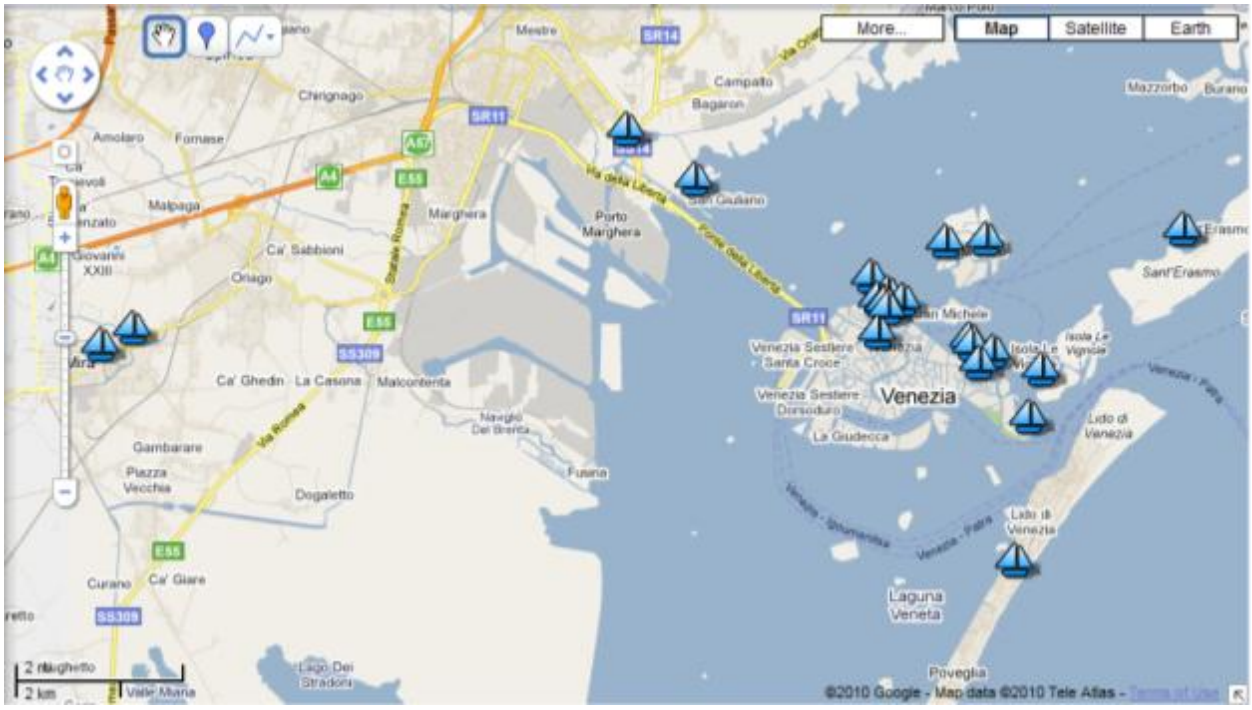

Figure 44: Google Map of *Arzanà* Boat Locations

The sail boat icons, if clicked on, open an informational box listing what type of boat is at that particular location. An example of this can be seen in Figure 45.

Figure 45: An Informational Box Showing That a *Mascareta de Regata* is Located at the *Arsenale*

The map is now shared with Arzanà so that they can update it as their collection continues to grow.

2.3 Choosing a Traditional Boat to Measure

The boats in Arzanà's collection can be placed under one of the three categories we created for condition assessments of the boats. The first condition involves boats that are beyond repair. This assessment signifies that these boats have no chance of ever being fully restored.

Figure 47: Picture of a boat considered to be beyond repair

The second condition involves boats that are repairable, but not floatable. This means that these boats can be restored to look as if they were new, but cannot actually be put on the water. These boats belong in museums, rather than on water. Finally, the third condition involves boats that are repairable and floatable. These boats have the capacity to be restored to the point where they can achieve their full full sailing and/or rowing capacity.

Figure 46: Picture of a boat considered to be repairable, but not floatable

The first two categories of boats are in the most danger of disappearing. Therefore, these boats are our

highest priority because they need to be accurately documented before it is too late.

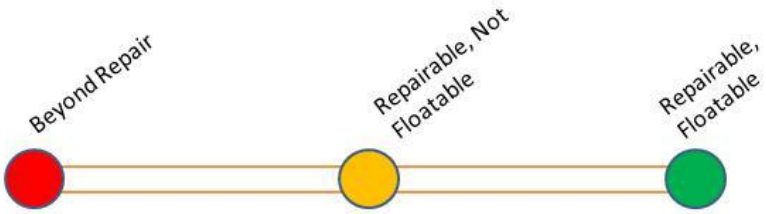

Figure 48: Traditional Boats Condition Assessment Scale

Before trying different measuring techniques, it is important to choose what boat to measure. Several factors should be taken into consideration when picking a boat, because these can greatly affect the outcome of the measuring methods.

For instance, you want to choose a boat that is capable of being moved. Hand measurements can be completed without greatly moving the boat's position, but something like photogrammetry requires the boat to be moved so different angles can be photographed. You also want to make sure the boat is in a good location. You should ask yourself questions like the following:

1. Will I have time constraints based on this location?
2. Is there enough lighting for me to take quality pictures?
3. Is it dark enough for me to use a structured light projection system or laser scanner?

Most importantly, you need to evaluate your skills and the skills of those you are working with. Even though the boat we chose is considered to be repairable and floatable, and therefore have a low priority, we chose to measure it because it is a symmetric boat with a much simpler structure than something like the *gondola* which is asymmetric and very complex. We also chose the *sandolo* because it was capable of being moved and was in a good storage location that kept it safe from the elements and provided the amount of lighting needed.

See Appendix G: Procedures for the Preliminary Documentation of a Boat for Measurements for a set of procedures for the preliminary documentation of a boat.

2.4 Explaining the Processes

Once we chose our boat for measurements, we began testing the different measuring techniques.

2.4.1 Hand Measurements

Manual hand measurement of boats is something that has been done for centuries. However, there are several challenges to getting accurate measurements. The biggest challenge is translating the two-dimensional flat surfaces of paper to the three dimensional curves of the boat.[82] Hundreds of points are needed for the boat to go from two dimensions to three and to actually build a boat using this method, the process would have to be reversed which would be even more time consuming.[83]

Attention to detail is necessary when documenting and measuring a boat, especially wooden ones like the traditional Venetian watercraft. There can be a significant difference in construction features, even if the boats have similar features below the waterline.[84] Even though attention to detail is necessary, "professional trained naval architects or marine engineers are not necessarily needed, and indeed much of the best work in the field has been done by those for whom small craft recording skills were developed without formal training."[85]

To measure boats by hand, it is best to have a measuring team of three to four people. One person should be the designated note taker, whose job is to create the forms to record the measurements. They are in charge of the overall process and are responsible for making sure the procedure is done correctly. Another person will be assigned the role of measurer and is responsible for taking all the measurements the note taker wants. The third person is the plotter, whose job it is to create the needed grid forms for the different measured points and plot them as the measurer' calls them out to the note taker. If there is a fourth person, they will be the checker and helper to make sure the process is carried out correctly.[86]

See Appendix H: How to Hand Measure a Boat for full details and pictures of making hand measurements.

[82]Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 4. eBook.
[83]Platt, David D. "Modern Technology Used to save Designs of Old Boats." *Working Waterfront*. 2010. Web. 01 Nov. 2010. <http://www.workingwaterfront.com/articles/Modern-technology-used-to-save-designs-of-old-boats/13837/>.
[84]Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 4. eBook.
[85]Ibid.
[86]Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 29. eBook.

Figure 49: Stefano and Alyssa taking measurements

Ignoring the cost of hiring a professional to help take measurements, manual hand measurements are the cheapest measuring technique. However, it is also one of the most time consuming techniques. With the help of Stefano Montagner, an Il Caicio member, it took approximately thirty minutes to prepare the *sandolo* for measuring and then another five hours to take the necessary measurements. A description of the necessary measurements can be found in Appendix H: How to Hand Measure a Boat.

We only took measurements in nine locations and two verification spots on the boat. Generally, measurements taken in hundreds of locations are necessary to get a true and accurate hand drawing of the boat. With this in mind, it is easy to see that manual hand measurements may take days to complete, depending on the size of the boat and the skill of the measurer(s).

With hand measurements comes a relatively high level of inaccuracy. These errors can stem from basic human errors in measuring and recording the correct dimensions to lack of standardization. For instance, the string used as the reference line may begin to sag after several hours, creating a lack of standardization in measurements and recorded dimensions. Other errors could even come from the floor not being level or the measuring tape not being held flat or level. Weather can also play a role in accuracy because things like humidity change the dimension of the wood on a day to day basis.[87]

After completing the hand measurements of the *sandolo* and creating a spreadsheet of the different coordinates taken (this spreadsheet can be found in Appendix H: How to Hand

[87] Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 28. eBook.

Measure a Boat), we created a three dimensional model of the boat in Blender and Autodesk Inventor.

After completing the two models, we overlaid the models with a picture of the boat to not only analyze the accuracy of our hand measurements, but to also compare which modeling program is best. It was easy to recognize the discrepancies between the two. A comparison of the two programs can be found in Appendix I: Comparison of Blender and Autodesk Inventor.

Figure 50: Overlay of Blender Model

In Figure 50, we see the overlay of the Autodesk Inventor model. The length is exact and the basic structure of the boat is close to the actual size of the boat. However, there are two noticeable discrepancies and those are with the bottom of the hull and the front and back. The two points have been highlighted with white circles. These are the only two points of the boat that could not be measured from the reference line because the structure of the boat made it impossible to make measurements from the top. As a result, the measurements were taken from the floor up.

Figure 51: Overlay of Autodesk Inventor Model

In Figure 49, we see the overlay of the Blender model. In this overlay we do not see the same error as in Figure 50. That is because the dimensions were constantly changed in the production of this model so that it would more likely resemble the actual boat. Since the dimensions are not exact, it is easy to see that the shape of the hull is off and that the curvature of the bow of the boat is very far off.

Overall, we can see based on the models that our hand measurements were relatively accurate with only taken nine points and two verification points for dimensions of the boat. However, in the future, we recommend using Autodesk Inventor, rather than Blender for modeling the boats based on the hand measurements because of ease of use and accuracy.

More importantly, these two models show that not only can hand measurements be inaccurate, but also that these inaccuracies can be compounded when trying to translate the recorded dimensions into a three dimensional model.

2.4.2 Photogrammetry

Photogrammetry is the most recent technology to come into use for the reproduction of three dimensional objects. It is defined as a "three dimensional coordinate measuring technique that uses photographs as the basis of measurement."[88] The primary characteristic of photogrammetry is triangulation.[89] Triangulation is achieved if pictures are taken from at least two different locations relative to the boat so that "lines of sight" can be created from the camera to specific points on the boat. These lines of sites are mathematically intersected to create three-dimensional coordinates of boats.[90]

Photogrammetry can be broken down into two parts: photography and metrology. The photography portion of photogrammetry is responsible for making accurate photogrammetric measurements, while metrology is responsible for creating three-dimensional coordinates from the two-dimensional pictures.[91]

Figure 52: The Jacob Pike prepared for taking pictures for photogrammetry

David Cockey, a Michigan based computer specialist, used photogrammetry to create a three dimensional model of the *Jacob Pike*, a historic sardine carrier which now belongs to the Penobscot Marine Museum. He spent several hours placing "targets" on this ship's hull and then took digital pictures of the boat from different angles and distances.[92] He then used two computer programs, PhotoModeler and Rhino3D, to produce the three dimensional image.[93]

The "targets" used were black and white shapes printed on white paper. Along with the targets, Cockey also placed vertical strips of masking tape

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88 Platt, David D. "Modern Technology Used to save Designs of Old Boats." *Working Waterfront*. 2010. Web. 01 Nov. 2010. <http://www.workingwaterfront.com/articles/Modern-technology-used-to-save-designs-of-old-boats/13837/>.

89 "Basics of Photogrammetry."*Geodetic Systems, Inc. - Home Page*. Web. 12 Oct. 2010. <http://www.geodetic.com/whatis.htm>.

90 Ibid.

91 Ibid.

92 Platt, David D. "Modern Technology Used to save Designs of Old Boats." *Working Waterfront*. 2010. Web. 01 Nov. 2010. <http://www.workingwaterfront.com/articles/Modern-technology-used-to-save-designs-of-old-boats/13837/>.

93 Ibid.

several feet apart along the length of the boat. These two items created reference points that allowed the two computer programs to locate the points in space to create a three dimensional image. These points created an image that will, at the very least, "preserve" the *Pike* in a virtual, if not actual form.[94]

Our first experience with photogrammetry was with pictures taken by Jonathan Taggart, a national expert in wooden boat restoration, of the *sandolo* we measured. These pictures were taken over the summer of 2010. An example set of these pictures can be found in the PhotoModeler Appendix J: How to Create a Model in PhotoModeler 7. The *sandolo* is properly set up with coded targets and the pictures are taken at the correct angles. We used these pictures to create a three-dimensional model of the *sandolo* in a photogrammetry software program, called PhotoModeler 7, and then overlaid this model on a picture of it. We were easily able to see how accurate photogrammetry is. However, since these pictures were taken by a camera not calibrated in our copy of PhotoModeler, it was a much more difficult process producing the three-dimensional model. The process of creating a three dimensional model in PhotoModeler can be found in Appendix J: How to Create a Model in PhotoModeler 7.

Our second experience with photogrammetry involved helping *Arzanà and Il Caicio* become familiar with the concept of photogrammetry, as well as giving them a brief overview of how PhotoModeler works. We covered the bottom side of a hull with coded and non-coded targets, took pictures of the boat from the needed different angles, and then uploaded those pictures into PhotoModeler 7. As stated earlier, the process of creating a three dimensional model in PhotoModeler can be found in Appendix J: How to Create a Model in PhotoModeler 7. An analysis and description of PhotoModeler 7 can also be found in Appendix J: How to Create a Model in PhotoModeler 7.

2.4.3 Structured Light

Due to funding reasons, we were unable to field test structured light. As a result, we completed a thorough analysis of this measuring technique based off our research.

Structured light, also known as active triangulation, is a very useful technique used for gathering image and dimensional data.[95] The cost of equipment for this technique can range anywhere from $450 to $1,500 and the cost of the different software programs available is over

[94] Ibid.

[95] Viewing, By. "What Is Structured Light?" *StockerYale Inc. - Laser Line Generators, LEDs, Specialty Fibers*. Web. 12 Oct. 2010. <http://www.stockeryale.com/i/lasers/structured_light.htm>.

several thousand dollars.[96] Orten, a company that designs three dimensional modeling solutions, states that the ComfORTAC structured light scanner measurements is accurate within 0.01 centimeters per one meter. [97] A description and analysis of this technique can be found in Appendix K: Description and Analysis of Structured Light.

2.4.4 Laser Scanning

Due to funding reasons, we were unable to field test laser scanning. As a result, we completed a thorough analysis of this measuring technique based off our research.

Laser scanners have been used successfully with boat measurements as seen with the Charles W. Morgan whaling boat, the last wooden whaling boat in the world.[98] The Mystic Seaport Museum is conducting a three year, six million dollar project using this technology to document details about the original construction of this ship. Quentin Snediker, director of the Henry B. Dupont Preservation Shipyard, described laser scanning as a technology that gives an

> "extremely accurate three dimensional representation of the vessel in detail down to a millimeter of accuracy. [The images from the scanner can] produce measured drawings with a high degree of accuracy so [they] can go back and take precise measurements of each part. It's also quite flashy. It's a very enticing way of looking at the ship because you can look at it from angles that you can't physically look at it from."[99]

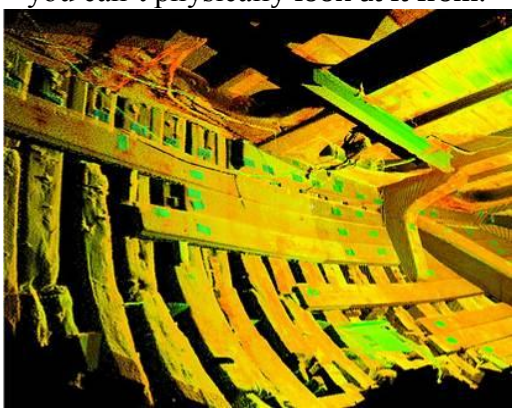

Figure 53: 3D Laser Scanning of the Charles W. Morgan, the last remaining wooden whaling boat

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[96] *ORTEN - 3D Scanner and CAD/CAM Software for Orthotics and Prosthetics*.Web. 08 Dec. 2010. <http://www.orten.fr/site_en/accueil.html>.

[97] *ORTEN - 3D Scanner and CAD/CAM Software for Orthotics and Prosthetics*.Web. 08 Dec. 2010. <http://www.orten.fr/site_en/accueil.html>.

[98] "3D Laser Scanning of the Charles W. Morgan | Flickr - Photo Sharing!"*Welcome to Flickr - Photo Sharing*. Mystic Seaport.Web. 08 Dec. 2010. <http://www.flickr.com/photos/mysticseaport/4268485899/in/photostream/>.

[99] Spilman, Richard. "3D Laser Scanning the Hold of the Charles W. Morgan."*Old Salt Blog – a Virtual Port of Call for All Those Who Love the Sea*. 2009. Web. 01 Nov. 2010. <http://www.oldsaltblog.com/2010/03/06/3d-laser-scanning-the-hold-of-the-charles-w-morgan/>.

Laser scanning allows people to take the boat apart, put it together, and examine each part very carefully.[100]

FARO, a well-established company that "develops and markets computer-aided coordinate measurement and imaging devices and software," advertises that their laser scanners are accurate within three millimeters for every ten meters.[101] While this accuracy is very impressive, the downside of this technique is that it is very costly. Purchasing or renting a laser scanner can cost anywhere between $20,000 and $140,000.[102] A description of how laser scanning works can be found in Appendix L: Description of How Laser Scanning Works.

2.5 Recommended Boat Documentation Method

After completing our field work and analyzing the different types of measuring techniques, we determined photogrammetry to be the best measuring technique for documenting traditional boats based on the standards we set for cost, time, and accuracy. The equipment needed for hand measurements may be significantly cheaper than the equipment used for photogrammetry, but you must hire a professional to help measure the boat by hand if you are new to taking boat measurements. You do not need to hire a professional for photogrammetry and the cost of equipment is a onetime purchase.

It took five hours to take measurements of the *sandolo* with the help of a professional and we took the minimum amount of measurements needed to construct a three-dimensional model. To create a model that is very accurate, hundreds of points need to be taken. Photogrammetry only requires you to be in the field for about three hours. The pictures are the only thing you need to successfully create a three dimensional model.

We also had to continuously go back to the boat after conducting the first set of hand measurements because we found that we had missed several key measurements when we were trying to record the coordinates of each point we measured. With photogrammetry, there is no need to return to the field after the pictures are taken. This could prove to be very beneficial if the boat is in a busy or restricted location, making revisiting it very difficult, if not impossible.

We also found that the three dimensional models created based on the hand measurements had some noticeable discrepancies to the actual dimensions of the boat. On the

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[100] Ibid.

[101] *FARO.com - Measuring Arms, Laser Tracker, Laser Scanner*.Web. 08 Dec. 2010. <http://www.faro.com/>.

[102] Ibid.

other hand, there were virtually no discrepancies in the generated model using Photogrammetry, even with pictures from an uncalibrated camera.

Ben Fuller, the Penobscot Marine Museum curator who hired Cockey to measure the *Pike*, said that it "reduced field time and expense" compared to hand measurements or work with a laser device.[103]

If more funding were available, more advanced techniques like laser scanning would be ideal. Even combining the techniques may produce better results. Like Cockey stated, "the ideal method for measurement of a boat would be a combination of laser devices, photogrammetry, and hand measurements." [104]

See the comparison charts in Appendix M: Overall Comparison of Measuring Techniques and Final Decision for a visual comparison of the techniques.

It is extremely important to note that the recommendation to use photogrammetry stands true for all different types of traditional watercraft. As mentioned earlier in this report, one reason we chose to measure the *sandolo* was because it is a symmetric boat with a much simpler structure than something like the *gondola* which is asymmetric and very complex. This simplicity is recommended for amateurs to gain a better understanding of traditional watercraft structure and to reduce the risk of measurement discrepancies. The *gondola's* structure would make taking hand measurements longer and more detail intensive. As a result, there is a greater need to hire a professional for help. Once the basic concepts of photogrammetry, structured light and laser scanning are understood, the hired help of a professional is not required, though large scale projects may benefit from consulting a professional.

2.6 Corporate Sponsorship

Currently, *Arzanà* has several boat specialists from Maine, Massachusetts, and Connecticut who have expressed significant interest in working with *Arzanà* in the summer of 2011. Their expertise in boat design, modeling, and restoration is vital to the success of preservation effort to restore and document these boats. In order to obtain funding to send these experts to Venice, we are soliciting corporate sponsorships.

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[103] Spilman, Richard. "3D Laser Scanning the Hold of the Charles W. Morgan."*Old Salt Blog – a Virtual Port of Call for All Those Who Love the Sea*. 2009. Web. 01 Nov. 2010. <http://www.oldsaltblog.com/2010/03/06/3d-laser-scanning-the-hold-of-the-charles-w-morgan/>.

[104] Ibid.

Corporate sponsorship could also make it possible for *Arzanà* to document and restore all the boats in their collection. It could also provide enough financial backing to further expand their collection and preservation efforts.

See Appendix N: Example Corporate Sponsorship Letter for the corporate sponsorship letter that is to be sent out. See Appendix O: Arzanà Bylaws or Appendix P: Arzanà Bylaws Translated into English for a copy of the *Arzanà* bylaws, which is to be sent out with the sponsorship letter.

D. Non-Profit Organizations

Since the catastrophic floods in 1966 in Venice, there have been nearly thirty non-profit organizations established for the preservation of Venice. These organizations, collectively known as the private committees, work with the city of Venice to restore and preserve many monumental structures.[105] There are currently twenty-four member organizations from ten different countries[106], whose organized efforts, in combination with the city of Venice, account for a large percentage of past and present restoration. The two largest organizations are Save Venice, located in the United States, and Venice in Peril, located in the United Kingdom. Both were started under the umbrella of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in order to protect and restore Venice.[107]

1. Save Venice, Inc.

Save Venice is an organization, based in the United States, which works closely with community leaders and citizens to preserve the architectural heritage of Venice. In order to efficiently and effectively preserve Venetian architecture, Save Venice decides on pieces based on both need and artistic merit. By doing this, Save Venice has restored over 200 pieces since its inception in 1967.[108]

Figure 54: Save Venice, Inc.

Most of the restoration work is paid for by funds collected from both private and corporate sponsors. This is typically done in two ways. The first way is by accepting general donations. Save Venice offers different donation levels, based on monetary contribution. This range starts at "Friend" ($10-49) and goes to "Benefactor" ($10,000 and up).[109] By doing this, it allows the donor to see how their contribution affects their status. The second method of

[105] (Unesco Office in Venice n.d.)
[106] (Unesco Office in Venice n.d.)
[107] (Unesco Office in Venice n.d.)
[108] (Sav10)
[109] (Sav10)

collection is accomplished by posting the projects the organization would like to do in the near future by allowing people to donate toward a specific project right from Save Venice's website. This is a key feature because it enables them to describe a piece that needs to be restored, raise awareness, and collect funds all at the same time.

2. Venice in Peril

The next organization is Venice in Peril, which is an organization that is based in the United Kingdom. Venice in Peril was also founded in 1967 and primarily focuses on architectural restoration.[110] Over the past decades, its work has helped to preserve many monumental artifacts, and will continue to do so to ensure Venice's preservation.

Figure 55: Venice in Peril

Venice in Peril obtains funding through three methods: grants, donations, and sponsorships. Venice in Peril's largest sponsorship has come from Pizza Express, which gives Venice in Peril a small percentage of each of its "Pizza Veneziana" sales. This has amounted to nearly two million pounds over the past 30 years.[111] In addition to Pizza Express, Venice in Peril has over a dozen corporate sponsors. It has also applied for and received hundreds of thousands of dollars from trusts, foundations, and grants. Finally, Venice in Peril has several private donors, as well as members who contribute to their projects. A member can donate as little as 50 pounds per year and be a part of the organization.[112] Over 50% of their funding is perpetual, which gives Venice in Peril a predictable operating budget and enables them to plan projects earlier.

[110] (Venice in Peril n.d.)
[111] (Venice in Peril n.d.)
[112] (Venice in Peril n.d.)

3. PreserVenice

PreserVenice is an initiative for the documentation and preservation of Venetian material culture. Documenting public art in Venice truly began with Alberto Rizzi's books. His research was then expanded upon by students from WPI completing project work in Venice. Their research found that the best way to raise public awareness, and protect and preserve Venetian material culture was to turn the PreserVenice initiative into a non-profit organization.

Figure 56: PreserVenice

WPI students, over the past few years, have worked to develop by-laws and other documents to incorporate PreserVenice under Italian law. In addition, students have continued to maintain and add to a catalog of public art, containing over seven thousand pieces, which will help PreserVenice to identify and prioritize projects for preservation throughout Venice.

Their research has provided a crucial foundation for a much-needed organization. Currently, there are no non-profit organizations on the private committees that focus on material culture such as wellheads, fountains, church floors, and traditional watercraft. Without the creation of a non-profit organization dedicated to preserving this culture, it could be lost forever due to neglect. Our project continues the work done by past WPI project groups to take PreserVenice, and its tools, from conceptualization to realization and to generate a high level of public visibility. Even before founding the organization and raising public awareness about it, it is important to first fully understand and evaluate the validity of the business.

3.1 Value Proposition

One of the primary tools used for analyzing the validity of a business opportunity is the NABC model. The NABC model analyzes the Need, Approach, Benefits vs. Cost, and Competition for the business. Though this analysis is typically done on for-profit businesses, the spirit of the model can help us determine if a business will be sustainable. It is important to note

that most companies focus most of their energy on the Approach aspect, and often do not succeed because the other three aspects are ignored.

3.1.1 Need

The purpose of the need section is to identify if there is a market need for the business. Far too often companies are started in a market where there is no need. The company must be able to provide a unique product or service that is both not already in the market and not easily replicated. Without a differentiating factor from the competition, it is nearly impossible to sustain the business.

As of 2010, past IQP groups cataloged over seven thousand pieces of public art that need to be restored and preserved for future generations to enjoy. In addition to the public art sector, there are thousands of buildings, churches, and bridges that need to be preserved. Given the heritage of the city, there are also strict regulations as to whom, how, and when preservation work can occur. Also, in order to restore thousands of pieces of public art, there needs to be a significant level of funding. This funding and project coordination is beyond what an individual can accomplish in most cases. There needs to be an intermediary organization that can pool funding from several different sources, then work directly with restoration experts to make the necessary improvements to the pieces of art. Furthermore, leveraging a large database enables this organization to coordinate the efforts on a priority basis for all public art in Venice. This enables the work to be done in such a way that all public art pieces are restored before they are destroyed.

Figure 57: Associazione Settemari

3.1.2 Approach

The purpose of this section is to outline how the corporation will enter into the marketplace, as well as a long term plan for establishing sustainable growth. This is the section, described in general terms, that is the prelude to the majority of a business plan. It is important to establish an attainable approach, while remembering to properly analyze all remaining aspects of the business idea.

In order for the non-profit to be successful there needs to be a detailed outline of how PreserVenice will obtain funding, identify employees, identify projects, and work with preservation specialists. First and foremost, this non-profit organization will not be able to function without appropriate funding. Rather than focus all attention on one source of funding, PreserVenice is looking to pursue a combination of grants, corporate sponsors, and private sponsors. To have a reasonable chance at getting a grant, we are researching different grant opportunities and finding ones that align most with the organization's mission. These are, in most cases, one time funding sources that will provide funding by midyear 2011.

The next funding option is to work with corporate sponsors. There are several global organizations that either have a stake in the preservation of Venice, or are looking for positive publicity in Venice. The most viable way for PreserVenice to secure funding is to provide sponsorship options that align our needs with those of the Corporations. To do this, PreserVenice will create a banner that will be posted on the scaffolding at all projects, thanking the sponsors for their contributions to the preservation of Venice. In addition, all corporate sponsors will be listed on the PreserVenice website and on most press releases. PreserVenice will have a tiered system for sponsorship similar to Save Venice, Inc. Finally, the organization will look for private sponsors, both in and outside of Venice, who would consider donating some money to PreserVenice as a whole, or to an individual project. A significant portion of this is raising awareness of the non-profit's website, and having the website organized in a way that makes it easy for an individual to donate funds.

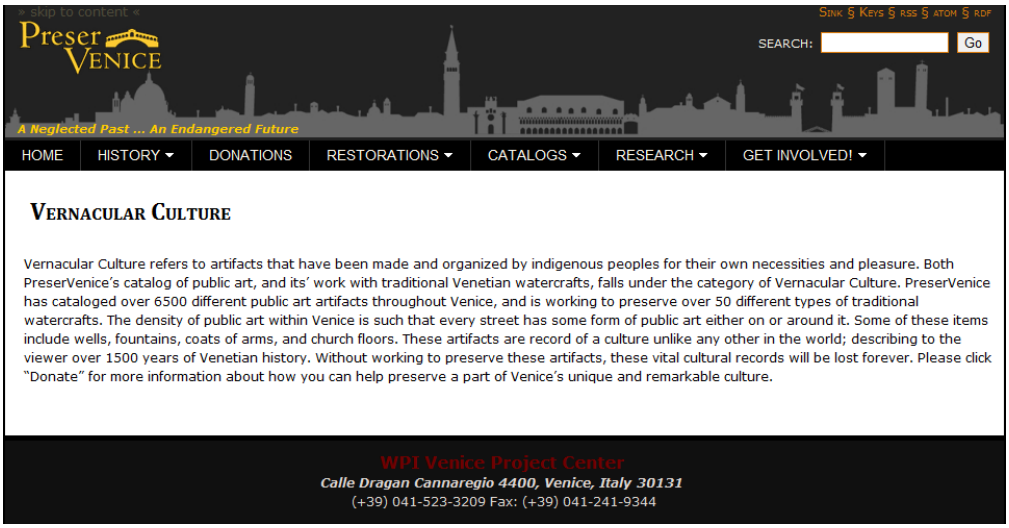

Figure 58: PreserVenice's website

Once PreserVenice has obtained the funding, it will need to accomplish two tasks simultaneously. First, it will be identifying one or two people who can work either part time or full time for PreserVenice. The reasoning behind this is that the organization has primarily been based off of student project work. However, going forward the organization will need to run year round. To that end, the organization will hire someone in accordance with the organization's needs over the next eight to twelve months. Some of the responsibilities of the new hire may include restoration project management, project identification, financial management, and IT management. As with many startups, PreserVenice will be looking for someone with quality experience in a wide range of tasks that is also self-motivated.

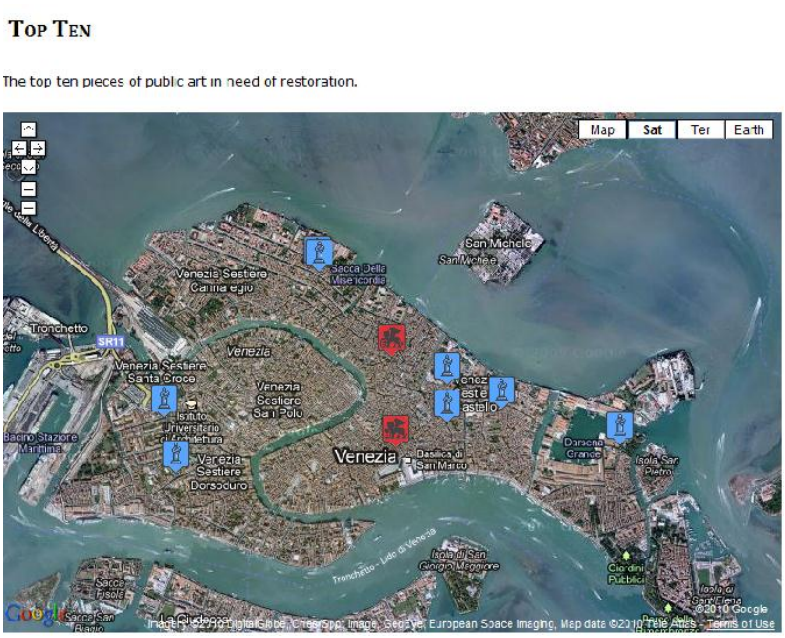

Figure 59: Map of Top Ten items that need restoration

While searching for an employee, PreserVenice will also be identifying the first few projects that will need to be worked on. With a database that contains over seven thousand pieces of artwork, it is important to have an efficient method for project identification. PreserVenice will be looking at how deteriorated the piece is, how much it will cost to repair, how long it will take, and the recognition of the piece. Though it is the least important of the factors, the more recognition the piece has, the easier it will be to secure future funding for additional projects.

Finally, once funding, projects, and an employee have been identified, PreserVenice will look for preservation specialists willing to do the projects. When identifying people to do the restoration, the organization will look at the process they will use, experience and past projects, references, materials required, and cost. By looking at all of those factors for several specialists, PreserVenice will be able to determine which one will be best for our organization. Ideally, a preservation specialist with a wide range of experience will be found so that he/she will be able

to do most of the projects. This will enable the organization to establish a long term relationship with the specialist, which will be beneficial to the organization moving forward.

3.1.3 Benefits vs. Cost

In a for profit business, this section is used to begin conceptualizing whether or not people will be willing to pay for the product or service at a price that enables positive cash flow. In a non-profit business, this section varies. Since a non-profit is not looking to make money, this section should be used to analyze whether or not potential sponsors and donors will view the cause to be worth the investment. If the cause does not appear to be worth the investment then it may become very difficult to raise sufficient funds.

The major benefit that the organization has is the substantial database. With a catalog of all public art in Venice already created, PreserVenice knows what needs to be restored and when. This nonprofit organization is providing a service that restores all of the art pieces. The cost of the organization is both management costs and contractor costs. In order to operate, the public art PreserVenice is restoring needs to be worth the money to the potential donors. That is why both people and organizations that have stake in the sustainability of the Venetian public art will be targeted. If people and/or organizations are found that have this stake then the benefits become worth the costs and PreserVenice will be successful in obtaining funding.

3.1.4 Competition

With any given idea, there will always be competition. If it is found that the model yields no competition, then something has been overlooked. When analyzing the competition, it is important to do a SWOT analysis. A SWOT analysis looks at the organizations Strengths, Weaknesses, Opportunities, and Threats. By doing a SWOT analysis on both the competition, as well as the business idea, it will then become important to identify a competitive advantage to the competition. If you do not have a competitive advantage over the competition, then the business idea will never succeed. PreserVenice's competition is clearly outlined in part of its background section.

Additionally, most business development models will analyze the resources that are required in order for the organization to start. This would tie in closely with the Approach section of the NABC model since the organization must examine what resources are required, then define when and how those resources will be obtained.

3.1.5 Risk

The final aspect of the business that should be considered is the risk factors associated with the business. Before starting any business it is important to understand what risks will be assumed financially, what liability the business will have, and also what the exit strategy is for the parties involved. If the business proposition will assume too much liability, involves a high financial risk up front, or is permanently binding to the owners, then it may not be a good idea.

There are several risk factors that are associated with starting the non-profit organization; however, there are two that are the most prevalent. First, when PreserVenice hires an employee, one of the biggest concerns is trust. Since he/she will be operating autonomously, the organization needs to have both confidence and trust that he/she will work with integrity. The second biggest risk is in the results of the restoration. Regardless of whether or not the contractors carry insurance, if they do something to damage the public art then it will also tarnish PreserVenice's reputation. Even if PreserVenice is successful with a hundred public art restorations, if a single project does more harm than good then the organization may not receive subsequent funding, and may be forced to close.

3.2 Further Planning

After looking at the organization through the NABC model, it is time to expand on some of the approach to identify how to get the organization running while in Venice. The first aspect that PreserVenice need to consider is how to get its name recognized by the general public. To do this, PreserVenice will need to generate marketing tools to educate the public. These may include both brochures and flyers.

Next, it is important to look at how PreserVenice will manage its finances. Since a non-profit organization is based on the concept that at the end of the year the organization has spent all of its income, it must have a stringent form of financial management. This means that PreserVenice need to keep track of all donations, all work done, costs, any and all receipts, salaries, etc. When it is time to do PreserVenice's taxes, a third party tax service needs to be involved to ensure that all the paperwork is done properly. Additionally, to ensure the accuracy of our numbers, the organization will need to have constant accounting awareness. Ideally it would use a software package, such as QuickBooks, to organize all finances. However, given the new state of the organization, PreserVenice will start by using Microsoft Excel to reduce

operational costs. Excel is slightly more labor intensive but will enable the organization to manage its books.

3.3 Founding a Non-Profit Organization in the United States

For donation purposes, it is advantageous for there to be either chapters in both the US and Venice, or two separate organizations. This helps to enable donors in both countries to be tax exempt. For PreserVenice's purposes, it is important to first address the requirements needed to start a non-profit organization in the United States. The decision was collectively made that the organization, founded in the United States, should have a broader, more encompassing name and mission. For this reason, the name of the US organization will be the Vernacular Culture Preservation Society and its mission is to work towards the protection and preservation of vernacular material culture worldwide.

Figure 60: UNESCO Private Committees for the Safeguarding of Venice

It is far easier to identify the forms that needed to be completed, and then generate the according necessary documentation. The first form that needs to be filled out and submitted is the Massachusetts form for incorporating. This form requires that the following components be completed:

1. Organization Name
2. Mission
3. Objectives
4. Leadership
5. Governing By-Laws
6. $35 submission fee

Upon completion of all components and submission of the document, the organization will shortly receive verification that it is incorporated. In addition to filing for incorporation, the organization also needs the following documentation:

1. Power of Attorney
2. Conflict of Interest Policy

3. Employee Identification Number
4. Action of Directors by Written Consent
5. 501(c)(3)

3.4 501(c)(3)

The next step that must be completed is the 501(c)(3) application, which gives a non-profit organization tax exemption and makes it possible for donations more than $250 to be written off individual or corporate taxes. This form is about 30 pages long, and requires several attachments including the following:

1. A narrative describing the activities of the organization.
2. Detailed descriptions of employee compensation packages.
3. Descriptions of all fundraising programs.
4. Financial information for prior 3 years/ 3 year projection.
5. $850 submission fee.

Once the form has been completed, submitted, and approved by the IRS the organization will receive a certificate. The certificate is given under the condition that the organization maintains compliance with the 501(c)(3) requirements. This requires that the President and Board of Directors of the organization implement stringent policies to ensure that no violation occurs. Since even one violation can jeopardize the organization's status, these policies are vital to the sustainability of the organization.

E. Future Activities

To ensure the preservation of Venetian material culture continues, it is imperative that current preservation efforts are maintained. We developed several recommendations for the future to continue to expand and improve this project, and most importantly, preserve Venetian material culture.

1. Public Art

The public art catalog contains extensive information about many pieces of Venice's public art, but its accuracy will inevitably diminish over time. Therefore, we suggest that each catalog should be updated at least every ten years. This will involve extensive field work including photographic documentation and status evaluations.

The keystones catalog should be given top priority, since it was last audited in 1995 and the catalog does not contain coordinates or digital photographs. A new catalog that should be introduced into PreserVenice's collection is the Lagoon art located throughout Venice's surrounding islands. Many of these pieces have been identified by Alberto Rizzi in his book *SculturaEsterna A Venezia*, but they have not yet been electronically cataloged or recently verified.

In addition to making strides towards the completion of the catalog, we also made significant improvements to the PreserVenice website. These improvements include revising and refining all pages, fixing broken links, embedding Google Maps for easy access to the public art catalog, adding a donations section linked to PayPal, and adding to the website theme.

Furthermore, we made significant improvements on a template for prioritizing the catalog, as well as doing cost analysis. This was done using the fountains catalog as a benchmark, and the concepts can be easily transcended to other catalogs within the database.

As PreserVenice develops into a fully operational organization, it will be beneficial to hire a webmaster as either a permanent or an internship position to work with the presentation and maintenance of the website, maps, and database. This position would involve basic website maintenance as well as technical improvements to the site's design. The public art maps could be improved by implementing marker clustering, sorting capabilities, and audio or video

integration for further interactivity. Additionally, the webmaster should implement a more sustainable method for displaying individual webpages for the public art catalog. At present, the catalog is partially displayed on Venipedia. This is not an ideal arrangement because of the maintenance required to ensure that the Venipedia articles match the database entries since the two are not directly connected. One suggestion is to create dynamic web pages that are directly linked to the database. This way, if the SQL database is updated, the web pages would immediately reflect that change. Additionally, this would allow PreserVenice to host the catalog pages on its own website, rather than using Venipedia as a host site.

In addition, while the Layar application serves quite a few different purposes, it is not the best stand-alone application for PreserVenice. In the future, other groups should look into other applications that accept user generated content to create more useful applications. Eventually, either a very skilled group of programmers or a professional company should be used to embed these programs into one larger application for public use. This future application can be based off of our current design.

2. Boats

The mission to preserve traditional Venetian watercraft is a huge undertaking for all those involved. Not only are people dedicated to this effort needed, but funding, awareness, support, and a place to store the boats is also needed. Forte Marghera, an old fortress, is currently housing several of the boats in *Arzanà's* collection. *Arzanà* hopes to turn Forte Marghera into a museum. Another possible area for a museum for these boats is *Lazzaretto Nuovo*, a lagoon island. Geralomo Fazzini already has the makings of a museum on this island. This island is also a new stop in Venice's *vaporetti* route. Both areas would make for a great museum, but we believe Forte Marghera may be a better option because there is more storage room and it is in a central location that can be easily accessed from both the mainland and from Venice. A map to Forte Marghera can be found in Appendix Q: Map of Forte Marghera.

We believe PreserVenice should continue helping *Arzanà* to document these boats each year, as well as help them to expand their collection and provide the means to restore all their boats.

3. Nonprofit

Our project, more than any other, had numerous deliverables associated with it. One of the primary objectives for us was to position the initiative such that it could be established and become a self-sustaining organization, beyond the scope of WPI projects. During our tenure in Venice, we made significant progress towards accomplishing just that. Currently, the organization aspect of this project is ready to be comprised of two entities; a United States organization (Vernacular Culture Preservation Society), and an Italian organization (PreserVenice). For the VCPS, we have completed the EIN application, Conflict of Interest Policy, By-Laws, Power of Attorney, and Action of Directors by Written Consent. Furthermore, we have completed and saved all necessary aspects for the Articles of Incorporation, and have made significant progress in outlining and completing Form 2848, which will inevitably grant the organization 501(c)(3) charitable status. We have also made progress with PreserVenice, the Italian organization. We worked closely with the advisors to organize the Articles of Incorporation and By-laws for PreserVenice. In addition, we worked to coordinate the starting of the organization by organizing potential founding members.

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Appendix A: Types and Descriptions of Public Art

Each type of public art is accompanied by an image, the word in Italian, a short description, and the number that have been cataloged in Venice.

1. Erratic Sculpture:

1.1 Circular Reliefs

Figure 61: Circular Relief in San Croce

Italian: *Patere*

Description: *Patere* are small circular carvings, usually between 20 to 80 cm in diameter, and often feature animal or plant themes. They are considered the oldest examples of Venetian public art; most were made between 1000 and 1300 from old columns and were popular as charms to ward off evil from a building. A common theme in Venetian *patere* is harmony, depicted by two animals intertwined eating from the tree of life.[113]

Formelle are a special type of relief that comprise about 10% of the total *patere* in Venice. They feature many of the same themes as *patere* though they are larger and more rectangular in shape.[114]

Cataloged: 493 *patere*

[113] Michael Bender and others, *Forgotten Art of Venice: Promoting the Conservation and Awareness of External Sculpture*, 2000.
[114] Amanda Kent and others, *PreserVenice: Preserving Venetian Public Art*, 2007.

1.2 Coats of Arms

Figure 62: Renaissance coat of arms on Riva de la Ca' de Dio in Castello

Italian: *Stemmi*

Description: *Stemmi* were traditionally used by European aristocrats as family symbols and marks to display ownership of buildings. They were often etched off when a building changed ownership, so many Venetian *stemmi* are currently blank or illegible. [115]

The most popular styles of *stemmi* are gothic, renaissance, and baroque. Gothic *stemmi* typically have simple, basic shapes. Renaissance *stemmi* were more elaborate than their gothic counterparts, and baroque *stemmi* were the most intricate, with extravagant ornamentation including flourishing scrolls or leaf patterns.[116]

Cataloged: 1098 *stemmi*

1.3 Confraternity Symbols

Figure 63: The symbol for the San Rocco confraternity in Campo S. Stin in San Polo

Italian: *Simboli*

Description: Simboli are emblems of the various *scuole*, or guilds, in Venice and are displayed on building exteriors to show ownership like *stemmi*. The members of a *scuola* were usually united by a common trade, and each scuola often had a patron saint. The scuole did charitable work around Venice and supported their members in need. The six Scuola Grandi in Venice are San Rocco, Santa Maria della Carità, San Giovanni Evangelista, Santa Maria in Valverde (Misericordia), Santa Maria del Carmelo (Carmini), and San Marco.[117]

Cataloged: 253 *simboli*

[115] Bender and others, *Forgotten Art of Venice: Promoting the Conservation and Awareness of External Sculpture*, 2000.
[116] Ibid.
[117] Ibid.

1.4 Crosses

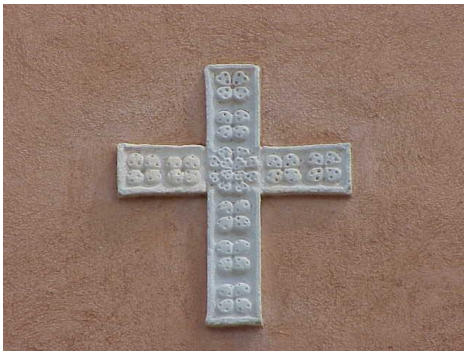


Figure 64: A Latin cross on Zatare al Ponte Longo in Dorsoduro

Italian: *Croci*

Description: *Croci* are a Christian symbol often found near churches. There are three main styles of crosses found in Venice: Latin, Greek, and Maltese. Latin crosses are characterized by a longer vertical beam intersected near the top by a shorter beam. Greek crosses feature arms of all equal length, and tend to be relatively plain in decoration. Maltese crosses are also square, though arms on a Maltese cross taper toward the center of the cross and can be indented at the ends.[118]

Cataloged: 75 crosses

Figure 65: A fragment on Calle de Ca'Bezzo in San Croce

1.5 Fragments

Italian: *Frammenti*

Description: Fragments are broken pieces of larger sculptures. Instead of being discarded, they were embedded into the side of a wall.[119]

Cataloged: 25 fragments

[118] Kent and others, *PreserVenice: Preserving Venetian Public Art*, 2007.
[119] Ibid.

1.6 Inscriptions

Figure 66: An Inscription in Campo de l'Arsenal in Castello

Italian: *Iscrizioni*

Description: They are inscribed.[120]

Cataloged: 30 inscriptions

1.7 Reliefs

Figure 67: A relief on Calle de le Muneghete in Castello

Italian: *Rilievi*

Description: A relief is a carving with depth from a base surface. The name is derived from the Italian *rilievare,* to raise. Reliefs are categorized as either low relief or high relief based on the percentage of the sculpture that protrudes from the surface. A low relief, or *basso-rilievo,* only features slight elevation from the background plane, while a high relief, or *alto-rilievo,* has more than half of its depth raised above the surface.[121] Venetian reliefs typically show religious scenes or historical events.

Cataloged: 394 reliefs

[120] Jaime Bezek and others. *PreserVenice: Preserving Venetian Public Art,* 2009.
[121] Antonia Boström, ed., *The Encyclopedia of Sculpture.* (New York: Fitzroy Dearborn, 2004), s.v "Relief Sculpture".

1.8 Sculptures

Figure 68: A Sculpture in the Sotoportego de Ca' da Riva in San Marco

Italian: *Sculture*

Description: Sculpture includes various carvings that serve a purely aesthetic purpose but which may be structurally attached to a building. Statues are a common type of sculpture, adorning the tops of buildings or the sides of churches. Since Venetian law prohibits the elevation of any individual and ostentatious decoration, many sculptures have religious themes or depict mythical creatures.[122]

Cataloged: 173 sculptures

1.9 Street Altars

Figure 69: A Street Altar on Calle de la Chiesa in Dorsoduro

Italian: *Edicole*

Description: Street altars are usually religious shrines which are not attached to churches, though they can also be memorials to specific people or groups of people. Venetian street altars are usually built on the side of a wall on street level. A frame is either set into the wall or protrudes from the wall, and the inside may contain a picture frame or statue. They are maintained by local residents.[123]

Cataloged: 109 *edicole*

[122] Meagan Foley and others. *Preserving Venetian Heritage*, 2008.
[123] Bender and others, *Forgotten Art of Venice: Promoting the Conservation and Awareness of External Sculpture*, 2000.

2. Other

2.1 Bells

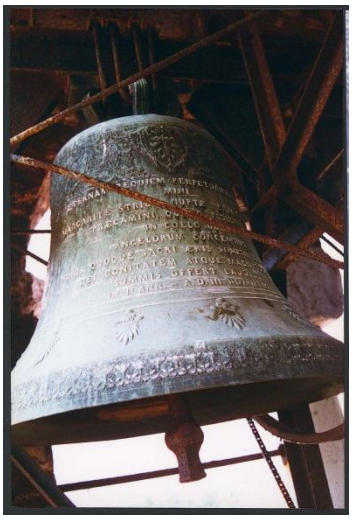


Figure 70: A Bell in the Chiesa di S. Alvise Belltower in Cannaregio

Italian: *Campane*

Description: Bells form an essential component of Venice's material culture. They were a form of mass communication in Venice, daily announcing the time as well as special events including executions, council meetings, or weddings.[124] The bell towers also had a historic function, as they served as lookouts in times of war because they are the tallest buildings in Venice. Historically, bells were rung manually, though today the schedule has been automated so that human interaction is no longer required. With only sporadic condition assessments, the bell towers are in danger of neglect.[125]

Cataloged: 253 bells

2.2 Church Floors

Figure 71: A church floor plaque in Chiesa di S. Bartolomeo in San Marco

Italian: *Pavimenti Chiese*

Description: Church floors contain many historical artifacts including tombstones, plaques, and inscriptions. Tombstones, or ledgers, are the most common artifact found embedded in church floors. The ledger is a large stone slab containing information about the deceased. A church burial with a descriptive ledger was reserved for those who were important to the church.[126]

[124] Jaime Bezek and others. *PreserVenice: Preserving Venetian Public Art*, 2009.
[125] Melissa Marion and others. *Preservation of Venetian Bell Towers*, 2004.
[126] David Gagnon and others. *Embedded Heritage: A Study of Venetian Church Floors*, 2005.

Cataloged: 2201 artifacts from 84 Venetian Churches

2.3 Decorative Keystones

Figure 72: A Keystone on Rio del Tentor in Dorsoduro

Italian: *Mascaroni*

Description: Keystones are structurally the most important part of an arch-- the keystone is the last stone to be placed during construction and it makes the arch strong and capable of supporting weight. *Mascaroni* are decorated keystones which are popular in Venice on bridges, doors, and windows. Coats of arms are the most popular theme on bridges, while faces are the most common subject on doors and windows.[127]

Cataloged: 310 *mascaroni*

2.4 Flagstaff Pedestals

Figure 73: A flagstaff pedestal in Campo San Rocco in San Polo

Italian: *Pili portabandiera*

Description: Flags were historically flown in Venice to represet various *scuole*, families, or other organizations, and were mounted in decorated pedestals that were often centrally located in open squares. Structurally, each flagstaff pedestal is composed of a body and a base. The body holds the flag shaft, can be decorated or contain an inscription, and is mounted on the base. Flagstaff pedestals feature any number of subjects, from the winged lion of Saint Mark to religious motifs or coats of arms.[128]

Cataloged: 56 flagstaff pedestals

[127] Kent and others, *PreserVenice: Preserving Venetian Public Art*, 2007.
[128] Ibid.

2.5 Fountains

Figure 74: A fountain in Campo De La Tana in Castello

Italian: *Fontane*

Description: Venetian public fountains are both decorative and functional. In 2004, a WPI project group found that Venetian public fountains dispense nearly 137 million liters (almost 36 million gallons) of drinkable water per year. These fountains are owned either by the city or by VESTA (acronym goes here?), a public works contractor, marked by the presence or lack of a service panel, respectively.[129]

Cataloged: 109 fountains

2.6 Lunettes

Figure 75: A Lunetta in Castello

Italian: *Lunette*

Description: Lunette are decorative arches located over doorways; the Italian *lunetta* means "half-moon", a reference to the semicircular shape of the sculptures. The most common styles of *lunette* in Venice are Byzantine, Gothic, and Renaissance. Byzantine *lunette* date from around the 12th century, are dome-shaped and contain religious themes. Gothic *lunette* are pointed arches and are large and elaborate, a style that was popular between the 12th to 15th centuries. Renaissance *lunette* are from the 15th and 16th centuries and are simpler in style than their gothic counterparts.[130]

Cataloged: 85 *lunette*

[129] Kent and others, *PreserVenice: Preserving Venetian Public Art*, 2007.
[130] Ibid.

2.7 Monuments

Figure 76: A monument in the Giardini Pubblici in Castello

Italian: *Monumenti*

Description: Monuments are large structures or sculptures created to commemorate an event or an important person. During the Venetian Republic, few monuments were erected due to laws prohibiting the elevation of one individual above any others. Additionally, free-standing sculpture was also banned in an attempt to limit fighting between wealthy families. For these reasons, most monuments in Venice were erected following the collapse of the Republic in 1797. The majority of Venice's monuments can be found in the Gardens (*Giardini*) in the sestiere Castello.[131]

Cataloged: 67 monuments

2.8 Portals

Figure 77: A portal on the Chiesa di S. Zaccaria in Castello

Italian: *Portali*

Description: *Portali* are decorative doorways, or doorways embellished by sculpture. On the houses of affluent families, the *portali* often feature the family's coat of arms, while on churches the *portali* have religious themes.[132] It is also common for a *portali* to also include a *lunetta* above the doorway.

Cataloged: 576 *portali*

[131] Kent and others, *PreserVenice: Preserving Venetian Public Art*, 2007.
[132] Ibid.

2.9 Wellheads

Italian: *Vere da pozzi*

Figure 78: A wellhead in Corte Bollani in Castello

Description: Venetian wellheads are covers for underground cisterns that were used to collect rainwater. Since the lagoon water is undrinkable, Venice's cisterns were the main source of fresh water until the late 1800s when an aqueduct brought water from the mainland. The cisterns collected rainwater, which was filtered through sand and collected in clay tanks underground. The wellheads capped the tanks, preventing external contamination.[133]

Cataloged: 238 wellheads

[133] Lewis Blackwell and others. *Preserving Venetian Wellheads*, 2000.

Appendix B. Timeline of Public Art Catalog by Type

1. Collaborating Organizations:

Archeoclub, Earthwatch, Alberto Rizzi, WPI

2. Erratic Sculpture:

Erratic Sculpture includes circular reliefs (*patere*), coats of arms, confraternity symbols, crosses, fragments, inscriptions, reliefs, sculpture, and street altars.

1987: *Scultura Esterna A Venezia*, Alberto Rizzi

1990-3: Archeoclub

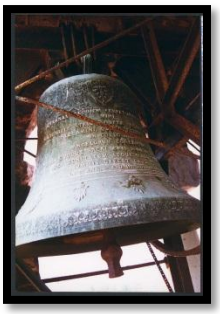
1994: Earthwatch (Murano, Malamocco, Mazzorbo, Pellestrina, Burano, Chioggia, S. Nicolo, Dorsoduro, and S. Francesco del Deserto)

1995: Earthwatch (Guidecca, Chioggia); *Computerized Catalog of Public Art in Dorsoduro*, WPI 1995

2000: *The Forgotten Art of Venice: Promoting the Conservation and Awareness of External Sculpture*, WPI 2000

3. Other:

3.1 Bells



1995: Earthwatch

1996: Earthwatch

1997: Earthwatch

2004: *Preservation of Venetian Bell Towers,* WPI 2004. (Data normalization)

3.2 Church Floors

2002: *The Church Floors in Venice, Italy: An Archeological Study and Analysis*, WPI 2002 (Cannaregio, Dorsoduro, San Polo)

2003: *An Archeological and Analytical Study of Venetian Church Floors*, WPI 2003. (Castello, San Polo)

2004: *An Analysis of the Archaeological Potential of Venetian Church Floors*, WPI 2004.

2005: *Embedded Heritage: A Study of Venetian Church Floors*, WPI 2005. (Cannaregio, San Marco, Torcello, Giudecca, Murano, Burano, Mazzorbo, San Michele)

3.3 Decorative Keystones

1995: Earthwatch (Murano, Castello, San Croce, San Polo, San Marco, Dorsoduro, and Giudecca); *Computerized Catalog of Venetian Decorative Keystones*, WPI 1995 (all bridge keystones in Venice and all other keystones in Cannaregio)

2007: *PreserVenice: Venetian Public Art*, WPI 2007 (Burano, Mazzorbo, and Torcello)

3.4 Flagstaff Pedestals

1997: A *Computerized Catalog of Flagstaff Pedestals in Venice, Italy*, WPI 1997 (all flagstaff pedestals in Venice)

2007: *PreserVenice: Venetian Public Art*, WPI 2007 (Murano, Burano, Torcello, and Mazzorbo)

3.5 Fountains

2004: *Public Art Preservation in Venice: Non-public Wellheads and Fountains*, WPI 2004 (Venice and Giudecca)

3.6 Lunettes and Portals

2002: *Portali e Lunette: A Multimedia Catalog for the Preservation of Venice's Artistic Entrances*, WPI 2002 (Venice, Murano, Burano, Torcello, and Mazzorbo)

2003: *Preservation and Restoration of Venetian Public Art*, WPI 2003 (photographs of portals; condition assessments and photos of lunettes)

2007: *PreserVenice: Venetian Public Art*, WPI 2007 (condition assessments for portals on Murano, Burano, Mazzorbo, and Torcello)

3.7 Monuments

2003: *Preservation and Restoration of Venetian Public Art*, WPI 2003 (all monuments in Venice)

3.8 Wellheads

1981: Vere da *pozzo di Venezia* (*The Wellheads of Venice*), Alberto Rizzi

1992: Earthwatch (Cannaregio)

1996: Earthwatch (Torcello and Burano)

2000: *Preserving Venetian Wellheads*, WPI 2000 (Venice and Giudecca)

2004: *Public Art Preservation in Venice: Non-public Wellheads and Fountains*, WPI 2004 (semi-public or private wellheads in Venice and Giudecca)

2007: *PreserVenice: Venetian Public Art*, WPI 2007 (Murano and Mazzorbo)

4. General Public Art:

2000: *The Forgotten Art of Venice: Promoting the Conservation and Awareness of External Sculpture*, WPI 2000. (Computerized catalog, condition analysis, public involvement)

2007: *PreserVenice: Preserving Venetian Public Art*, WPI 2007. (Condition analysis, nonprofit organization, publication)

2008: *Preserving Venetian Heritage*, WPI 2008. (Website)

2009: *PreserVenice: Preserving Venetian Public Art*, WPI 2009. (Data normalization, nonprofit organization)

2010: *PreserVenice: Preserving Venetian Material Culture*, WPI 2010 (Nonprofit organization, digital outreach)

Appendix C: Basics of Google KML

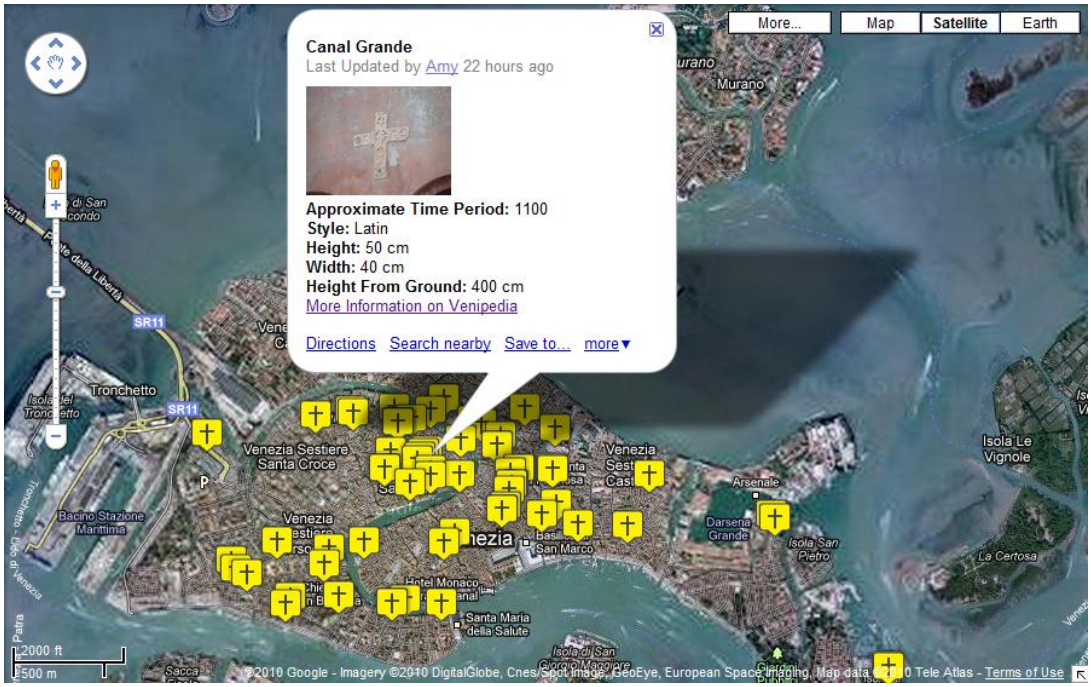


Figure 79: Example Map Generated from KML

Both Google Maps and Google Earth can read from Keyhole Markup Language (KML). KML contains geographic information that can be displayed on a map. The basic components of a KML file are a Document and one or more Placemarks.

1. Writing KML

A KML file must begin with a header line:

```
<?xml version="1.0" encoding="UTF-8"?>
```

Following the header, all KML code must go between the KML tags:

```
<kml xmlns="http://www.opengis.net/kml/2.2">

  <!--This is a comment, but normally all of your code goes
between these KML tags! -->

</kml>
```

The file must also contain a document:

```
<Document>

  <!--All map information goes here! -->
```

```
</Document>
```

A Placemark consists of a Name, Description, and a Point. The name is displayed at the top of a Placemark balloon on the map, and the description is displayed below it. In this example, a Point contains Coordinates in the form *Longitude,Latitude*. An optional parameter in Coordinates is Altitude, measured in meters: *Longitude,Latitude,Altitude*.

```
<Placemark>
     <name>Campus Center</name>
     <description>This is a placemark over the Campus Center at WPI.</description>
     <Point>
          <coordinates>-71.808403,42.274656</coordinates>
     </Point>
</Placemark>
```

In order to use HTML within a description, it is necessary to include a CDATA tag inside the Description:

```
<description>
     <![CDATA[
          I can now use HTML tags, like <b>BOLD</b>. <br />
     ]]>
</description>
```

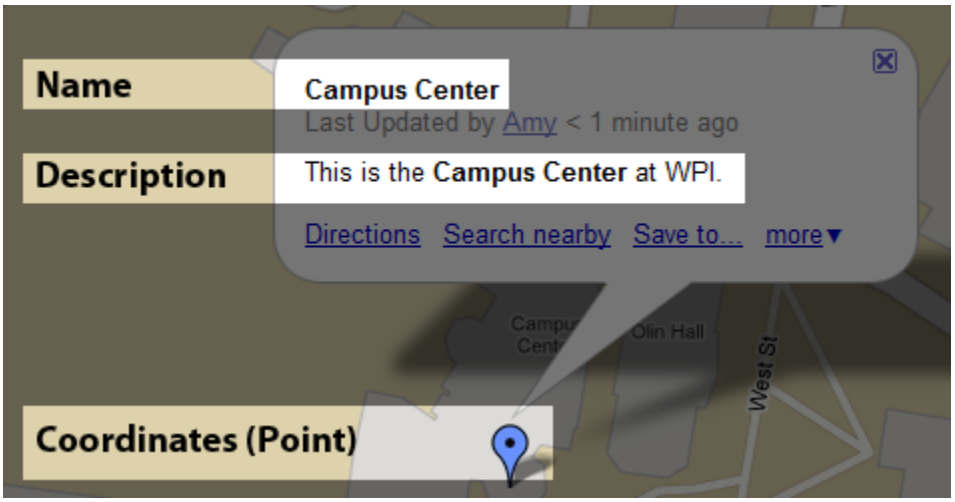


Figure 80: Anatomy of a Placemark

This KML code will display two points on a map if loaded into Google Maps or Google Earth:

```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
<Document>
     <Placemark>
          <name>Campus Center</name>
          <description>
               <![CDATA[
                    This is the <b>Campus Center</b> at WPI.
               ]]>
          </description>
          <Point>
               <coordinates>-71.808403,42.274656</coordinates>
          </Point>
     </Placemark>
     <Placemark>
          <name>Library</name>
          <description>
               This is the library.  There are books here.
          </description>
          <Point>
               <coordinates>-71.806662,42.274249</coordinates>
          </Point>
     </Placemark>
</Document>
</kml>
```

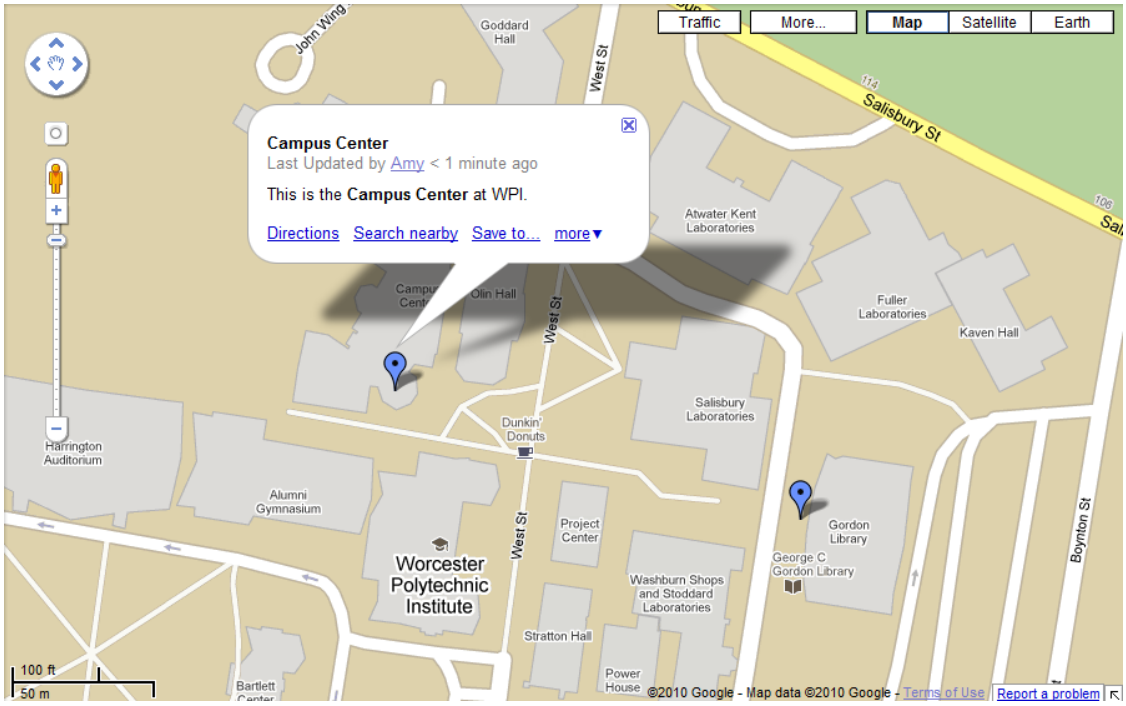


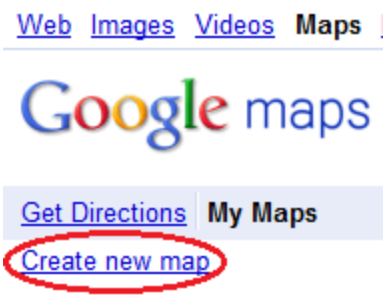
Figure 81: The Map generated from the sample code.

2. Uploading a KML File to Google Maps

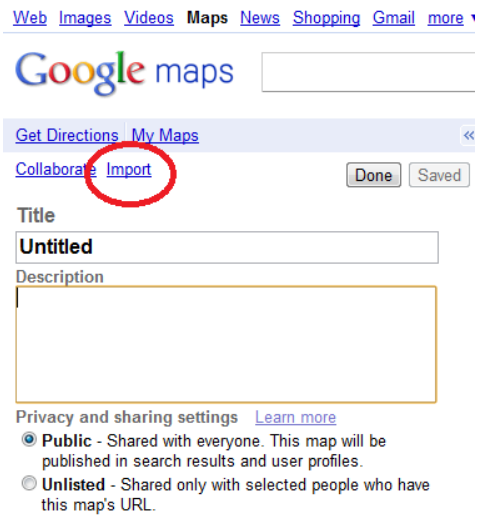
Before uploading the file, it is a good idea to quickly check the code for any errors before uploading to Google Maps. If there is an error in the KML, the only error message that is presented is that Google cannot upload the file.

To import a KML document into Google Maps, first navigate to www.maps.google.com, then click "My Maps."

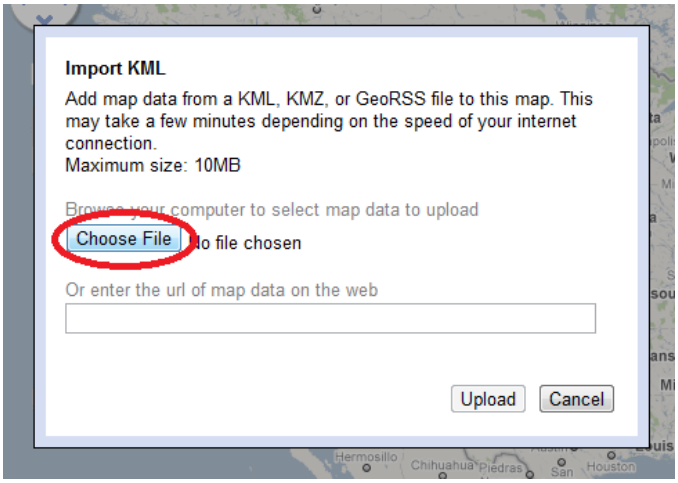
Next, click "Create New Map".



Click “Import”.



Then, click “Choose File” and navigate to the KML file on your computer.



Finally, click “Upload” at the bottom of the “Import KML” box to see your map.

3. Beyond the Basics

Further KML instruction can be found at http://code.google.com/apis/kml/documentation/. This page contains a link to a KML Tutorial as well as Google's KML Documentation and Developer's Guide.

To learn more about HTML, a useful reference is: http://www.w3schools.com/html/default.asp.

(These websites were accessed on 8 December 2010 at 9:30PM CET.)

Appendix D: Using Visual Basic for Applications with Microsoft Access

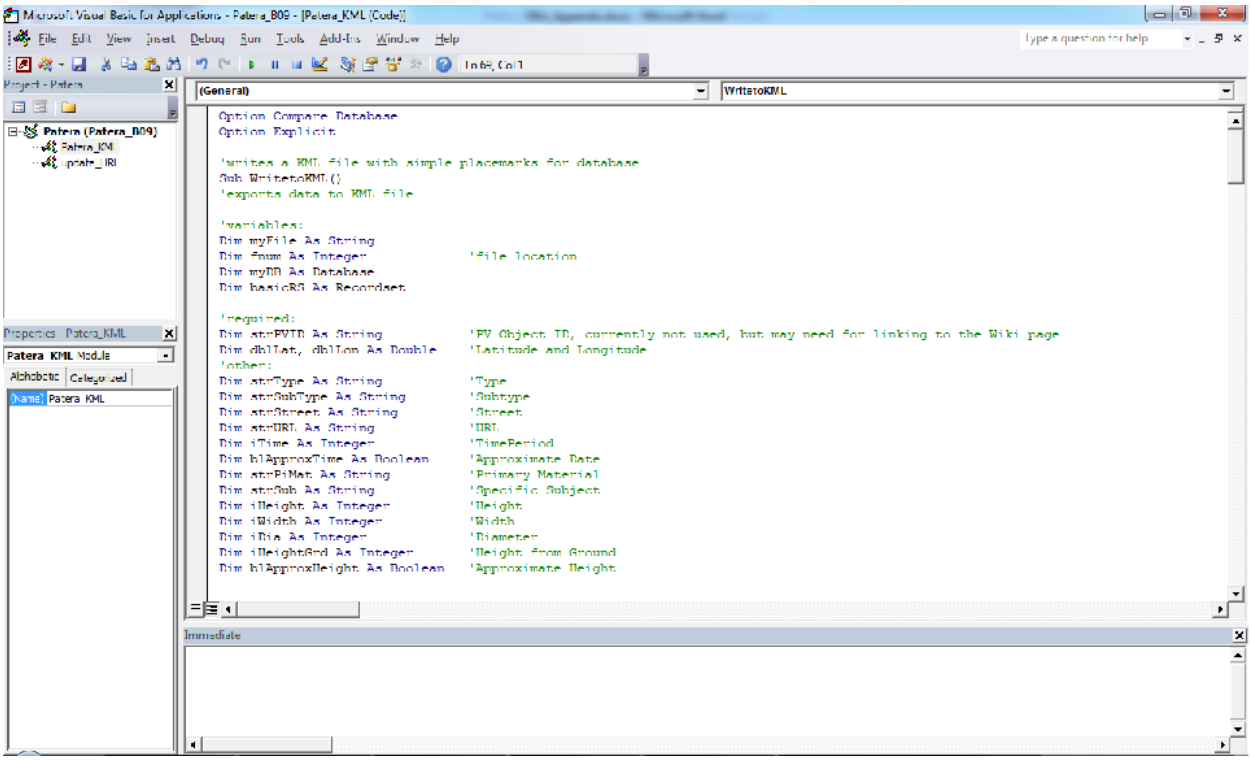


Figure 82: The Visual Basic for Application Interface

Although it is not possible to create a Keyhole Markup Language (KML) document directly from Microsoft Access, it is possible to create one indirectly by using Visual Basic for Applications (VBA), a programming language included with Microsoft Office.

Visual Basic for Applications is a scripting language that allows the user to automate processes that would normally take longer to do by hand. To open the VBA editor from Microsoft Access 2010, open a database and click the tab "Database Tools", then click "Visual Basic" in the "Macro" section.

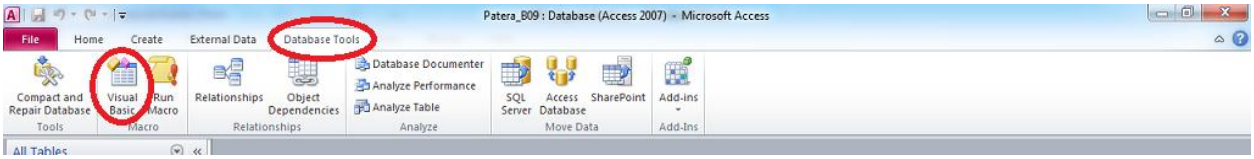


Figure 83: The Menu Bar in Microsoft Access

To begin writing code, in the Visual Basic for Applications interface first click "Insert", then "Module". The first time you save the module it will prompt you to name it.

The file starts with two headers: `Option Compare Database` and `Option Explicit`. `Option Compare Database` specifies the type of comparisons that are made. `Option Explicit` means that all variables must be defined before they are used.

1. Writing a Procedure

For this particular use of VBA, we have used the procedure type Sub because the procedure will not return a value. Although it will produce a file, this is not the same as returning a value. All of the following code will be contained within the Sub procedure:

```
Sub myFunction()
'do stuff
End Sub
```

The procedure myFunction does not take any arguments, so it has empty parentheses `()`.

2. Declaring Variables

To declare a variable, use the prefix `Dim` followed by the variable name. Optionally, a variable can be declared `As Type`. For example `Dim myVariable As String` creates a variable called myVariable which can hold only data of type String.

```
'variables:
Dim myFile As String
Dim fnum As Integer             'file location
Dim myDB As Database
Dim basicRS As Recordset

'required:
Dim strPVID As String           'PV_Object_ID, currently not used, but may need for linking to external pages
Dim dblLat, dblLon As Double    'Latitude and Longitude
'other:
Dim strType As String           'Type
Dim strStreet As String         'Street
Dim strURL As String            'URL
Dim iTime As Integer            'TimePeriod
Dim blApproxTime As Boolean     'Approximate_Date
Dim strPiMat As String          'Primary_Material
Dim strSub As String          'Subtype
Dim iHeight As Integer          'Height
Dim iWidth As Integer           'Width
Dim iDia As Integer             'Diameter
Dim iHeightGrd As Integer       'Height_from_Ground
Dim blApproxHeight As Boolean   'Approximate_Height
```

Figure 84: Declaring Variables in VBA

3. Opening A Database

It is useful to create two variables to open a database; one variable should contain the database that is being used, and the other should contain a Recordset. A Recordset contains a set of Records, or a copy of one of the tables in the database. For example:

```
Dim myDB As Database
Dim myRS As Recordset
```

For the remainder of this explanation, the variables will be referred to by their names declared above.

Next, `myDB` must be set to the current database. This can be done as follows:

```
myDB = CurrentDb
```

`myRS` will hold a Recordset created from the current database:

```
myRS = myDB.OpenRecordset("NameofTable", dbOpenDynaset)
```

The "dbOpenDynaset" ensures that all following code will be compatible with the Recordset that has been created.

By default, the recordset starts at the first record in the table. Values in fields can be retrieved by using `myRS.Fields("FieldName")`.

4. Writing to a File

In order to write to a text file, it is necessary to specify where the file will go. The following variable `myFile` specifies the location of the file on the computer, and `fnum` is a number used by the computer to locate the file.

```
Dim myFile As String
Dim fnum As Integer
myFile = "C:\Users\YOURNAME\Documents\FILENAME.kml"
fnum = FreeFile
```

`FreeFile` finds the next open space to save the file. This is a necessary step, although the user never needs to know the value returned by `FreeFile`.

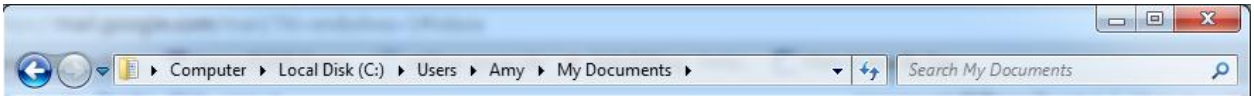


Figure 85: Save the file somewhere you can find it.

Since this project deals with writing a KML file, `myFile` creates a file with the .kml extension rather than a .txt extension.

Next, the file needs to be opened in order for the procedure to write to it. It is important to remember to close the file at the end of the procedure.

```
Open myFile For Output As #fnum
'write stuff here
Close #fnum
```

Between opening and closing the file, it is possible to Print lines of text to the file. This can be done as follows:

```
Print #fnum, "Write your text here."
```

Everything enclosed in the quotation marks is printed to the file. To use quotation marks in the print statement, double quotations must be used:

```
Print #fnum, "Double quotes need ""two sets"" of quotation
marks."
```

If a variable needs to be included in the print statement, an ampersand (`&`) can be used to add the variable:

```
Print #fnum, "The value of this variable is: " & myVariable
```

5. Writing KML

Refer to the Writing KML Appendix[link] for further instruction on how to write KML for Google Maps. Each line of KML must be enclosed in its own print statement, for example:

```
Print #fnum, "<?xml version=""1.0"" encoding=""UTF-8""?>"
Print #fnum, "<kml xmlns=""http://www.opengis.net/kml/2.2"">"
Print #fnum, "</kml>"
```

Will print:

```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
</kml>
```

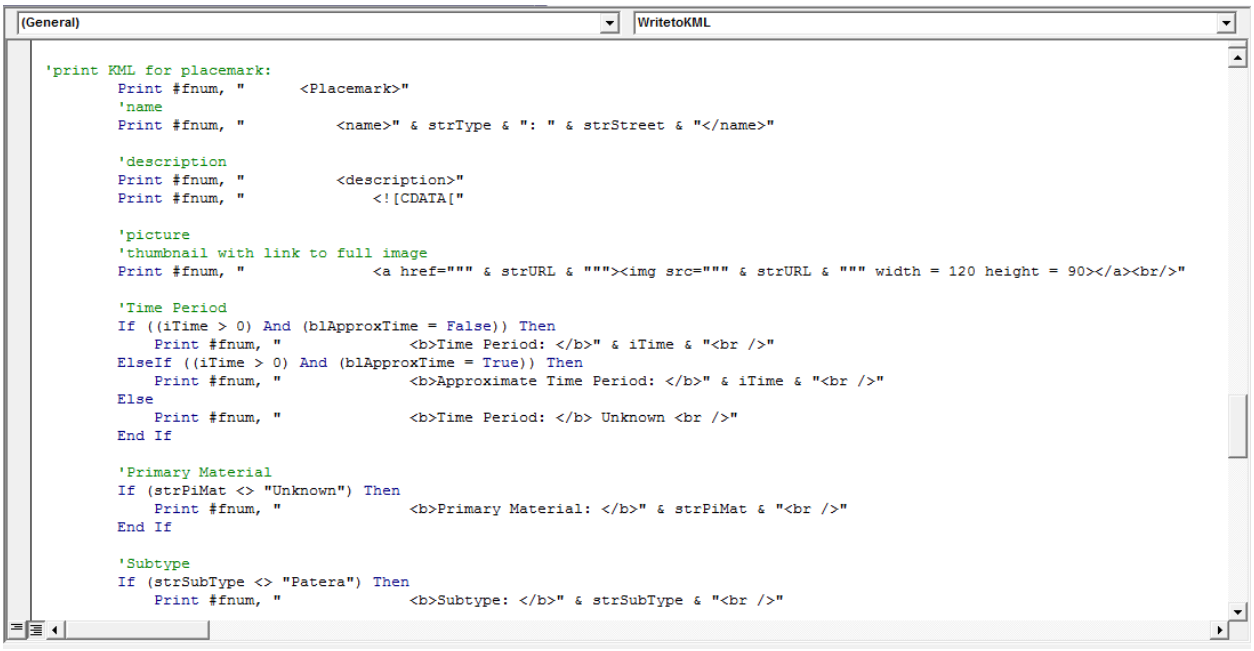


Figure 86: VBA printing KML for a Placemark

6. Looping

In order to print KML for every record in the Recordset instead of just the first one, a Do Loop can be used to cycle through all of the records.

```
Do Until basicRS.EOF
      'do stuff
      'then
      'move to the next record:
      myRS.MoveNext
Loop
```

This loop will execute all code written inside of it and repeat until the stop condition (in this example, it has reached the end of file, or EOF). It is absolutely necessary to include the line "myRS.MoveNext" so that the code will advance to the next record in the list, otherwise it will continuously repeat the code for the first record and never stop.

7. Existing Code

All existing VBA code has been included as part of the Microsoft Access database files on the project CD.

Appendix E: Converting Microsoft Access to SQL

Each database consists of fields and records. A record is a single row in a database; it contains values, organized into fields, or columns.

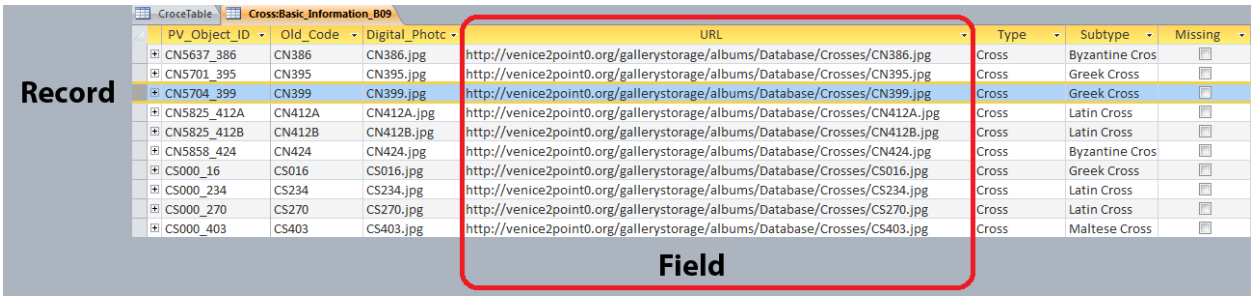


Figure 87: Records and Fields

Every field has a different data type; in Microsoft Access, for example, some data types are text, number, and yes/no.

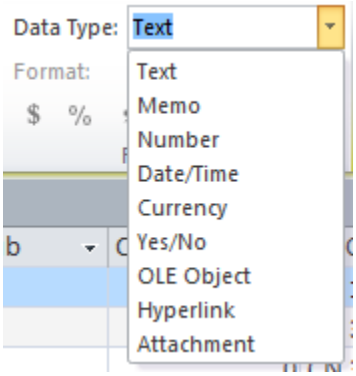
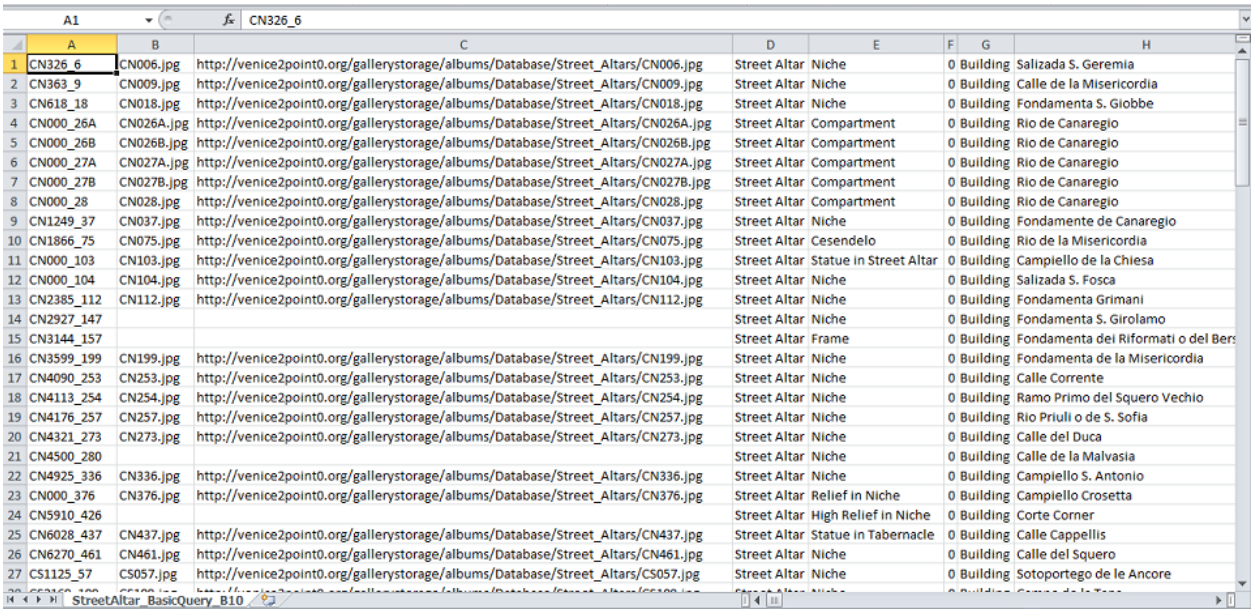


Figure 88: Data Types in Microsoft Access

SQL cannot directly read Microsoft Access database files, but it can read from Comma Separated Values (CSV) file. In order to create a CSV file from a Microsoft Access file, it is necessary to first export the Microsoft Access database (.mbd or .accdb) to Microsoft Excel format (.xls), open the Excel spreadsheet, and export again to a CSV file (.csv). The reason this cannot be done directly from Microsoft Access is due to a limitation in Microsoft Office 2010 where Microsoft Access will truncate long numbers to two decimal places when creating CSV files, but Microsoft Excel will preserve the length of the number. Latitude and Longitude coordinates were affected by this truncation, thus necessitating the extra step.



	A	B	C	D	E	F	G	H
1	CN326_6	CN006.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN006.jpg	Street Altar	Niche	0	Building	Salizada S. Geremia
2	CN363_9	CN009.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN009.jpg	Street Altar	Niche	0	Building	Calle de la Misericordia
3	CN618_18	CN018.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN018.jpg	Street Altar	Niche	0	Building	Fondamenta S. Giobbe
4	CN000_26A	CN026A.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN026A.jpg	Street Altar	Compartment	0	Building	Rio de Canaregio
5	CN000_26B	CN026B.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN026B.jpg	Street Altar	Compartment	0	Building	Rio de Canaregio
6	CN000_27A	CN027A.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN027A.jpg	Street Altar	Compartment	0	Building	Rio de Canaregio
7	CN000_27B	CN027B.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN027B.jpg	Street Altar	Compartment	0	Building	Rio de Canaregio
8	CN000_28	CN028.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN028.jpg	Street Altar	Compartment	0	Building	Rio de Canaregio
9	CN1249_37	CN037.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN037.jpg	Street Altar	Niche	0	Building	Fondamente de Canaregio
10	CN1866_75	CN075.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN075.jpg	Street Altar	Cesendelo	0	Building	Rio de la Misericordia
11	CN000_103	CN103.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN103.jpg	Street Altar	Statue in Street Altar	0	Building	Campiello de la Chiesa
12	CN000_104	CN104.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN104.jpg	Street Altar	Niche	0	Building	Salizada S. Fosca
13	CN2385_112	CN112.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN112.jpg	Street Altar	Niche	0	Building	Fondamenta Grimani
14	CN2927_147			Street Altar	Niche	0	Building	Fondamenta S. Girolamo
15	CN3144_157			Street Altar	Frame	0	Building	Fondamenta dei Riformati o del Bers
16	CN3599_199	CN199.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN199.jpg	Street Altar	Niche	0	Building	Fondamenta de la Misericordia
17	CN4090_253	CN253.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN253.jpg	Street Altar	Niche	0	Building	Calle Corrente
18	CN4113_254	CN254.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN254.jpg	Street Altar	Niche	0	Building	Ramo Primo del Squero Vechio
19	CN4176_257	CN257.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN257.jpg	Street Altar	Niche	0	Building	Rio Priuli o de S. Sofia
20	CN4321_273	CN273.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN273.jpg	Street Altar	Niche	0	Building	Calle del Duca
21	CN4500_280			Street Altar	Niche	0	Building	Calle de la Malvasia
22	CN4925_336	CN336.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN336.jpg	Street Altar	Niche	0	Building	Campiello S. Antonio
23	CN000_376	CN376.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN376.jpg	Street Altar	Relief in Niche	0	Building	Campiello Crosetta
24	CN5910_426			Street Altar	High Relief in Niche	0	Building	Corte Corner
25	CN6028_437	CN437.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN437.jpg	Street Altar	Statue in Tabernacle	0	Building	Calle Cappellis
26	CN6270_461	CN461.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CN461.jpg	Street Altar	Niche	0	Building	Calle del Squero
27	CS1125_57	CS057.jpg	http://venice2point0.org/gallerystorage/albums/Database/Street_Altars/CS057.jpg	Street Altar	Niche	0	Building	Sotoportego de le Ancore

Figure 89: A CSV file opened in Microsoft Excel looks like a basic spreadsheet

Before importing the new CSV file into phpMyAdmin through Bluehost, a new database must be created to hold the information in the CSV file, because the CSV file itself is not a database. Each field must be given a name and a data type; for example, the "Address" field is *text* or *varchar* because it consists of a short amount of text, while "Height" is an *integer* because its values are only whole numbers. The field types accepted by SQL are similar, though not identical to the field types in Microsoft Access. For example, in Microsoft Access the "number" type includes all types of numbers. In SQL, *integer* is only whole numbers, *float* and *double* contain decimal numbers, and *tinyint* is a small integer that can also be used for yes/no values. There is no penalty to using a broader data type than is needed: for example, using *float* for values that are always whole numbers will not cause problems, although it is less efficient for file size. However, it will cause problems to use a more restrictive data type than is needed: for example, using the type *integer* for a decimal number like latitude will eliminate all decimal places, resulting in an inaccurate value.

	Field	Type	Collation	Attributes	Null	Default	Extra	Action
☐	PV_Object_ID	varchar(12)	utf8_general_ci		No	None		
☐	Old_Code	varchar(6)	utf8_general_ci		No	None		
☐	Type	text	utf8_general_ci		No	None		
☐	Subtype	text	utf8_general_ci		Yes	NULL		
☐	Subject	text	utf8_general_ci		Yes	NULL		
☐	Inscription	tinyint(1)			Yes	NULL		
☐	Location	text	utf8_general_ci		Yes	NULL		
☐	Mixed_Material	tinyint(1)			Yes	NULL		
☐	Primary_Material	text	utf8_general_ci		Yes	NULL		
☐	Metal_Present	tinyint(1)			Yes	NULL		
☐	TimePeriod	int(4)			Yes	NULL		
☐	Approximate_Date	tinyint(1)			Yes	NULL		
☐	Height_from_Ground	int(4)			Yes	NULL		
☐	Approximate_Height	tinyint(1)			Yes	NULL		
☐	Height	int(4)			Yes	NULL		
☐	Width	int(4)			Yes	NULL		
☐	Diameter	int(4)			Yes	NULL		
☐	History	text	utf8_general_ci		Yes	NULL		
☐	Bibliography	tinyint(1)			Yes	NULL		
☐	Digital_Photo	text	utf8_general_ci		Yes	NULL		
☐	MapInfo	int(4)			Yes	NULL		
☐	Longitude	float(20,10)			No	None		
☐	Latitude	float(20,10)			No	None		

Figure 90: The structure of an SQL database

In Microsoft Excel, it is not necessary to include the Field names in the CSV file, as they have already been created on the server. Including field names will generate an extra record that must be deleted later. When saving the CSV file from Microsoft Excel, it is important that the file encoding is set to UTF-8 so that the file imports correctly into the SQL table. No other settings need to be changed, although if an error appears that some features are incompatible with the CSV format, simply click "yes" to finish saving the file with only the compatible features.

Once the file is ready to be uploaded, log in to Bluehost, then select phpMyAdmin. In phpMyAdmin, click on the "Import" tab on the top of the screen. Click "Choose File" to select the file that needs to be uploaded, make sure the "Character Set of the File" is "uft8", and select the option "CSV using LOAD DATA" farther down the screen under "Format of imported file". Change "Fields Terminated by" from ";" to "," and click "Go".

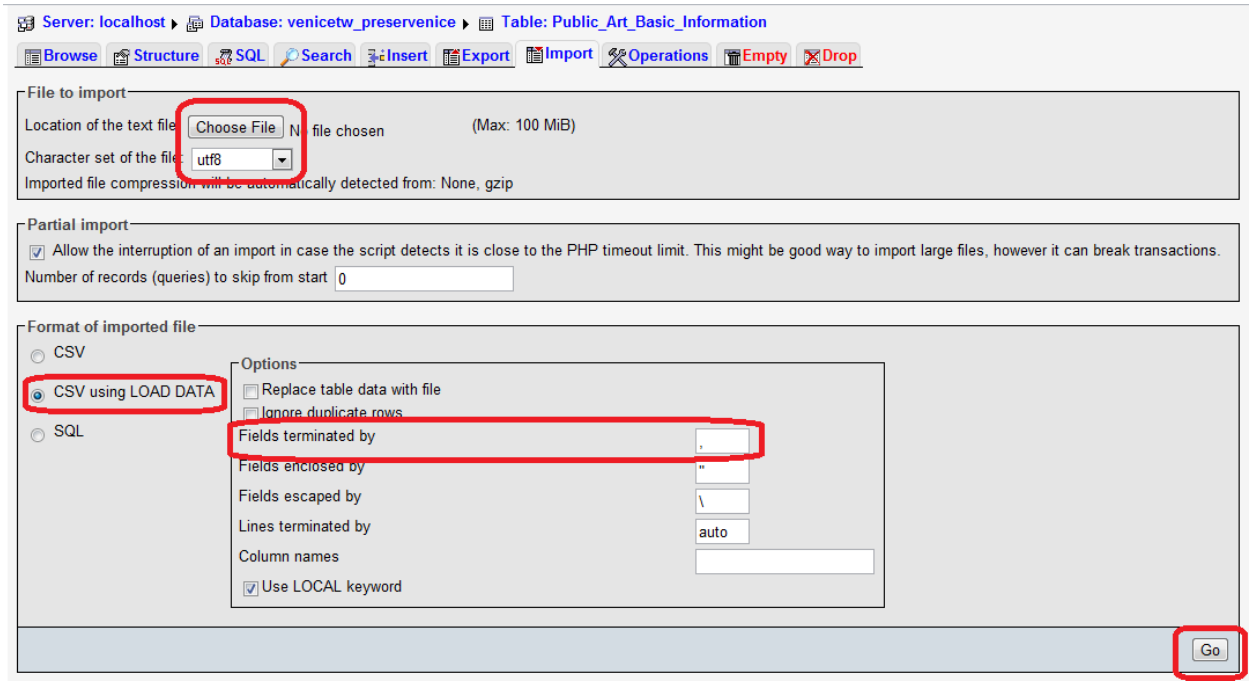


Figure 91: The Import screen in php My Admin

Following this procedure, a confirmation message should appear in the top of the screen in a green box and the imported data will be available to browse and edit.

If an error occurred and only part of the data imported, click the "Empty" tab on the top of the screen to clear the database before attempting to import the data again. Failure to do so will cause an error during the next upload attempt because there will be duplicate records.

Appendix F: Types of Traditional Venetian Watercraft

Fishing and Hunting Boats

Name: Topo
Description: Literally meaning "rat," the *topo* was used for transport and fishing. It is a lagoon and coastal boat whose hull ranges from six to fourteen meters long.[134] Its length was determined by what its intended use was. It has a flat bottom, a bow stem that curves forward. Only a few traditional topi remain today. These last *topi* are used as pleasure boats. Nowadays, many of these boats are motorized, the *moto-topi*, and are used for the transport of goods. [135]

Name: Sanpierota
Description: Also known as the *sandolo sanpierota*¸ this boat was used for fishing inside and outside the lagoon. It is a lagoon and coastal boat whose hull ranges from six to seven meters long.[136] While most lagoon boats are declining, this boat is actually thriving. This flourish can be attributed to the boat's sturdiness, reliability, and low maintenance. Originally rowed or sailed, some of these are now become motorized. [137]

Name: S'ciopon
Description: Also known as the *sandolo s'ciopo*, the *s'ciopon*, literally meaning "long gun," gets its name from its function. This boat was designed for hunting with a *spingarda* (large gun) and for fishing with a harpoon.[138] The gun was about three meters long and the length of the hull ranged from five to eight meters. It is the smallest lagoon *sandolo*. The hull was designed so that the *s'cioponante*, or

[134] Boats of Venice Pg 91
[135] Caorlina." *Forcole and the Boats of Venice*. Web. 17 Oct. 2010. <http://www.forcole.com/eng-catalogue-2.htm>.
[136] The Boats of Venice. Pg 102
[137] Ibid.
[138] Caorlina." *Forcole and the Boats of Venice*. Web. 17 Oct. 2010. <http://www.forcole.com/eng-catalogue-2.htm>.

hunter, could shoot the gun level with the water. Today, this is a popular boat with Venetians boys because they can easily move around the canals.[139]

Large Cargo Transport

Name: Caorlina
Description: This is a lagoon boat used for transport and fishing. It has a ten meter narrow hull length. For its size, it is fast, easy to handle, and can carry a large load. It is generally rowed by two oarsman, but there can be up to six to eight oarsman. Few traditional ones have been conserved. The modern versions are currently used for regattas, recreation, and show.[140]

Name: Peata (or Piatta)
Description: This was the most important transport boat for Venice. It was designed to hold items ranging from 100 to 800 pounds.[141]

139 Boats of Venice Pg 54
140 Boats of Venice Pg 122
141 "Gilberto Penzo - Venetian Ships and Boats The Venetian FleetTraditional Boats Cargo Boats and Fishing Boats." *Gilberto Penzo - Barche E Navi Veneziane*. Web. 12 Dec. 2010. <http://www.veniceboats.com/eng-fleet-boats-fishing-boats.htm>.

Human Transport

Name: Sandolo
Description: The *sandolo* is the most common lagoon boat and has multiple uses. It is used to carry passengers, for fishing, recreation, regattas, and hunting. Its hull length ranges from five to nine meters long.[142] Its main features include a flat bottom, straight sides that flare outwards, a long, pointed overhanging stem. There are many local variants, which include: the *sàndolo ciosoto*, *buranelo*, *San Pietro* or *sanpierota*, *puparin*, the *s'ciopon*, and the *mascareta*. [143]

Name: **Mascareta**
Description: The *mascareta* is a lighter version of the *sandolo*. Its lightweight makes it extremely popular and maneuverable and it is also cheap to build and maintain. The hull length ranges from six to eight meters longs and is primarily used for recreation.[144]

Name: **Puparin** (also known as the *sandolo puparin*)
Description: This is the most elegant type of the *sandolo*. It was originally designed for the transport of rich Venetian families and is currently used for recreation and regattas.[145] With the exception of the *gondola*, it is the fastest and most agile of the two-oared lagoon craft.[146] Its hull length ranges from nine to ten meters long. Its most noticeable feature is its asymmetrical hull, like that of the *gondola*.[147]

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[142] Caorlina." *Forcole and the Boats of Venice*. Web. 17 Oct. 2010. <http://www.forcole.com/eng-catalogue-2.htm>.
[143] Boats of Venice Pg 44

[144] Boats of Venice Pg 52-53
[145] Boats of Venice Pg 63
[146] Boats of Venice Pg 64
[147] Boats of Venice Pg 63

Name: Gondola

Description: The *gondola* is the most recognizable traditional boat of Venice. It has become the symbol of Venice, as well as being a major industry in the now tourist-rich city. The *gondola* is a very intricate and specific watercraft.

The modern gondola has very specific measurements and specifications. The outer length is 10.85 meters, with an average width of 1.40 meters and a net weight of about 350 kilograms. Made up of around 280 wooden pieces, the gondola uses a variety of wood in its construction, including oak, fir, walnut, cherry-wood, larch, elm-root, and limetree.

The *gondola* is special, not only because of its unique shape, but also because of "el parecio": its ornamentation. The most important of this ornamentation is the ferro, the forcola and remo, and the felze.[148]

[148] Boats of Venice Pg 76-80

Appendix G: Procedures for the Preliminary Documentation of a Boat for Measurements

1. Take pictures[149].
    a. Should be taken starting from the bow of the boat, around the exterior each quarter and then finishing at the stern.
    b. Take pictures of the interior in the same manner as outlined in part a.
    c. Take full-length pictures of the interior to document any individual parts and help display how they are positioned.
    d. Any loose items should be labeled with number tags.
2. Write location of boat.[150]
3. Assess boat's physical condition[151]
    a. Establish starting point for future boat comparisons.
    b. Determine necessary actions to prevent further deterioration.
    c. Decide if boat is stable enough to be moved.
    d. Look for any discontinuities in the design, like bumps in smooth areas.
    e. If discontinuities are found, identify remedial steps that may need to be taken before measuring or moving it.
4. Determine if the boat should be moved.[152] (it sounds good but you could break it down into more subsections for both 4 and 5)
    a. If the boat is in poor condition, moving it may cause it lose its shape so much so that it cannot be repaired, or certain parts may become loose. If time is limited, measuring can begin right away. However, if the boat is moved to a safer location, ideal working conditions might be achieved and the boat would be safe from the elements and possible vandals.
    b. If the boat is in good enough condition to be moved, carefully select the best way to transport it. If the boat is only going to be moved a short distance, it is acceptable to have a group of people hand carry it to its new location. If the boat

[149] Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 10. eBook.
[150] Ibid.
[151] Ibid.
[152] Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 11-12. eBook.

is to be moved a long distance, it could be loaded into a back of a truck, on a flat bed trailer, or on a boat rack as long as the boat is well padded and secure.

5. Storage.[153]

a. Boats should be stored in a building that doesn't leak, has temperature and humidity control, and no direct sunlight. The temperature should be between 68 and 75 degrees Fahrenheit, with the humidity between 40 and 60 percent. Mildew could form if the humidity rises above 80 percent and the boat could dry out if the humidity falls below 20 percent.

[153] Lipke, Paul. *Boats: A Manual for Their Documentation*. Museum Smallcraft Association: 15. eBook.

Appendix H: How to Hand Measure a Boat

These instructions are based on our experience at Forte Marghera.

Equipment needed: tape measure, level, string scrap wood, camer, and a weight

*Note: it is helpful to have someone take pictures during the measuring process for documentation purposes.

1. Choose a boat.
2. Make sure the boat can be moved without suffering any structural damage.
3. Level out the boat to make sure all measurements will be standardized.

Scrap wood was used to level the boat on the work horses propping it up.

4. Mark out the spots where measurements are going to be taken. In our case, we measured 9 different points of the boat and had two verification points to make sure none of our measurements were unreasonable or unrealistic.

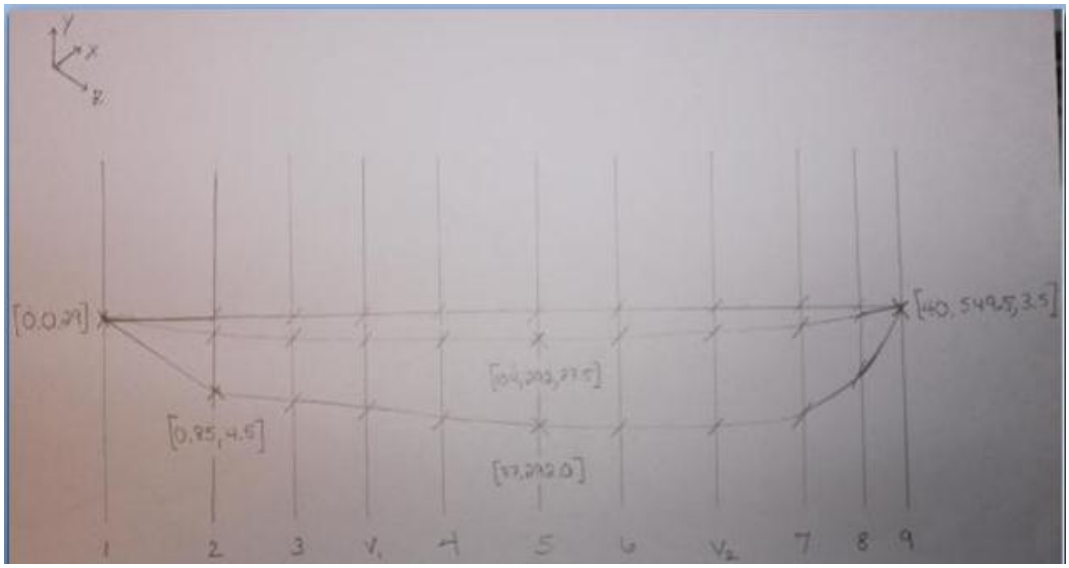


Figure 92: Hand Drawing of Where to Measure (side view)

5. Create hand drawings and set up a coordinate system. If you have access to the boat before taking the measurements, it may be more helpful to take pictures of the boats from different angles, print them, and then record the dimensions directly on the pictures. This helps to keep your measurements organized.
   * Make sure you have a well-defined coordinate system. Without it, you will not be able to determine the coordinate points of each point you measure.

Examples of the sketches drawn for the sandolo:

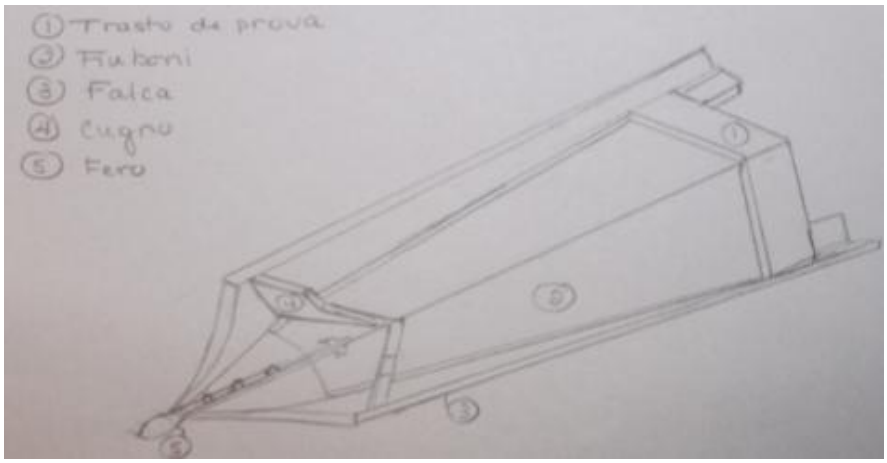


Figure 93: Front Section

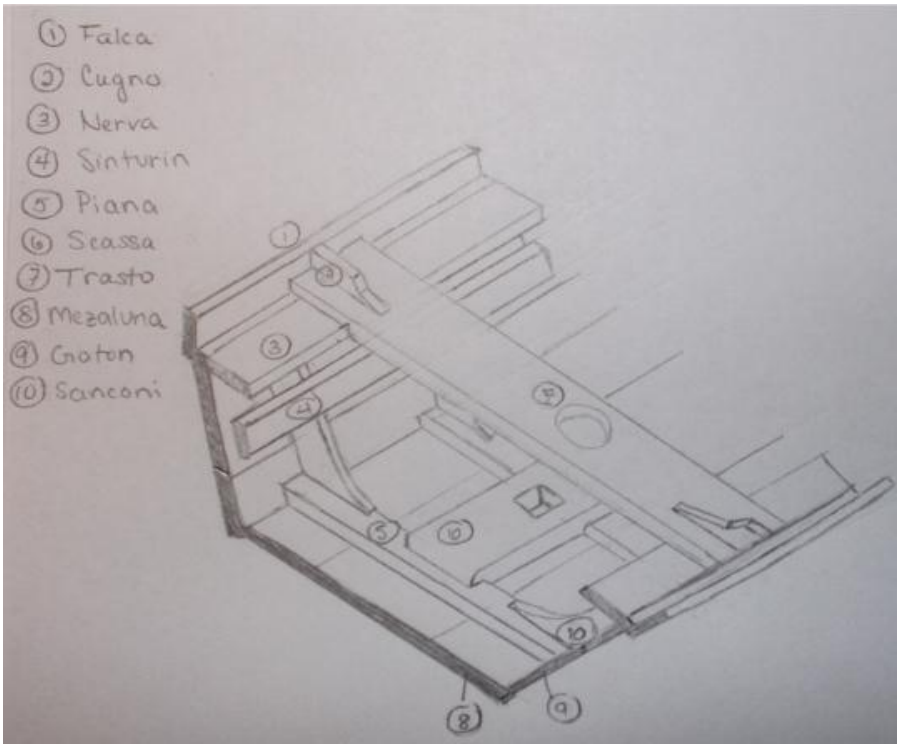


Figure 94: Middle Section

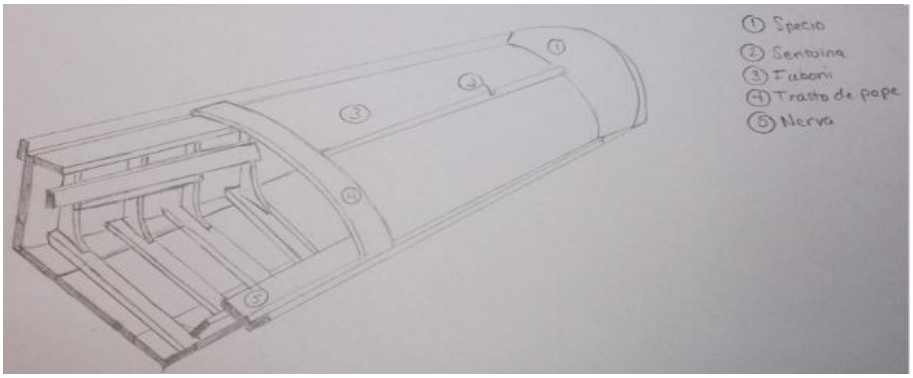


Figure 95: End Section

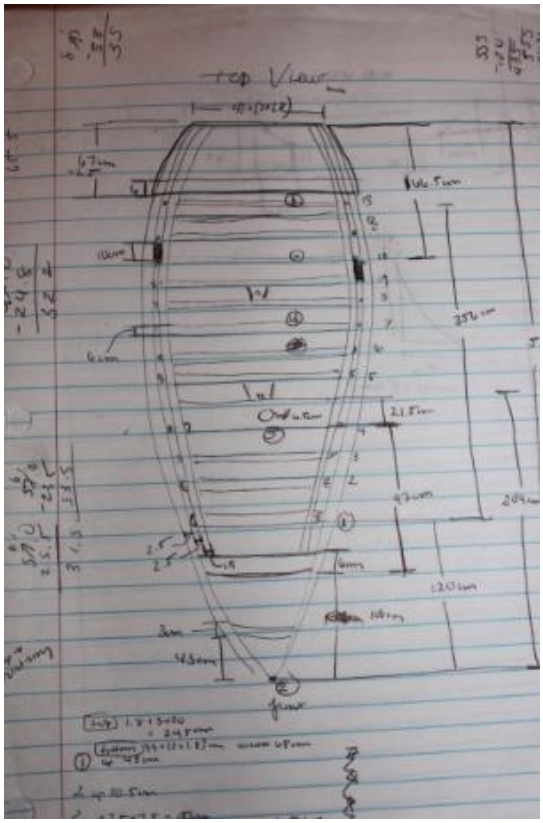
6. Set up a reference line and make sure the line is completely parallel with the ground

7. Once the boat is adjusted accordingly and hand drawings have been made, use a piece of string to set up a reference line.

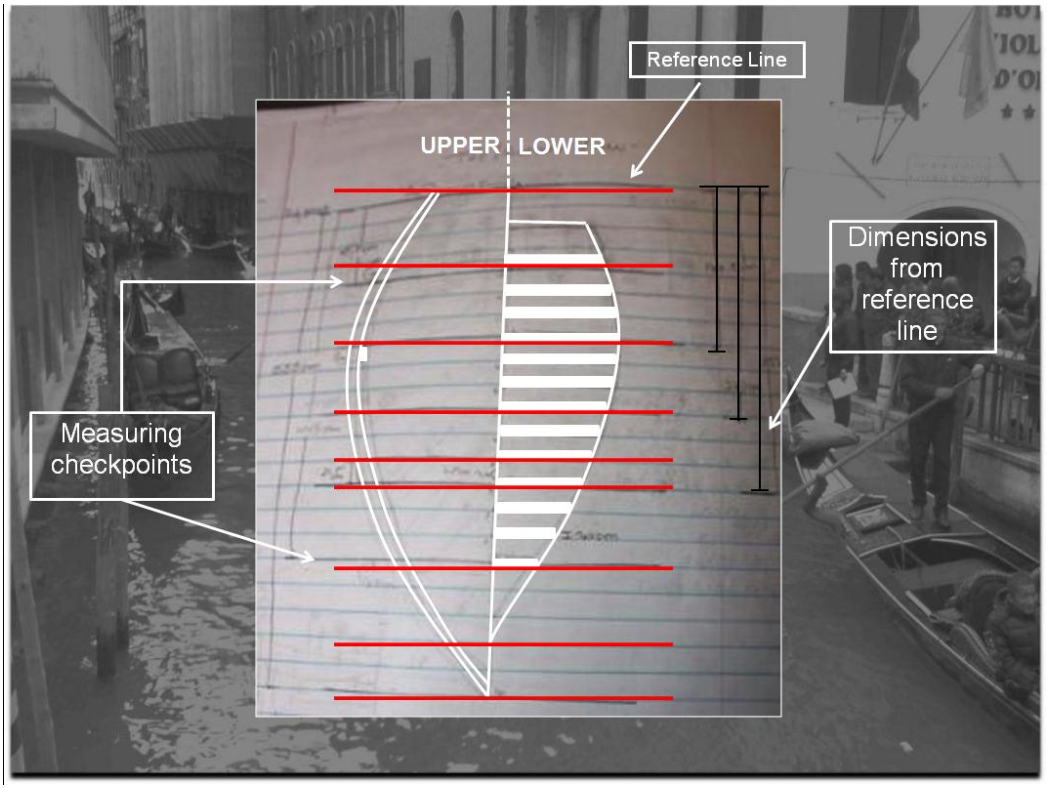
8. Make sure the string is level and parallel to the ground because all measurements will be based off of this line.

9. Next, begin taking measurements by measuring the length of the boat down the Y-axis
    - Take the measurement of the full length of the hull, as well as the dimensions from each individual piane (see above hand drawings for clarification as to where

this part is). Each of these measurements should have the same starting point for standardization purposes.



10. After measuring these points, pick one end of the boat to start at and work your way to the other end. Start by taking the measurements at the nine points. The dimensions for these points can be divided into two sections: the upper portion and the lower portion of the boat. See the drawing below for clarification. Be sure to take the measurements in all three planes (x,y,z) so that the boat can be properly modeled.



11. Once this has been done, measure the remaining components of the boat i.e. the piane, forcole, trasto de prova, fiuboni, falca, cugno, fero, nerva, sinturin, scassa, trasto, mezaluna, goton, sanconi, specio, and the trasto de pope.
12. Once all the measuring has been done, create a spreadsheet of the dimensions and the location in the established coordinate system. See the chart below for an example. Once this has been done, it is easy to translate the dimensions and coordinates into a CAD program to create the three dimensional model of the boat.

Lower	Upper		
-	0	x	1
-	0	y	
-	29	z	
0	-	x	2
85	-	y	
4.5	-	z	
25	64	x	3
119.5	119.5	y	
3.5	25.25	z	
60.5	-	x	V1
178	178	y	
3.5	25	z	
82	102	x	4
237.5	237.5	y	
0.5	26	z	
87	104	x	5
292	292	y	
0	27.5	z	
-	103	x	V2
-	-	y	
-	29	z	
74	93	x	6
388	388	y	
3.5	32	z	
37	67	x	7
471	471	y	
14	37	z	
22.9	-	x	8
505.5	-	y	
28.5	-	z	
-	40	x	9
-	549.5	y	
-	3.5	z	

Hand Measurement Analysis Using Level and Plum Bob Technique

Equipment*	Note Sheet Pencil & Eraser Chalk	Plumb Bob	Carpenter's Level	Measuring Tape
Cost	$3 $4 $10	$15	$35	$15

Time	
Preparation	30 minutes
Field Work	5 hours
Post Field Work	20 hours

Ease of Use	Moderate
Accuracy	•Accurate within 1 cm per 5 m

Additional Information	Limitations	Points of Interest
	•Time •Boat location •Boat condition •Need 3-4 four people for measuring	•Set up a defined coordinate system •Use a reference line •Need to carefully mark off body sections •Create drawings prior to starting measurements

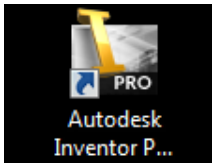
*Equipment requirements based off of equipment needed for using the Level and Plumb Bob measuring technique

Appendix I: Comparison of Blender and Autodesk Inventor

Blender is a free open source software program that has been used by *Arzanà* to document their collection. The only downside of using this program is that it is meant for animations, not for creating computer aided design (CAD) drawings, like the way Autodesk Inventor is.

Blender Icon

When designing the model in Blender, there are limited capabilities to accurately dimension the parts because the program does not show dimensions and cannot produce drawings. As a result, using the program is like a guessing game where you move points and parts around until the model looks like the boat. In this case, the dimensions taken from the hand measurements are only used as a loose guideline for the structure of the boat.



Autodesk Inventor Pro Icon

When designing the model in Autodesk Inventor, it is very easy to create the exact dimensions recorded from the manual measurements. This allows us to see exactly where there were errors in the hand measurements when we overlay this model with a picture of the boat. Autodesk Inventor also has the capability to produce drawings of the different parts of the boat, giving us a clear blueprint of the boat's structure Figure 3. This could be particularly useful for anyone wishing to try to rebuild the boat. The Blender and Autodesk Inventor overlay can be seen In Figure 2 and Figure 3.

Another advantage to using Inventor over Blender is that it is much easier to make adjustments to the different parts. One of the main reasons for this is that you can create all the parts in different files and then create an assembly of the final boat, unlike in Blender where the boat and all its components are made as one part. By being able to make easy adjustments to the parts also allows boat distortions to be taken into consideration and fixed. For boats that are falling apart, parts of the boat may be missing, the wood might be sagging, or the wood could be distorted. Inventor allows the person modeling the boat to make the necessary adjustment to the parts so that the boat can be modeled as if it were still in perfect condition. Most importantly, using Inventor reduces the number of errors that can occur from translating the measurements

into a three-dimensional model. There are enough errors that can arise doing this, but they are compounded with the use of Blender.

We used the free student edition of Autodesk Inventor Professional Suite 2011. A comprehensive overview and comparison of this program can be found at http://usa.autodesk.com/adsk/servlet/index?id=12555021&siteID=123112

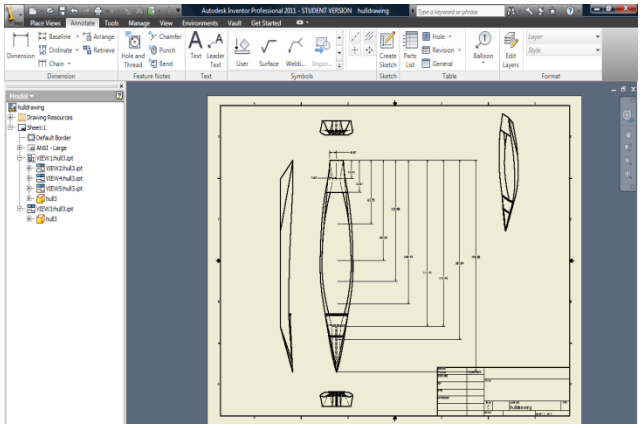


Figure 1: Inventor CAD Drawing of the *Sandolo*'s hull

Figure 2: Overlay of Blender Model

Figure 3: Overlay of Autodesk Inventor Model

Appendix J: How to Create a Model in PhotoModeler 7

Pre-field Work for Photogrammetry

- Calibrate the camera following the guidelines outlined in the PhotoModeler 7 camera calibration tutorial
    - Calibration—Multi-Sheet Tutorial (http://www.photomodeler.com/tutorial-vids/media/MultiSheetCalibration/MultiSheetCalibration.html)
- Enter the calibrated camera into the PhotoModeler camera library
    - Field Calibration Tutorial (http://www.photomodeler.com/tutorial-vids/media/FieldCalibration/FieldCalibration.html) to learn how to improve camera calibration by calibrating the camera with data collected from the pictures taken in the 'field'.
- Create the ringed automatically detected (RAD) targets to be placed on the boat.
    - The RAD targets can be found within the Coded Targets module inside the PhotoModeler software.
        - File->Create Coded Targets menu option
    - Use Avery 6465, 8 ½ x 11 in, removable labels to print the targets. This can be purchased at Staples.

Field Work for Photogrammetry

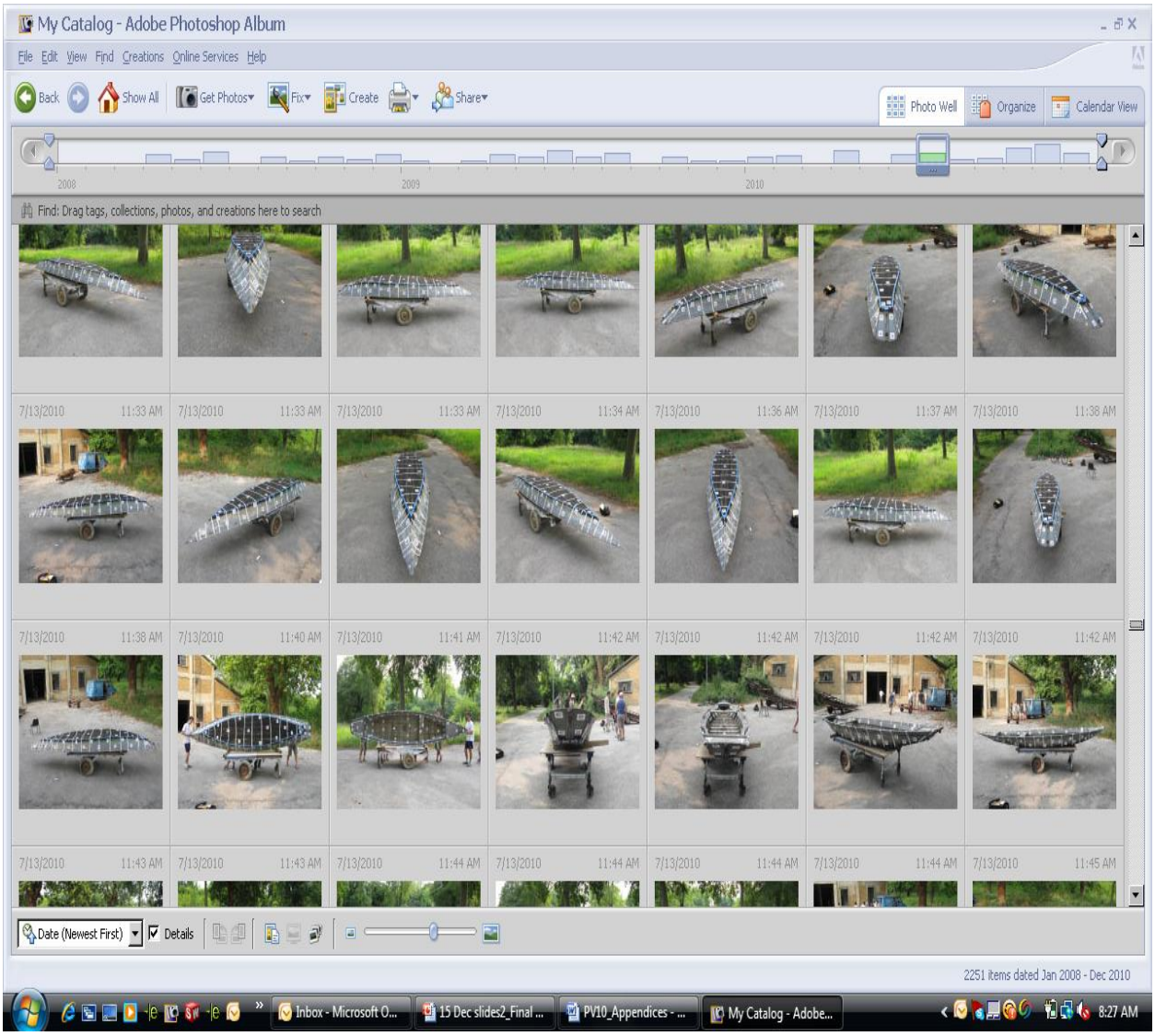
- Have a group of people that can:
    - Provide enough man power to move the boat into the different positions needed for the pictures
        - It does not matter if the boat is moved as long as the targets are not disturbed. This allows the boat to be turned over to get better shots of all the boat at different angles.
    - Help make faster work of placing the RAD targets and non-coded targets onto the boat, which is typically a three hour long job.
        - Before placing the targets on the boat, make sure that the boat is capable of being moved around and that there is enough lighting for the pictures to come out clear.

- Once the targets are properly placed, begin taking pictures.
    - Take more pictures than you think is necessary-- it is much easier to discard pictures than going back to re-take photos.
        - Take overall pictures and close-up pictures of critical areas.
    - Do not be too concerned about the angles between individual photos; it is more important to take many pictures from a variety of angles.
    - Make sure each point and feature that is to be modeled appears in at least two pictures.
    - Be sure to measure and record at least one distance between two distinct, visible points as this need for scaling the results.
        - View the Scale, Rotate, Translate tutorial to learn how to create scale in the model sing external geometry: http://www.photomodeler.com/tutorial-vids/media/SRT/SRT.html
    - Make sure the targets are big enough to be detected in a range of pictures with good overlap.
        - There cannot be too many targets in the pictures.
    - After the pictures are taken, remove the targets and place the boat back into storage.

Post-Field Work for Photogrammetry and Analysis

- Upload all the images into PhotoModeler 7

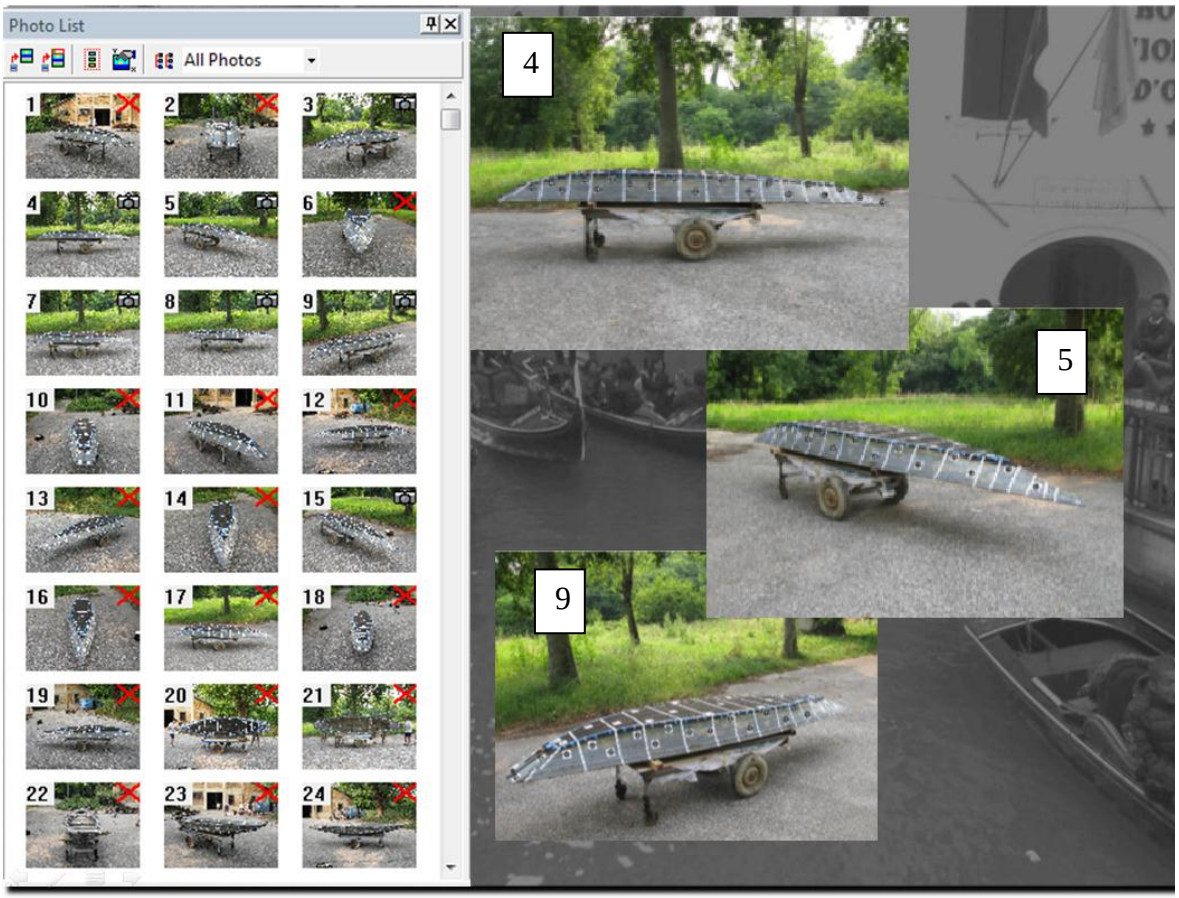
  **Creating a model from pictures taken by an unknown camera (i.e. pictures taken by someone else) is an extremely time consuming process and not a good starting point for a novice PhotoModeler user. The model we created was with Jonathan Taggart's pictures. See a sample of these pictures below.

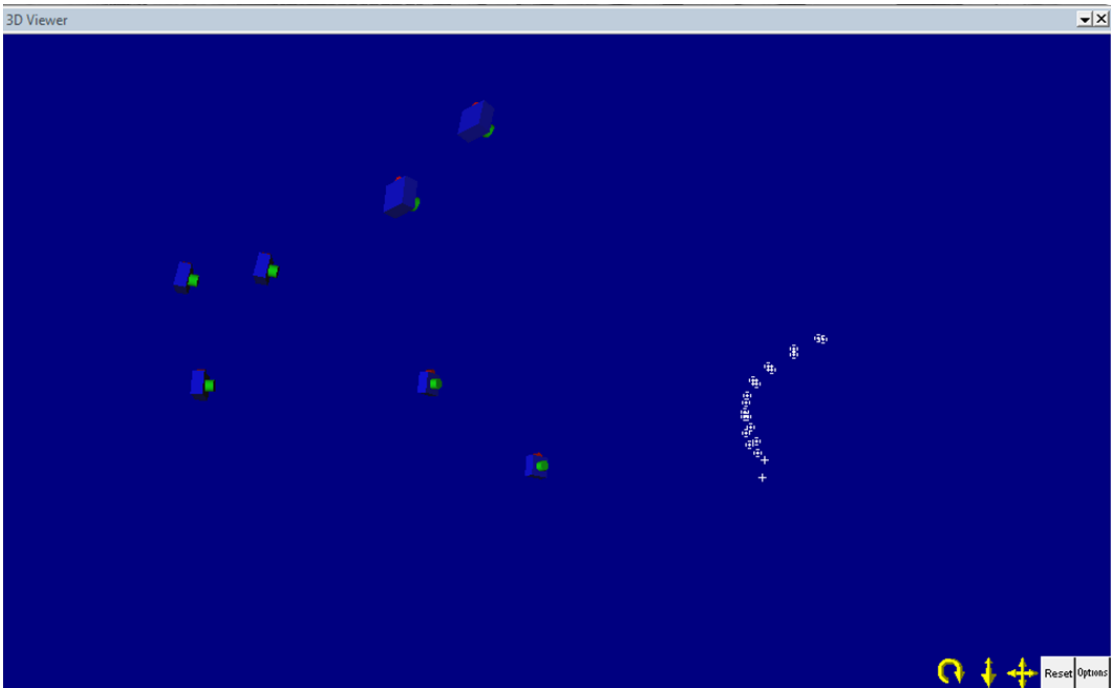


- Some of the difficulties, solutions, and recommendations we encountered and came up with from working with his pictures are:
  - Look for EXIF information in the picture file to help set up the project with an unknown camera.
  - Do not use the inverse camera option because there are no control points or constraints and the shapes project option will not work with something like a boat.
  - Use Automarking to automatically mark RAD targets and non-coded targets.
    - However, when we ran automarking, some of targets were too small and weren't detected. As a result, be sure to use bigger targets in the future

and mark as many points as possible through automarking and then begin manually referencing the points. View the Referencing tutorial (http://www.photomodeler.com/tutorial-vids/media/Referencing/Referencing.html) to learn how to do this. Also view the Automated Coded Targets tutorial (http://www.photomodeler.com/tutorial-vids/media/AutomaticTargetedProject/AutomaticTargetedProject.html) to learn how to run and use automatic referencing.

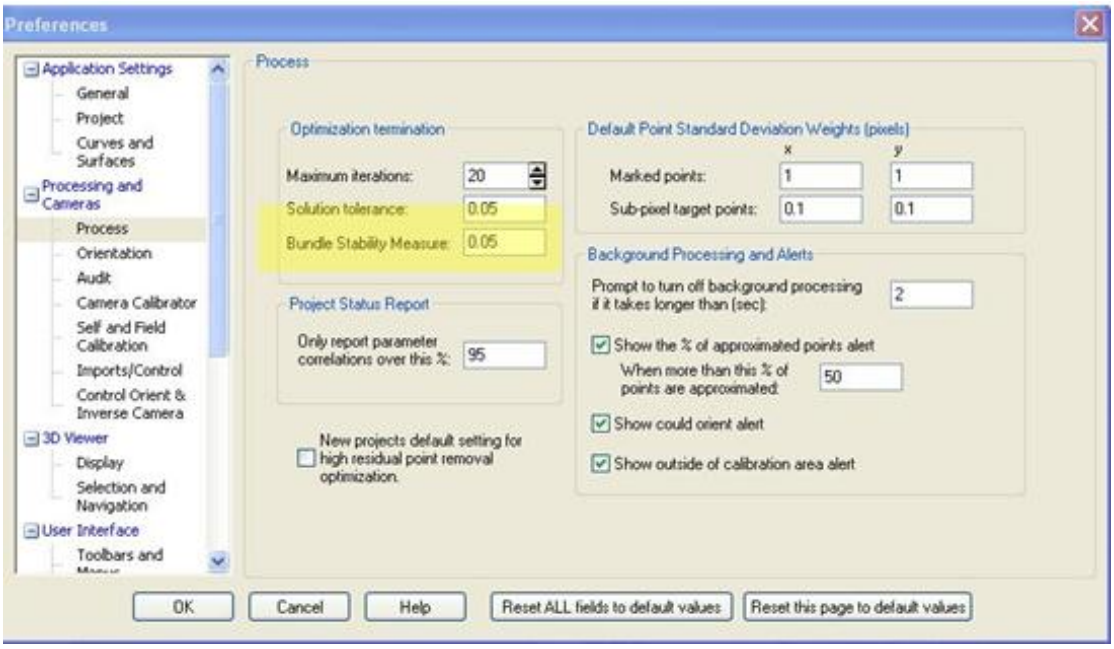
- Start with small set of neighboring pictures; mark those points, process them, and get them oriented.
- Gradually add neighboring pictures to build up project.
    - For instance, we started with pictures 4, 5, and 9 to begin building the side of the boat. See the images below for clarification (the image is a slide from our final presentation):





The creation of the side of the *sandolo* sing pictures 4, 5, and 9

- The first time we tried processing those three pictures after referencing them, we had a bundle instability error. As a result, we had to lower these settings because this was a weak model due to the lack of calibration.



- We ended up with very approximate field calibrated camera which was about as good as the EXIF estimate.

    - We re-ran field calibration (optimize camera on processing dialog) to improve the calibration.
- Continue this process until the full model has been created. As new users of photogrammetry and PhotoModeler, this was an extremely time consuming project. We spent over 100 hours going through tutorials and trouble shooting. Had we not been new to the process and software, and had we not chosen the hardest way to create a three-dimensional model of the boat, we estimate that process would have taken anywhere from 24-40 hours of work.

Other Background Notes Concerning Photogrammetry and PhotoModeler

Unlike hand measurements, photogrammetry is a newer, more difficult and expensive method of measuring boats, but provides much more accurate results than those taken by hand. It is more difficult because one has to be familiar with the different software programs used for photogrammetry. In this case, we used PhotoModeler 7. It is more expensive because the license for a software program, like PhotoModeler, is over one thousand dollars. To achieve the highest level of accuracy possible with this method, it is recommended to use a 12 mega pixel SLR camera. The starting price for these types of cameras is around eight hundred dollars. We used a Canon EOS 12 megapixel dSLR camera.

According to David Cockey, these are important things to keep in mind about the camera:

- More resolution is better. Save the photos in highest resolution mode available.
- Save the images in the camera as TIFs if possible rather than JPEGs.
- Save with the minimum compression possible. File sizes will be large but results will be much better. A JPEG photo with excessive compression may be useless.
- Pay attention to exposure.
- Always use EXACTLY the same, reproducible zoom setting for each photo. Usually it's best to zoom to the shortest focal length / widest angle. The camera and lens will need to be calibrated at exactly the same focal length setting as used to take the photos.
- Camera and lens combinations should be calibrated, but this can be done after taking the photos if needed. I'll send a separate note with information on taking photos for camera and lens calibration.

There has been some work with PhotoModeler to create a high density model of a hull. However, there has been more work done with using a standard PhotoModeler process. In this alternate workflow, sticky dot targets were arranged in rows widthwise across the ribs of the hull. These points were then used to draw lines, and finally create the solid surfaces, or skin, that goes on top of the wire frame model. Generally, most boat hulls have to be done as 2 separate halves, and then merged together if necessary either within PhotoModeler or an external three dimensional CAD program. From here, the hull can be created using a loft surfaces feature. Another technique inside the PhotoModeler software that might be applicable uses a point cloud instead.

Depending on the specific hull it may be more appropriate to use a loft or point cloud technique. Hulls that take a few sharper bends are likely to require the loft technique. Hulls that have a very smooth progression of curves, such as a kayak, could probably be done using a point cloud.

The other features of the craft may be more similar to traditional modeling using the standard manual point marking and referencing instead, which is very common across many project types. The various workflow types can also be combined within a single project.

Photogrammetry Analysis of PhotoModeler and RhinoPhoto

Equipment	PhotoModeler	OR	RhinoPhoto	AND	12 MegaPixel SLR Camera	Coded/Non Coded Targets Reference Bar Calibration Grid
Cost	$1145 (single user)		$1250 (single user)		$450-$1,500	$64/$122 $383 $105
Time						
Preparation	TBD		TBD			
Field Work	3 hours		3 hours			
Post Field Work	TBD		TBD			
Ease of Use	TBD		TBD			

Accuracy	Camera Resolution	Camera Calibration Method	Angles Between Pictures	Photo Redundancy	Targets
Lowest	Video 640x480	No Calibration	15 degrees or less	Most points on 2 pictures	None; user marked only
Average	5-6 MegaPixel	Camera Calibrator	20-90 degrees	All points 3+ pictures	Some natural targets
Highest	11+ MegaPixel	Field Calibration	60-90 degrees	Most points on 8+ pictures	Retroreflective

Additional Information

Limitations

- Surface modeling of a boat's smooth and complex hull surface is not easily mathematically definable; most instruments used for boat surveys are active sensors, like laser scanners, because of this
- Hull has to be done as 2 separate halves and then merged together

Points of Interest

- Can obtain textural information and geometry
- Pixels in image have fixed relationship to one another, therefore can georeference data with a small number of points
- Flexibility with range i.e. change lens to change focal length

Appendix K: Description and Analysis of Structured Light

For this measuring technique, a known light pattern is projected onto a surface at a specific angle and is recorded with a camera.[154] When this light hits its intended target, a bright line of light is visible at the intersection point on the target's surface. When this line is viewed from a particular angle, height variations can be determined based on the deformations in the projected line. The differences in images are analyzed using Fourier Transforms. Scanning the target with this light will result in three-dimensional image recordings.[155]

Figure 96: Structured Light Pattern Designed for Surface Inspection

There are many limitations of this technique that should be considered before trying to use it. First of all, dark colored areas cannot be scanned with the structured light projection system because the dark colors produce a low surface reflection.[156] Inaccurate scans can result from reflective surfaces, as well as surfaces with too many curves.[157] This technique also results in a picture of the boat, rather than a three-dimensional model. To achieve a three-dimensional model using this technique, one would have to learn how to stitch different images taken with the projection system.[158]

On the other hand, there is a distinct advantage to using this technique. The structured light projection system creates a point-cloud of what it is imaging, meaning there is no targeting or special textures required for a successful scan.[159]

Accuracy with this technique is dependent on several factors. These include resolution, camera type, and type of structured light. For a high resolution of the projected pattern, each

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154 "Structured Light."*V2_Lab Projects - Trac*.Web. 12 Oct. 2010. <https://trac.v2.nl/wiki/structuredLight>.

155 Viewing, By. "What Is Structured Light?" *StockerYale Inc. - Laser Line Generators, LEDs, Specialty Fibers*. Web. 12 Oct. 2010. <http://www.stockeryale.com/i/lasers/structured_light.htm>.

156 TomislavPribanić, HrvojeDžapo, and JoaquimSalvi, "Efficient and Low-Cost 3D Structured Light System Based on a Modified Number-Theoretic Approach," *EURASIP Journal on Advances in Signal Processing*, vol. 2010, Article ID 474389, 11 pages, 2010. doi:10.1155/2010/474389

157 Ibid.

158 "YouTube - Structured-Light 3D Scanning at Rapid 2010." *YouTube - Broadcast Yourself*. 15 June 2010. Web. 08 Dec. 2010. <http://www.youtube.com/watch?v=3oaNDS4dMTM>.

159 TomislavPribanić, HrvojeDžapo, and JoaquimSalvi, "Efficient and Low-Cost 3D Structured Light System Based on a Modified Number-Theoretic Approach," *EURASIP Journal on Advances in Signal Processing*, vol. 2010, Article ID 474389, 11 pages, 2010. doi:10.1155/2010/474389

pixel of the projection should have its own code. [160] More distance between the codes of neighboring pixels allows for higher sensitivity to spatial resolution; the higher the spatial resolution, the higher the accuracy of the scan. A high resolution can also come from using a digital camera that has up to a four megapixel resolution and digital zoom.[161] Calibration for structured light can be done through polynomial approximation or through camera calibration. Camera calibration is the most user friendly way for calibration to achieve an accurate scan.[162]

[160] Ibid.
[161] Ibid.
[162] Ibid.

Structured Light Systems Analysis

System Set-Up	Calibrated Digital Camera	Video Projector	Carbon fiber base
Equipment	Structured Laser Light Projection System	Software (OptoTOP)	
Cost	$450-$1,500	$2,500	
Time			
Preparation	TBD	TBD	
Field Work	TBD	TBD	
Post Field Work	TBD	TBD	
Ease of Use	TBD	TBD	

Accuracy

- Each pixel of projected pattern should have entire code for high resolution three dimensional reconstruction
- High distance between code words of neighboring pixels for high sensitivity to spatial depth resolution
- Highest resolution comes from use of a digital camera with up to a 4 MegaPixel resolution and digital zoom
- Calibration through polynomial approximation

Additional Information

Limitations

- Dark colored areas cannot be scanned because of low surface reflection
- Inaccurate scans from reflective surfaces
- If surface too curved, requires too many scans
- Must stitch together different images for full 3D view of object

Points of Interest

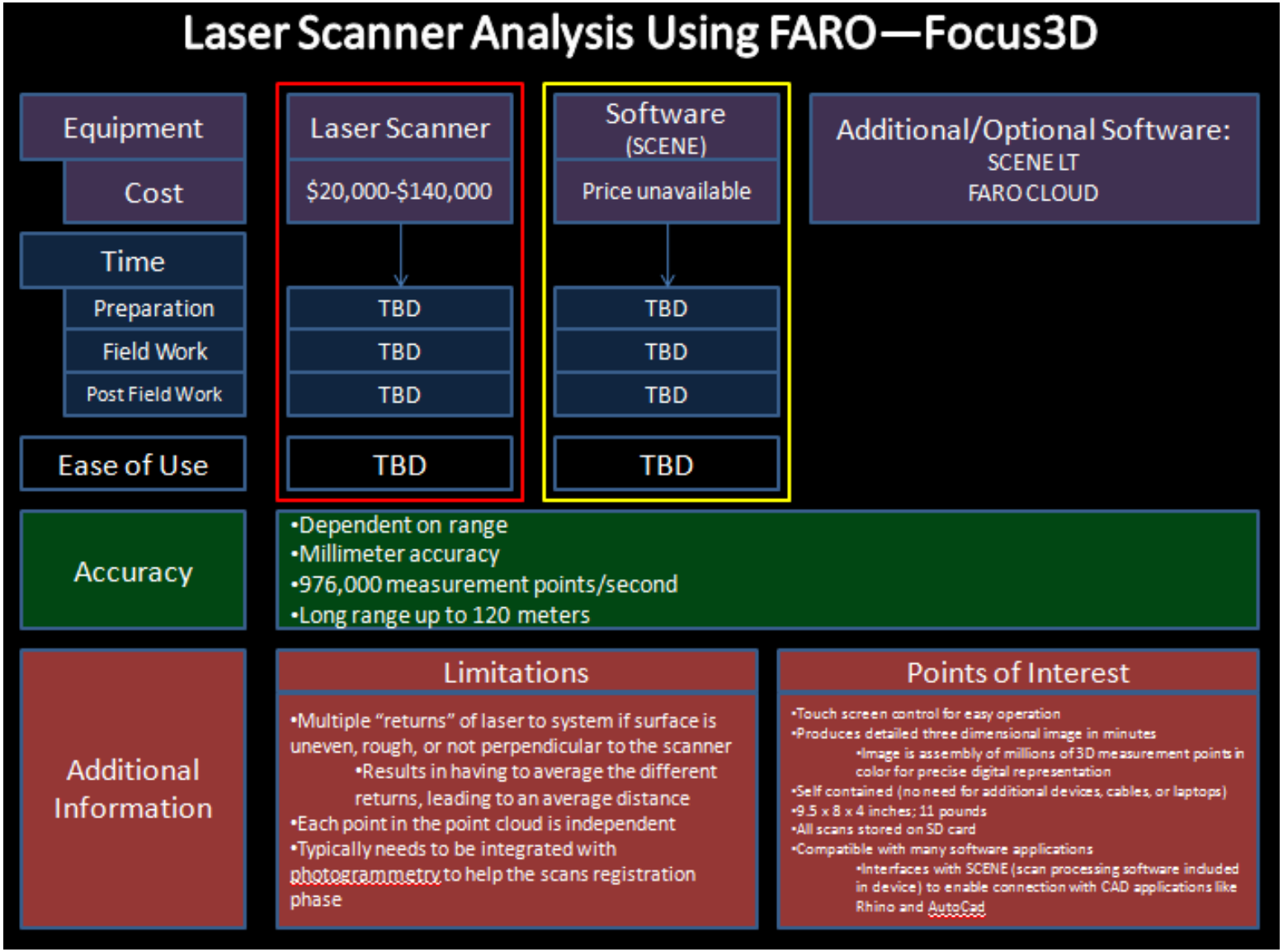
- Provides pointcloud of 3D model in direct way; no targeting or special texture required
- Most powerful type of structured light is phase shifting
- Camera calibration most user-friendly form of calibration
- Use carbon fiber base for optimum mechanical/thermal stability of sensor
- Complete measurements with patch-wise overlap coverage for pieces larger than field of view

Appendix L: Description of How Laser Scanning Works

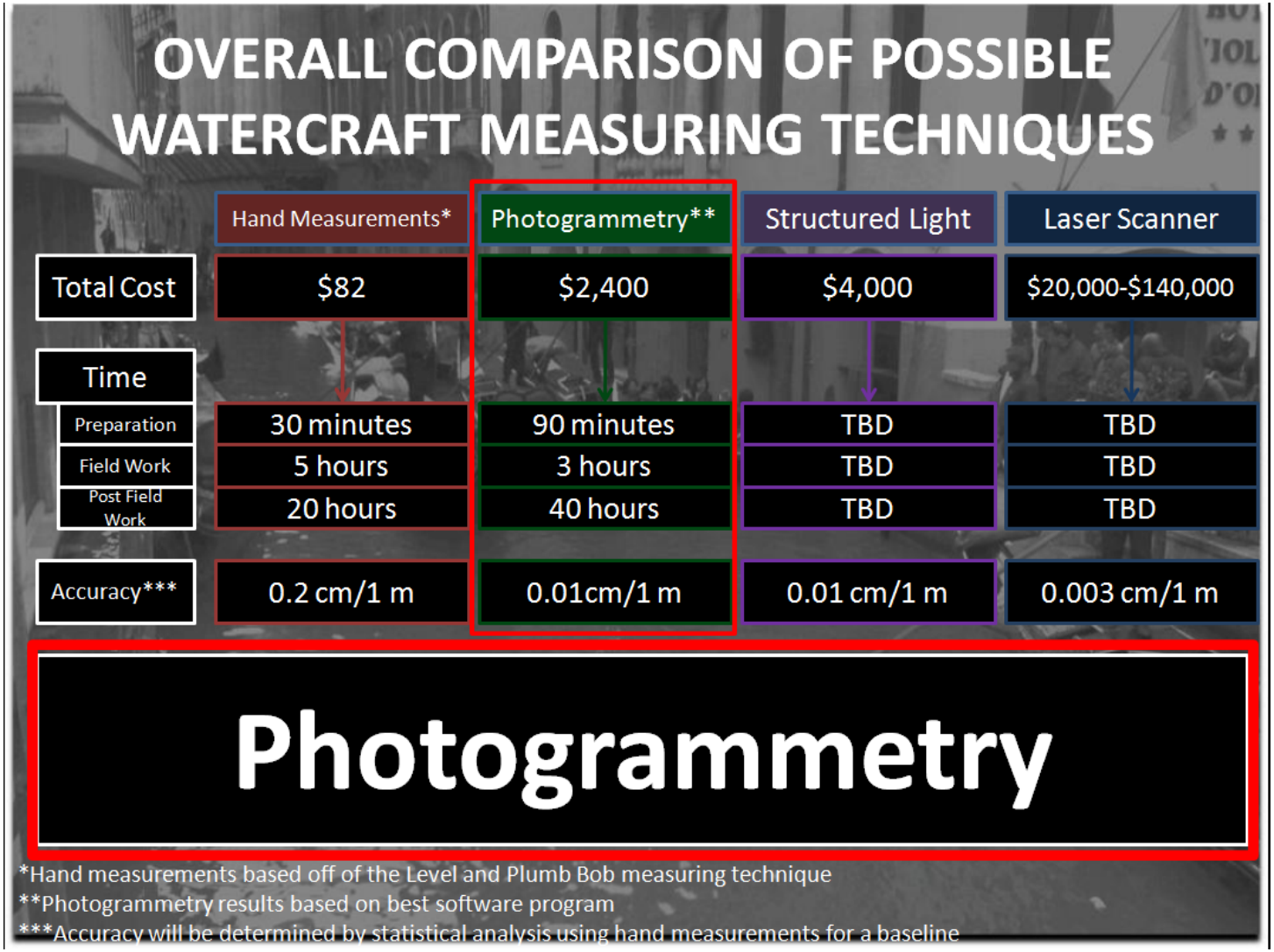
Laser scanners use the principle of laser triangulation to obtain accurate three dimensional data. A triangle is created between the scanner, lens, laser, and the boat being scanned with a known distance between the scanner lens and laser. The angle of the laser is determined by the use of a galvanometer.[163] All this information is given so that accurate x, y, and z coordinates of the boat's surface can be determined. With the use of the galvanometer again, the laser is "swept" across the boat while the galvanometer rotates a small mirror to reflect the laser.[164] The laser is immediately reflected back off the surface of the boat and the boat's surface is then focused through the scanner lens. The time difference between its transmission and when it is received back to the scanner gives the precise distance from the scanner to the boat.[165] Once this information is obtained, a dense point cloud is created in the software that goes along with the laser scanner used. For instance, FARO laser scanners use a software program called SCENE. [166]

[163]"3D Scanner | 3D Scanner Technology."*3d Scanners and 3d Scanning Technology - 3d Digital Corp.* Web. 12 Oct. 2010. <http://www.3ddigitalcorp.com/3d-scanner.shtml>.
[164] Ibid.
[165]Spilman, Richard. "3D Laser Scanning the Hold of the Charles W. Morgan."*Old Salt Blog – a Virtual Port of Call for All Those Who Love the Sea*. 2009. Web. 01 Nov. 2010. <http://www.oldsaltblog.com/2010/03/06/3d-laser-scanning-the-hold-of-the-charles-w-morgan/>.
[166]"3D Scanner | 3D Scanner Technology."*3d Scanners and 3d Scanning Technology - 3d Digital Corp.* Web. 12 Oct. 2010. <http://www.3ddigitalcorp.com/3d-scanner.shtml>.

Laser Scanner Analysis Using FARO—Focus3D



Appendix M: Overall Comparison of Measuring Techniques and Final Decision



Appendix N: Example Corporate Sponsorship Letter

Date

Address

To Whom It May Concern,

Arzanà is a non-profit organization, located in Venice, Italy, that focuses on the restoration and preservation of traditional Venetian watercrafts. Arzanà was founded in 1992. Currently, nearly 20 years after the organization's inception, Arzanà has collected and cataloged many artifacts and is in the process of creating a full museum of these artifacts. The biggest portion of exhibits continues to be the 50+ traditional Venetian watercrafts Arzanà has collected. Some are the only of its kind left in the world. With many boats having a life span of 25-50 years, several boats have significant degradation and, if nothing is done, will deteriorate beyond recognition in less than 5 years. If this happens, hundreds of years of Venetian heritage will be lost forever.

For this reason, four Worcester Polytechnic Institute (WPI) students have researched and analyzed several different methods of measuring and modeling these watercrafts for preservation and reconstruction. Their research has found that photogrammetry, using PhotoModeler, for both precision and ease of use, is significantly better than all other methods tested. Given these results, the WPI students have created plans for an international effort in the summer of 2011, using PhotoModeler, that will generate digital models of Arzanà's collection, preserve all deteriorating watercrafts in Arzanà's collection, and construct replicas that will be used to educate the international community of Venice's maritime heritage.

Currently, Arzanà has several boat specialists from Maine, Massachusetts, and Connecticut who have expressed significant interest in working with Arzanà in the summer of 2011. Their expertise in boat design, modeling, and restoration is vital to the success of this international effort. It is for this reason that we are asking for enough financial support to bring these boats specialists to Venice next summer. Upon the successful completion of modeling and preserving our collection, we will be holding a citywide event, with our newly preserved boats as a key exhibit. Furthermore, we will be documenting the project throughout the summer, in particular the use of PhotoModeler, and submit a press release to several boating magazines worldwide.

With your support, we can successfully create digital models of Arzanà's entire boat collection and preserve the deteriorating watercrafts, before it is too late and a part of Venice's rich heritage is lost forever. Thank you very much for your time and consideration. A full project proposal is available upon request. If you have any questions or comments, feel free to contact _____ at _____.

Sincerely,

_____

President – Arzanà

Appendix O: Arzanà Bylaws

Lo Statuo

Art. 1 “Arzanà” è una associazione culturale senza scopo di lucro, costituita e con sede a Venezia, che si propone come fine di riunire gli appassionati di marineria, particolarmente di quella adriatica e veneta, di promuovere lo studio e la storia dei mezzi nautici, la valorizzazione della cultura nautica e delle relative tradizioni, la conservazione di imbarcazioni di particolare valore storico e culturale e l’organizzazione di manifestazioni, raduni e mostre.

Patrimonio

Art. 2 Il patrimonio è costituito: dai beni mobili ed immobili che diverranno di proprietà dell’associazione; da eventuali fondi di reserva costituiti con le accedenze di bilancio; da eventuali erogazioni, donazioni e lasciti. Le entrate dell’associazione sono costituite: dalle quote sociali; dall’utile derivante da manifestazioni o partecipazione ad esse; da ogni altra entrata che concorra ad incrementare l’attivo sociale

Esercizi Sociali.

Art. 3 L’esercizio finaziario si chiude al trentuno dicembre di ogni anno. Entro 60 giorni dalla fine dell’esercizio verranno predisposti dal Consiglio il bilancio consuntivo e quello preventivo dell successivo esercizio.

Soci

Art. 4 L’associazione si compone di un numero indeterminato di soci. Sono soci fondatori i sottoscrittori dell’atto costitutivo; soci ordinari sono le persone fisiche o giuridiche la cui domanda di ammissione sia accettata dal Consiglio con voto di almeno quattro quinti.

Cessazione

Art. 5 La qualità di socio si perde per decesso, dimissione, morosità o indegnità. La morosità verrà dichiarata dal consiglio, l’indegnità dai soci.

Amministrazione

Art. 6 L’Associazione è amministrata da un Consiglio Direttivo composto da cinque membri eletti dall’Assemblea dei soci per la durata di due anni e rieleggibile. In caso di dimissione o decesso di un consigliere, il Consiglio alla prima riunione provvede alla sua sostituziione per cooptazione, chiedendone la convalida alla prima Assemblea annuale.

Art. 7 Il Consiglio nomina nel propio seno un Presidente, un Vice Presidente ed un Segretario, ove a tali nomine non abbia provveduto l’Assemblea dei soci.

Art. 8 Il Consiglio si riunisce tutte le volte che il Presidente lo ritenga necessario o che ne sia fatta richiesta da almeno due dei suoi membri, e comunque almeno una volta all'anno. Per la validità delle deliberazioni occorre la presenza effettiva della maggioranza dei membri del Consiglio ed il voto favorevole della maggioranza dei presenti: in caso di parità prevale il voto di chi presiede. Il Consiglio è presieduto dal Presidente, in sua assenza dal Vice Presidente.
Delle riunioni di Consiglio verrà sottoscritto dal Presidente e dal Segretario.
Art. 9 Il Consiglio Direttivo è investito dei più ampi poteri per la gestione ordinaria e straordinaria dell'Associazione, senza limitazioni.
Art. 10 Il Presidente, ed in sua assenza il Vice Presidente, rappresenta legalmente l'Associazione nei confronti di terzi ed in giudizio; cura l'esecuzione dei deliberati dell'Assemblea e del Consiglio; nei casi di urgenza può esercitare i poteri del Consiglio, salvo ratifica da parte di questo allaprima riunione.
Assemblee
Art. 11 I soci ordinari sono convocati in assemblea dal Consiglio un volta all'anno entro il 31 marzo, mediante comunicazione scritta diretta a ciascun socio, contente l'ordine del giorno, inviata almeno quindici giornia prima di quello fissato per l'adunanza.
Art. 12 L'assemblea delibera sul bilancio consuntivo e preventivo sugli indirizzi e direttive generali dell'associazione, sulla nomina dei componenti il Consiglio Direttivo sulle modifiche dell'atto constitutivo e statuto, e su tutto quanto altro è demandato ad essa per legge o per statuto.
Art. 13 Hanno diritto di intervenire all'assemblea tutti i soci in regola con il pagamento della quota annuale di associazione.
Art. 14 L'assemblea è presieduta dal Presidente del Consiglio, in mancanza dal Vice Presidente, in mancanza l'Assemblea nomina il proprio Presidente. Delle riunioni di assemblea si redige processo verbale firmato dal Presidente e dal Segretario.
Scioglimento
Art. 15 Lo scioglimento dell'Associazione è deliberato dall'Assemblea la quale provvederà alla nomina di un liquidatore e delibererà in ordine alla devoluzione dell'eventuale patrimonio.
Controversie
Art. 16 Tutte le eventuali controversie sociali tra soci e tra questi e l'Associazione saranno sottoposte con esclusione di ogni altra giurisdizione, alla competenza di tre probiviri da

nominarsi dall’Assemblea: essi giudicheranno senza formalità di procedura ed il loro lodo sarà inappelabile.

Appendix P: Arzanà Bylaws Translated into English

The Statute

Article 1 "Arzanà" is a nonprofit cultural association, founded and based in Venice, which aims to combine, marine enthusiasts, especially the Adriatic and the Venetian, to promote the study and history of media water, development of marine culture and its traditions, the preservation of vessels of particular historical and cultural organization of demonstrations, rallies and exhibitions.

Heritage

Article 2 The assets consist of: movable and immovable property which become the property of the association, from any reserve funds established with the Acceding budget, from any grants, donations and legacies. The revenue of the association shall consist of: the shares, the utility resulting from events or participation in them, any other income that contributes to increase the social assets

Financial year

Article 3 The financial accounting year ends on December 31st of each year. Within 60 days after the end of the year will be prepared by the Council on the balance sheet and the estimate of next year.

Members

Article 4 The association consists of an indeterminate number of members. Are founder members of the signers of the Constitution, ordinary members are the natural or legal persons whose application for admission is accepted by the Council by a vote of at least four-fifths.

Cessation

Article 5 Membership shall be lost by death, resignation, debts or indignity. The arrears will be declared by the Board, the indignity by the members.

Administration

Article 6 The Association is managed by a board of directors composed of five members elected by the Assembly for a term of two years and re-elected. In case of resignation or death of an adviser, the Council at the first meeting to ensure its replacement hiring, asking them to validate the first Annual Meeting.

Article 7 The Council shall appoint, in its own members a President, a Vice President and a Secretary, where such appointments have failed the shareholders' meeting.

Article 8 The Council shall meet whenever the Chairman deems necessary or that it is requested by at least two of its members, and at least once a year. The quorum necessary for the effective

presence of a majority of Council members and the majority vote of those present: in the event of a tie vote of the chairman. The Council is chaired by the President, in his absence the Vice President.

Council meetings will be signed by the President and Secretary.
Article 9 The Board is vested with powers for ordinary and extraordinary management of the Association, without limitation.

Article 10 The President, in his absence the Vice President, legally represents the Association towards third parties and in court, responsible for the implementation of the resolutions of the Assembly and Council in cases of urgency may exercise the powers of the Council , subject to ratification by the first of this meeting.

Assemblies
11 The ordinary members are invited to attend the Council meeting once a year by March 31, by written communication addressed to each member containing the agenda, sent at least fifteen days before the date fixed for the meeting.

Article 12 The Assembly shall decide on the balance sheet and budget on the broad and general guidelines of the association, the appointment of members of the Executive Council on amendments to the constitutive and status, and whatever else is delegated to it by law or Regulations.

Article 13 The right to attend the meeting all members in good standing by paying the annual membership fee.

Article 14 The meeting is chaired by the Prime Minister, in the absence of the Vice President, lack the Assembly shall appoint its Chairman. The meetings of Assembly shall draw up a report signed by the President and Secretary.

Dissolution
Article 15 The dissolution of which will be resolved by the appointment of a liquidator and decide as to the devolution of any property.

Disputes
Article 16 Any dispute between the social partners and between them and the Association will be subject to the exclusion of any other jurisdiction, the jurisdiction of three arbitrators to be appointed by the Assembly: they judge without the formality of procedure and their award will inappealabile.

Appendix Q: Map of Forte Marghera

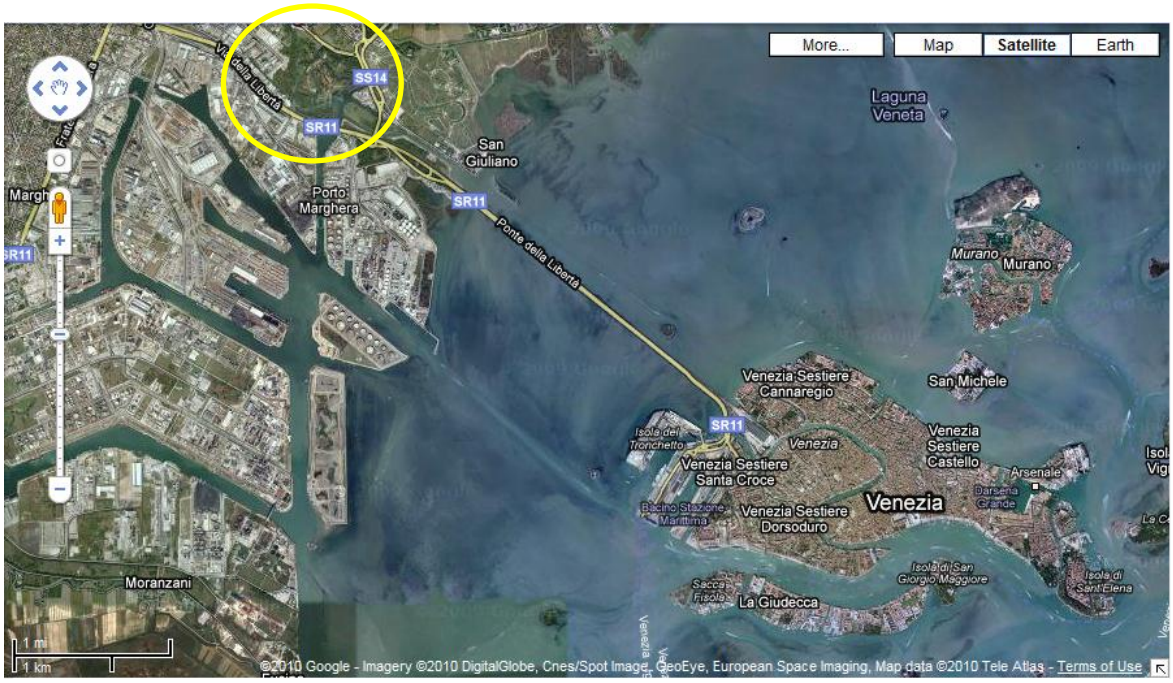


Figure 97: Google Satelite Image of Forte Marghera in Relation to Venice

Figure 98: Zoomed in Google Satellite Image of Forte Marghera

Appendix R: Vernacular Culture Preservation Society By-Laws

THE BYLAWS OF THE

Vernacular Culture Preservation Society

Last Revised November 11, 2010

ARTICLE I

NAME AND ADDRESS

1.1 Name. The name of the corporation is "Vernacular Culture Preservation Society, Inc." (hereinafter, "VCPS").

1.2 Registered Office. The registered office and the registered agent of VCPS are those set forth in its Articles of Incorporation. The officer and agent may be changed from time to time by the Board of Directors of VCPS.

1.3 Principal Office. The principal office of VCPS shall be located at such place within the State of Massachusetts as is designated by the Board of Directors from time to time.

ARTICLE II

DEFINITIONS

2.1 Definitions. The following words, when used in these Bylaws, or in any amendment to these Bylaws, shall have the following meanings (unless the context clearly states otherwise):

2.1.1 "Chapter" shall mean and refer to Members of VCPS who want to create a local organization affiliated with VCPS, a not-for-profit corporation organized under the provisions of the State of Massachusetts.

2.1.2 "Board" or "Board of Directors" shall mean and refer to the Board of Directors of the Chapter.

2.1.3 "Director" shall mean and refer to a Member of the Board of Directors of the Chapter.

2.1.4 "Officer" shall mean and refer to the President, the Vice President, the Secretary or the Treasurer,

2.1.5 "Member" shall mean and refer to every person who holds Membership in the Chapter.

2.1.6 "Bylaws" shall mean and refer to these Bylaws, as amended from time to time.

ARTICLE III

PURPOSE, MISSION AND OBJECTIVES

3.1 Purpose: The purposes VCPS are set forth in the Articles of Incorporation.

3.2 Mission. The mission of VCPS is to protect and preserve vernacular heritage in accordance with local, state, federal, and international legislation.

3.3 Objectives.

3.3.1 To encourage and stimulate public interest in vernacular heritage through lectures, exhibitions, publications and other activities;

3.3.2 To employ such personnel as may be necessary in carrying out the Chapter's functions; and

3.3.3 To fund the above-described programs through Membership dues, publication, lecture and exhibition fees and contributions from Members of the profession, the business community, the public and local, state and national funding agencies.

ARTICLE IV

POLICIES

4.1 Policies. VCPS shall be noncommercial, nonsectarian and nonpartisan.

ARTICLE V

MEMBERSHIP

5.1 Conditions of Membership. Members of the Chapter shall consist of those persons, without limit as to number, who are interested in the objects and purposes of the Chapter. No one may be a Member of the Chapter without being a Member of VCPS.

5.2 Description of Members. Members may consist of any of the following:

5.2.1 Individuals who represent companies that supply supportive services and materials to VCPS.

5.2.2 Individuals who subscribe to an annual membership fee.

5.3 Categories of Membership. The Board of Directors of VCPS shall establish the categories of Membership of the Chapter.

5.4 Establishment of Annual Dues. The Board of Directors of VCPS shall establish the annual dues of all categories of Membership of the Chapter.

5.5 Payment of Membership Dues. All dues shall be paid annually to the office of VCPS.

ARTICLE VI

MEETINGS OF THE MEMBERSHIP

6.1 Place of Meetings. Every meeting of the Members shall be held at the office of the Chapter or at such other place within or without the State of Massachusetts as determined by the Board of Directors or the President.

6.2 Annual Meeting. A meeting of Members shall be held annually on the second Tuesday of December, beginning with the year 2010, at such time and such place within the State of Massachusetts as may be designated in the notice of such meeting, for the election of Directors and Officers and for the transaction of such other business as may properly come before the Board of Directors at that time. Should such a day be a legal holiday, then such meeting shall be held on the following Friday which is not a legal holiday. The Board may provide by resolution for the holding of such additional regular meetings as it may deem proper each without other notice than such standing resolution itself.

6.3 Special Meetings. A special meeting of the Members may be called at any time by the Board of Directors, by the President or by the Secretary and must be called by the President or

Secretary upon the written demand of Members holding twenty-five percent of the votes entitled to be cast at such a meeting. The written demand shall state the date and purpose of the meeting.

The only business, which may be transacted at a special meeting of the Members, is that which relates to the purpose of the meeting as stated in the written demand and in the notice of the meeting.

6.4 Notice of Meetings of the Members. A written notice of each annual or special meeting shall be sent, via mail, email, or hand-delivery to every Member entitled to vote at the meeting not less than ten (10) nor more than fifty (50) days before the date of such meeting. Such notice shall state the place, date and time of the meeting and, in the case of a special meeting, the purpose of the meeting and that the notice is being issued by those calling the meeting. If mailed, the notice shall be deemed to be delivered when deposited in the United States mail addressed to the member at his or her address as it appears on the records of the corporation, with postage thereon prepaid. Attendance at any meeting by a Member shall constitute a waiver of notice of the meeting, except where a Member attends a meeting for the expressed purpose of objection to the transaction of any business on the ground that the meeting is not lawfully called or convened.

6.5 Adjournment of Meeting. If a meeting is adjourned to another time or place, it shall not be necessary to give any notice of the adjourned meeting provided details of the new time and place are given at the time of adjournment. Only business that might have been transacted at the original meeting may be transacted at the adjourned meeting. However, if after the adjournment, the Board fixes a new time or place for the adjourned meeting, notice must be given to all

Members entitled to vote at the meeting.

6.6 Quorum of Members. A majority of Members entitled to vote at a meeting of the Members, either present or represented by proxy, shall constitute a quorum for the transaction of any business at any such meeting. When a quorum is once present to organize a meeting of

Members; it is not broken by the subsequent withdrawal of Members or their proxies. The

Member present or represented by a proxy at any meeting of Members, including an adjourned meeting, whether or not a quorum is present, may adjourn the meeting from time to time without notice other than announcement at the meeting, until a quorum is present.

6.7 Voting. Every Member shall be entitled to one vote at every meeting of Members. All matters, except as otherwise provided by the Articles of Incorporation or these Bylaws, shall be decided by a majority of the votes cast at the meeting.

6.8 Chairman of Meeting. At every meeting of Members, the President, or in the absence of the

President, the Vice President, shall act as Chairman of the meeting. In the absence of both the

President and Vice President, a Chairman of the meeting shall be chosen by a majority of the votes cast by the Members present or represented by proxy and entitled to vote at the meeting.

6.9 Written Consent of Members without a Meeting. Whenever the Members are required or permitted to take an action by vote, such action may be taken without a meeting on written consent, setting forth the action taken or to be taken, signed by the Members entitled to vote on the action. Such consent shall have the same effect as a majority vote of the Members.

6.10 Proxies. A vote may be cast by proxy executed in writing by the Member whose vote is subject to proxy. All proxies shall be in writing and filed with the Secretary before the meeting. Written votes may be submitted electronically.

ARTICLE VII

BOARD OF DIRECTORS

7.1 Board of Directors.

7.1.1 The initial Directors of VCPS are named in the Articles of Incorporation.

7.1.2 Only Members may be elected to serve as Directors.

7.1.3 Each Director shall serve until his or her successor is elected and takes office at the close of the annual meeting or at a special meeting called for the purpose of electing a director.

7.1.4 Directors may be reelected and may serve unlimited consecutive terms.

7.1.5 All officers shall serve as ex-officio members of the Board of Directors during their terms as officers. Once officers leave office, they are permitted to seek election as directors.

7.2 Powers of Directors. The Board of Directors shall determine the policies and activities of the

Chapter, approve the annual Plan of events and expenditures, authorize disbursements, take counsel with committees and have general management of the Chapter and its affairs. The Board of Directors may enter into contracts and may employ, or authorize the employment of, paid personnel and fix the terms and conditions of such employment.

7.3 Number and Election. The Board of Directors shall consist of no less than three (3) nor more than seven (9) Members (including the Officers) as determined from time to time by the Board of Directors. The Directors shall be elected at the annual meeting of the Members or any special meeting called for the purpose of electing a Director should the number of Directors fall below the minimum required.

7.4 Meeting of Directors.

7.4.1 Regular meetings of the Board of Directors shall be held at such time and place as the Board of Directors appoints. No notice shall be required of regular meetings.

7.4.2 Special meetings of the Board of Directors may be called by the President or any Director, with the provision of two (5) business days notice via letter, email, telephone, facsimile or verbal message to each Director.

7.4.3 Attendance of Directors at any meeting shall constitute a waiver of notice of such meeting except where a Director attends a meeting for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened.

7.5 Voting of Directors. Except as otherwise provided by these Bylaws:

7.5.1 A majority of the Directors in office shall constitute a quorum for the transaction of business.

7.5.2 Each Director is entitled to one vote.

7.5.3 The acts of a majority of the Directors present at any meeting at which a quorum is present shall be the acts of the Board of Directors.

7.6 Powers of Directors. All powers of VCPS shall be exercised by or under the authority of the Board of Directors and all the business affairs of VCPS shall be supervised by the Board of Directors. The Board of Directors shall have the power to conduct and manage the affairs and business of the Corporation and shall make all major policy decisions of VCPS.

7.7 Removal of Directors/Resignation. Subject to the provisions of the State of Massachusetts' not-for-profit corporation laws, any or all of the Directors may be removed by a majority vote of the Board, provided there is a quorum of not less than a majority present at the meeting of Directors at which such action is taken. A Director may resign his or her position by tendering written notice to all of the other Directors, which shall take effect immediately upon the receipt of such notice by any of the Directors.

7.8 Compensation and Reimbursement. Directors shall not receive any compensation or remuneration for their services as directors. However, Directors shall be entitled to receive from the Chapter reimbursement for the reasonable expenses incurred in the performance of their duties, as determined by the Board.

7.9 Employees and Consultants as Directors. Directors are eligible to be consultants, vendors and/or employees of VCPS and to receive fair and adequate, compensation for their services as such. Payment for such services shall not be deemed inconsistent with Section 7.8, above.

7.10 Place and Time of Meeting of the Board. Any meeting of the Board, regular or special, may be held at any place within or without the State of Massachusetts. Directors shall receive notice of the place and time of the meeting of the Board in person or via telephone, email, facsimile or mail.

7.11 Adjourned Meetings. A majority of Directors present at any meeting of the Board, including an adjourned meeting, whether or not a quorum is present, may adjourn the meeting to another time and place. Notice of any adjourned meeting of the Board shall be given to all Directors

whether or not present at the time of the adjournment. Any business may be transacted at any adjourned meeting that might have been transacted at the meeting as originally called.

7.12 Informal Action. Any action which may be taken at a meeting of the Directors may be taken without a meeting if written consent setting forth the action so taken shall be signed by all of the

Directors and shall be filed with the Secretary of the Chapter.

7.13 Telephone Participation in Meetings. One or more Directors may participate in a meeting of the Board of Directors, by means of a conference telephone call, provided that all persons participating in the meeting can hear each other.

7.14 Written Consent. Any action required to be taken by the Board of Directors may be taken without a meeting, if all the members of the Board shall individually or collectively consent in writing, including by email, to such action. Such written consents shall be filed with the minutes of the proceedings of the Board, and such action by written consent shall have the same force and effect as a unanimous vote of the Directors.

ARTICLE VIII

OFFICERS

8.1 Executive Committee. The Executive Committee shall consist of the following officers: President, Treasurer, Secretary, and two members at large as voted on at the annual meeting.. In the case of a vacancy of office, the remaining officers shall fulfill the duties of the vacant office until a successor is appointed by the Board of Directors and takes office.

8.2 Election. Only Members may serve as Officers. Candidates for office shall be nominated by one of the Directors and elected at the annual meeting by a majority vote of the Board of Directors.

8.3 Duties of Officers.

8.3.1 The President shall be the chief executive officer of VCPS and shall in general supervise and control all the business and affairs of VCPS. The President shall

implement the policies formulated by the Board of Directors. The President shall preside at all meetings of VCPS, unless he or she is unable, in which event the Vice President shall preside. The President shall be an ex-officio Member of all committees and shall appoint all committee Members unless otherwise provided by the Bylaws. The President may, together with the Secretary, execute on behalf of VCPS any contract or other written instruction to which VCPS is a party. The President shall perform such other duties as may be prescribed in these bylaws or assigned to him by VCPS or by the Board of Directors and shall coordinate the work of all Officers and committees of VCPS in order that the purposes of VCPS may be promoted.

8.3.2 The Vice President shall act as an aide to the President and shall perform the duties of the President in the absence or disability of that Officer to act. The Vice President shall maintain the Chapter Membership. The Vice President shall forward on a monthly basis any address changes of Members in the Chapter to the national office in order to facilitate the national office's recordkeeping and monthly exchange of Membership information with the Chapter.

8.3.3 The Secretary shall record the minutes of all meetings of the Board and the Members. The Secretary shall give notice of all meetings to the Directors and Members entitled to notice, as specified in these Bylaws. The Secretary shall have custody of all books, records and papers of VCPS except when any of such documents shall be maintained by the Treasurer or some other person authorized to have such custody. The Secretary shall keep a correct and permanent record of the Chapter contact list, including Membership; maintain appropriate and accurate accounts and records of all Chapter activities. The Secretary shall perform such other duties as may be assigned to him or her by the President or the Board of Directors.

8.3.4 The Treasurer shall have custody of all of the funds and securities of VCPS and see that they are deposited in such banks or trust companies as the Board of Directors shall designate. The Treasurer shall have entered regularly a full and accurate account of all monies received and disbursed by AIGA Albuquerque, together with such other reports as he or she may from time to time be called upon to do by the President or the Board of Directors. The Treasurer shall make disbursements as authorized by the President or the Board of Directors. The Treasurer shall make a full financial report at the annual meeting of the Chapter and at such other times as the President or the Board of Directors may require. The Treasurer shall be responsible for the maintenance of all accounts and financial records. The Treasurer shall be responsible for the preparation and filing of income tax returns and other corporate filings required by the Massachusetts Taxation and Revenue Department and the Internal Revenue Service, which preparation and filing he or she may perform or may delegate to another Officer or to a certified public accountant to perform, as determined by the Board of Directors. The Treasurer shall be responsible for the collection of dues and all other funds (except those designated by the Board of Directors to be collected otherwise) and the deposit of such funds in appropriate Chapter accounts. The

Treasurer shall perform such other duties as may be assigned to him or her by the President or the Board of Directors.

8.4 Terms.

8.4.1 The terms of the Initial Officers shall be as follows:

(a) The initial President's term shall commence immediately and expire on December 31, 2011;

(b) The initial Vice President's term shall commence immediately and expire on December 31, 2012;

(c) The initial Secretary's term shall commence immediately and expire on December 31, 2011; and

(d) The initial Treasurer's term shall commence immediately and expire on December 31, 2012.

8.4.2 After the expiration of the terms of the initial Officers, the terms of the subsequent Officers shall be as follows:

(a) The President shall serve a one-year term;

(b) The Vice President shall serve a two-year term;

(c) The Secretary shall serve a one-year term; and

(d) The Treasurer shall serve a two-year term.

8.5 Interim Officers and Vacancies.

8.5.1 Each Officer shall continue to serve in his or her office after his or her term expires until the time that his or her successor is duly elected and takes office.

8.5.2 In the event an Officer resigns, the Board of Directors shall either direct the remaining officers to fulfill the duties of the vacant office until the next annual

meeting or appoint a Member as an interim officer to serve the remainder of the departed Officer's term. Until such time that the vacant office is filled, the remaining Officers shall perform the duties of the vacant office.

8.6 Resignations. Any Officer may resign at any time by written notice to the President or Secretary. The resignation shall be effective immediately upon receipt of such notice by the President or the Secretary.

8.8 Forwarding Documents. Officers shall deliver to their successors all official material and documents not later than ten (l0) days following the election of their successors or immediately upon resignation.

ARTICLE IX

COMMITTEES

9.1 Creation of Committee and Appointment. The Board of Directors may adopt a resolution by a majority vote to establish such committees as the Board deems necessary to aid VCPS in carrying out its activities. The Board shall appoint at least two (2) Directors to serve on each committee. The Board may appoint from the Executive Office or the Membership additional Members to serve on each committee. Chapter committees shall report to the Board of Directors and may be altered at any time by the Board of Directors.

9.2 Authority of Committee. Each committee shall have and exercise all of the authority delegated to it by the Board as specified in the resolution establishing the committee.

9.3 Vacancies. A vacancy in any committee shall be filled by appointment by the President.

ARTICLE X

FINANCE AND ACCOUNTING

10.1 Fiscal Year. The Fiscal year of this Chapter shall be from January 1st to December 31st.

10.2 Accounting. The Board of Directors shall install and maintain an efficient system of accounts.

10.3 Annual Budget. The Board of Directors shall, by a majority, vote, adopt and pass a budget no later than two months after the induction of the new Board each year, or March 31st whichever occurs first. The budget shall contain a statement of the current budget surplus or deficit and shall list the planned appropriations as well as anticipated revenues, if known at the time, for the fiscal year. The Board of Directors shall be permitted to make appropriations not listed in the budget as long as the appropriations do not exceed the gross amount of the annual budget.

10.4 Disbursements. All disbursements shall be made by voucher checks, which shall show the payee, the items of service rendered or materials purchased and the amount of payment.

Disbursements shall not exceed the gross amount of the annual budget, except as approved by formal action of a majority of the Board of Directors.

10.5 Deposits and Institutions. The Board of Directors shall designate the depositories of all

funds of the Chapter.

10.6 Signatures. The Board of Directors shall have the power to authorize which Officers and employees, besides the Treasurer, may execute voucher checks. Such changes and/or additions shall be made in an appropriate timeframe with the proper institution. When those designated to sign checks are unable to perform their functions, the Board of Directors shall designate substitutes.

10.7 Audit. The Board of Directors may provide for the audit of the Chapter's accounting systems, provided that such audit be performed only by a qualified certified public accountant.

ARTICLE XI

AMENDMENTS

11.1 Amendments. The Board of Directors may amend these Bylaws by a majority vote of Board.

11.2 VCPS Chapters. A copy of the bylaws and any amended bylaws shall be submitted to the VCPS national office for its records.

ARTICLE XII

NATIONAL AFFILIATION

12.1 Responsibilities. VCPS shall undertake to perform to the fullest extent practicable those responsibilities defined within VCPS Bylaws, Chapter Guidelines and Minimum Standards of Service for VCPS Chapters. VCPS chapter activities shall be compatible with the policies and objectives of VCPS, and on notice from the VCPS Board of Directors, shall cease conducting those activities deemed by the latter to be incompatible, unless such cessation would result in a violation of the Chapter's Articles of Incorporation or the laws of the State of Massachusetts.

12.2 Reporting. VCPS Chapter Board of Directors shall provide for the prompt delivery of all reports requested by VCPS.

12.3 Outstanding Debts. VCPS Board of Directors shall provide for the prompt payment of all indebtedness to VCPS.

12.4 Representation. As far as possible, the proper delegates from VCPS chapters shall represent the Chapter at all appropriate conferences and meetings organized by VCPS. The Board of Directors shall make provision for the expense of representation at such events in preparing the budget of the Chapter.

ARTICLE XIII

DISSOLUTION

13.1 Dissolution. VCPS may be dissolved only after its Board of Directors meets and adopts, by a vote of a majority of the Board, a resolution recommending that the corporation be dissolved, and approval of the dissolution is granted by VCPS. The Board shall follow the dissolution procedures set forth in the Articles of Incorporation.

ADOPTED this 11 day of November, 2010 by the Board of Directors of the VCPS.

Executed by: Daniel B. Pierson.

Appendix S: VCPS Conflict of Interest Policy

CONFLICT OF INTEREST POLICY

OF

VERNACULAR CULTURE PRESERVATION SOCIETY, INC.

ARTICLE I

PURPOSE

The Purpose of this conflict of interest policy is to protect the interest of Vernacular Culture Preservation Society, Inc. (the "Corporation") when it is contemplating entering into a transaction or arrangement that might benefit the private interest of an officer or director of the Corporation or might result in a possible excess benefit transaction. This policy is intended to supplement but not replace any applicable state and federal laws governing conflict of interest applicable to nonprofit and charitable organizations.

ARTICLE II

DEFINITIONS

1. Interested Person. Any director, principal officer, or member of a committee or advisory board with governing board delegated powers, who has a direct or indirect financial interest, as defined below, is an interested person.

2. Financial Interest. A person has a financial interest if the person has, directly or indirectly, through business, investment, or family:

    a. An ownership or investment interest in any entity with which the Corporation has a transaction or arrangement;

    b. A compensation arrangement with the Corporation or with any entity or individual with which the Corporation has a transaction or arrangement; or

c. A potential ownership or investment interest in, or compensation arrangement with, any entity or individual with which the Corporation is negotiating a transaction or arrangement.

Compensation includes direct and indirect remuneration as well as gifts or favors that are not insubstantial.

A financial interest is not necessarily a conflict of interest. Under Article III, Section 2, a person who has a financial interest may have a conflict of interest only if the appropriate governing board or committee decides that a conflict of interest exists.

ARTICLE III

PROCEDURES

1. Duty to Disclose. In connection with an actual or possible conflict of interest, an interested person must disclose the existence of the financial interest and be given the opportunity to disclose all material facts to the directors and members of committees with governing board delegated powers considering the proposed transaction or arrangement.

2. Determining Whether a Conflict of Interest Exists. After disclosure of the financial interest and all material facts, and after any discussion with the interested person, he or she shall leave the governing board or committee meeting while the determination of a conflict of interest is discussed and voted upon. The remaining board or committee members shall decide if a conflict of interest exists.

3. Procedures for Addressing a Conflict of Interest.

    a. An interested person may make a presentation at the governing board or committee meeting, but after the presentation, he or she shall leave the meeting during the discussion of, and the vote on, the transaction or arrangement involving the possible conflict of interest.

b. The chairperson of the governing board or committee shall, if appropriate, appoint a disinterested person or committee to investigate alternatives to the proposed transaction or arrangement.

c. After exercising due diligence, the governing board or committee shall determine whether the Corporation can obtain with reasonable efforts a more advantageous transaction or arrangement from a person or entity that would not give rise to the conflict of interest.

d. If a more advantageous transaction or arrangement is not reasonably possible under circumstances not producing a conflict of interest, the governing board or committee shall determine by a majority vote of the disinterested directors whether the transaction or arrangement in the Corporation's best interest, for its own benefit, and whether it is fair and reasonable. In conformity with the above determination, it shall make its decision as to whether to enter into the transaction or arrangement.

4. Violation of the Conflict of Interest Policy.

a. If the governing board or committee has reasonable cause to believe a member has failed to disclose actual or possible conflicts of interest, it shall inform the member for the basis for such belief and afford the member an opportunity to explain the alleged failure to disclose.

b. If, after hearing the member's response and after making further investigation as warranted by the circumstances, the governing board or committee determines the member has failed to disclose an actual or possible conflict of interest, it shall take appropriate disciplinary and corrective action.

ARTICLE IV

RECORDS OF PROCEEDINGS

The minutes of the governing board and all committees with board delegated powers shall contain: (a) the names of the persons who disclosed or otherwise were found to have a financial interest in connection with an actual or possible conflict of interest, the nature of the financial interest, any action taken to determine whether a conflict of interest was present, and the governing board's or committee's decision as to whether a conflict in fact existed; and (b) the

names of the persons who were present for discussion and votes relating to the transaction or arrangement, and a record of any votes taken in connection with the proceedings.

ARTICLE V

COMPENSATION

1. A voting member of the governing board who receives compensation, directly or indirectly, from the Corporation for services is precluded from voting on matters pertaining to that member's compensation.

2. A voting member of any committee whose jurisdiction includes compensation matters and who receives compensation directly or indirectly, from the Corporation for services is precluded from voting on matters pertaining to that member's compensation.

3. No voting member of the governing board or any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the Corporation, either individually or collectively, is prohibited from providing information to any committee regarding compensation.

ARTICLE VI

ANNUAL STATEMENTS

Each director, principal officer and member of a committee with governing board delegated powers shall annually sign a statement which affirms such person: (a) has received a copy of the conflicts of interest policy; (b) has read and understands the policy; (c) has agreed to comply with the policy; (d) and understands the Corporation is charitable and in order to maintain its federal tax exemption it must engage primarily in activities which accomplish one or more of its tax-exempt purposes.

ARTICLE VII

PERIODIC REVIEWS

To ensure the Corporation operates in a manner consistent with charitable purposes and does not engage in activities that could jeopardize its tax-exempt status, periodic reviews shall be conducted. The periodic review shall, at a minimum, include the following subjects: (a) whether compensation arrangements and benefits are reasonable, based on competent survey information, and the result of arm's length bargaining; and (b) whether partnerships, joint ventures and arrangements with management organizations conform to the Corporation's written policies, are properly recorded , reflect reasonable investment or payments for goods and services, further charitable purposes and do not result in inurement, impermissible private benefit or in an excess benefit transaction.

ARTICLE VIII

USE OF OUTSIDE EXPERTS

When conducting the periodic reviews as provided for in Article VII, the Corporation may, but need not, use outside advisors. If outside experts are used, their use shall not relieve the governing board of its responsibility for ensuring periodic reviews are conducted.

Appendix T: Action of Directors by Written Consent

Vernacular Culture Preservation Society, Inc.

November 29, 2010

ACTION OF DIRECTORS BY WRITTEN CONSENT

The undersigned, being all of the members of the Board of Directors of Vernacular Culture Preservation Society, Inc. (the "Corporation"), pursuant to the provisions of Chapter 180 of the General Laws of the Commonwealth of Massachusetts and the By-laws of the Corporation, consent to the adoption of the following votes:

VOTED: That the Consent of Sole Incorporator setting forth the written organization action taken by the Sole Incorporator of the Corporation, including the adoption of the By-laws of this Corporation, is hereby in all respects ratified and approved.

VOTED: That the Vice President, acting singly, is authorized and directed on behalf of the Corporation to file Form 1023: Application for Recognition of Tax Exempt Status under Section 501(c)(3) of the Internal Revenue Code with the Internal Revenue Service and to do any and all other things necessary to obtain tax exempt status for the Corporation.

VOTED: That the proper officers of the Corporation be and each of them hereby is authorized to open such bank accounts as each of the President or the Treasurer may deem necessary or desirable and that the Board of Directors hereby approves, as if set forth in full herein, any standard bank resolutions required for the opening of such accounts, and all instruments, documents, and papers heretofore executed in connection therewith, and they hereby are, approved, adopted, and ratified.

VOTED: That the Conflict of Interest Policy in the form proposed and attached to this Consent as Exhibit A be and hereby is adopted as the Corporation's Conflict of Interest Policy.

IN WITNESS WHEREOF, this Consent has been executed and shall be filed with the records of the Corporation and shall for all purposes be treated as votes taken at a meeting.

DIRECTORS:

Appendix U: Consent of Sole Incorporator

Vernacular Culture Preservation Society, Inc.
November 29, 2010

CONSENT OF SOLE INCORPORATOR

I, Daniel Pierson, being the Sole Incorporator of Vernacular Culture Preservation Society, Inc. (the "Corporation"), pursuant to Chapter 180 of the General Laws of the Commonwealth of Massachusetts, hereby consent without a meeting to the following votes:

VOTED: That the Articles of Organization of the Corporation, in the form proposed and executed by the incorporator, thereupon be submitted to the Secretary of the Commonwealth for his approval and filing, together with the proper fee for same.

VOTED: To adopt as the By-Laws of the Corporation the By-Laws circulated herewith, a copy of which is ordered to be inserted in the minute book of the Corporation.

VOTED: That the number of initial Directors of the Corporation shall be fixed at five (5) until that number is changed in accordance with the By-Laws of the Corporation.

VOTED: That the following individuals are hereby elected Directors of the Corporation for the terms indicated:

Fabio Carrera

Alberto Rizzi

each to hold office until the time fixed by the By-Laws of the Corporation and thereafter until their respective successors shall be duly elected and qualified.

VOTED: That the following individuals are hereby elected officers of the Corporation:

President:	Fabio Carrera
Treasurer:	_____
Clerk:	_____

each to hold office until the next annual meeting of the Directors and thereafter until their respective successors shall be duly elected and qualified.

IN WITNESS WHEREOF, this Consent has been executed and filed with the records of the Corporation and shall for all purposes be treated as votes taken at a meeting.

SOLE INCORPORATOR:

Appendix V: EIN Verification

IRS DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
CINCINNATI OH 45999-0023

Date of this notice: 11-26-2010

Employer Identification Number:
27-4043982

Form: SS-4

Number of this notice: CP 575 E

VERNACULAR CULTURE PRESERVATION
SOCIETY
% FABIO CARRERA
41 FORREST DR
HAMPTON, NH 03842

For assistance you may call us at:
1-800-829-4933

IF YOU WRITE, ATTACH THE
STUB AT THE END OF THIS NOTICE.

WE ASSIGNED YOU AN EMPLOYER IDENTIFICATION NUMBER

Thank you for applying for an Employer Identification Number (EIN). We assigned you EIN 27-4043982. This EIN will identify you, your business accounts, tax returns, and documents, even if you have no employees. Please keep this notice in your permanent records.

When filing tax documents, payments, and related correspondence, it is very important that you use your EIN and complete name and address exactly as shown above. Any variation may cause a delay in processing, result in incorrect information in your account, or even cause you to be assigned more than one EIN. If the information is not correct as shown above, please make the correction using the attached tear off stub and return it to us.

Assigning an EIN does not grant tax-exempt status to non-profit organizations. Publication 557, *Tax Exempt Status for Your Organization*, has details on the application process, as well as information on returns you may need to file. To apply for formal recognition of tax-exempt status, most organizations will need to complete either Form 1023, *Application for Recognition of Exemption Under Section 501(c)(3) of the Internal Revenue Code*, or Form 1024, *Application for Recognition of Exemption Under Section 501(a)*. Submit the completed form, all applicable attachments, and the required user fee to:

Internal Revenue Service
PO Box 12192
Covington, KY 41012-0192

The Pension Protection Act of 2006 contains numerous changes to the tax law provisions affecting tax-exempt organizations, including an annual electronic notification requirement (Form 990-N) for organizations not required to file an annual information return (Form 990 or Form 990-EZ). Additionally, if you are required to file an annual information return, you may be required to file it electronically. Please refer to the Charities & Non-Profits page at www.irs.gov for the most current information on your filing requirements and on provisions of the Pension Protection Act of 2006 that may affect you.

To obtain tax forms and publications, including those referenced in this notice, visit our Web site at www.irs.gov. If you do not have access to the Internet, call 1-800-829-3676 (TTY/TDD 1-800-829-4059) or visit your local IRS office.

IMPORTANT REMINDERS:

* Keep a copy of this notice in your permanent records. This notice is issued only one time and the IRS will not be able to generate a duplicate copy for you.

* Use this EIN and your name exactly as they appear at the top of this notice on all your federal tax forms.

* Refer to this EIN on your tax-related correspondence and documents.

* Provide future officers of your organization with a copy of this notice.

If you have questions about your EIN, you can call us at the phone number or write to us at the address shown at the top of this notice. If you write, please tear off the stub at the bottom of this notice and send it along with your letter. If you do not need to write us, do not complete and return the stub. Thank you for your cooperation.

Keep this part for your records. CP 575 E (Rev. 7-2007)

Return this part with any correspondence so we may identify your account. Please correct any errors in your name or address.

CP 575 E

999999999

Appendix W: 501(c)(3) Application

Department of the Treasury
Internal Revenue Service

Notice 1382

(Rev. September 2009)

Changes for Form 1023:

- Mailing address
- Parts IX, X and XI

Changes for Form 1023, Application for Recognition of Exemption Under Section 501(c)(3) of the Internal Revenue Code

Change of Mailing Address

The mailing address shown on Form 1023 Checklist, page 28, the first address under the last checkbox; and in the Instructions for Form 1023, page 4 under *Where to File,* has been changed to:

Internal Revenue Service
P.O. Box 12192
Covington, KY 41012-0192

Changes for Parts IX and X

Changes to Parts IX and X are necessary to comply with new regulations that eliminated the advance ruling process. Until Form 1023 is revised to reflect this change, please follow the directions on this notice when completing Part IX and Part X of Form 1023. For more information about the elimination of the advance ruling process, visit us at *www.irs.gov* and click on *Charities & Non-Profits.*

Part IX. Financial Data

The instructions at the top of Part IX on page 9 of Form 1023 are now as follows. For purposes of this schedule, years in existence refer to completed tax years.

1. If in existence less than 5 years, complete the statement for each year in existence and provide projections of your likely revenues and expenses based on a reasonable and good faith estimate of your future finances for a total of:

   a. Three years of financial information if you have not completed one tax year, or

   b. Four years of financial information if you have completed one tax year.

2. If in existence 5 or more years, complete the schedule for the most recent 5 tax years. You will need to provide a separate statement that includes information about the most recent 5 tax years because the data table in Part IX, has not been updated to provide for a 5th year.

Part X. Public Charity Status

Do not complete line 6a on page 11 of Form 1023, and **do not sign** the form under the heading "Consent Fixing Period of Limitations Upon Assessment of Tax Under Section 4940 of the Internal Revenue Code."

Only complete line 6b and line 7 on page 11 of Form 1023, if in existence 5 or more tax years.

Notice **1382** (Rev. 9-2009)
Cat. No. 52336F

Part XI. Increase in User Fees.

User fee increases are effective for all applications postmarked after January 3, 2010.

1. $400 for organizations whose gross receipts do not exceed $10,000 or less annually over a 4-year period.

2. $850 for organizations whose gross receipts exceed $10,000 annually over a 4-year period.

See *www.irs.gov* web page link on Form 1023, page 12, Part XI, User Fee Information, for the current user fees.

Cyber Assistant, a web-based software program designed to help organizations prepare a complete and accurate Form 1023 application, will become available during 2010. Once the IRS announces the availability of Cyber Assistant, the user fees will change again.

1. $200 for organizations using Cyber Assistant (regardless of size) to prepare their Form 1023, or

2. $850 for all other organizations not using Cyber Assistant (regardless of size) to prepare their Form 1023.

IRS will announce when Cyber Assistant is available and the effective date of the user fee change. Sign up for the *Exempt Organization (EO) Update,* EO's subscription newsletter, at *www.irs.gov/charities,* to automatically receive an alert that Cyber Assistant is available.

Form **1023**
(Rev. June 2006)
Department of the Treasury
Internal Revenue Service

Application for Recognition of Exemption
Under Section 501(c)(3) of the Internal Revenue Code

OMB No. 1545-0056

Note: *If exempt status is approved, this application will be open for public inspection.*

*Use the instructions to complete this application and for a definition of all **bold** items.* For additional help, call IRS Exempt Organizations Customer Account Services toll-free at 1-877-829-5500. Visit our website at **www.irs.gov** for forms and publications. If the required information and documents are not submitted with payment of the appropriate user fee, the application may be returned to you.

Attach additional sheets to this application if you need more space to answer fully. Put your name and EIN on each sheet and identify each answer by Part and line number. Complete Parts I - XI of Form 1023 and submit only those Schedules (A through H) that apply to you.

Part I Identification of Applicant

1 Full name of organization (exactly as it appears in your **organizing document**)
Vernacular Culture Preservation Society

2 c/o Name (if applicable)

3 **Mailing address** (Number and street) (see instructions) Room/Suite
21 Castle Ln

4 Employer Identification Number (EIN)
27-4043982

City or town, state or country, and ZIP + 4
Spencer, MA, 01562-1800

5 Month the annual accounting period ends (01 – 12)
12

6 Primary contact (officer, director, trustee, or **authorized representative**)
a Name: Daniel Pierson
b Phone: 603-498-7744
c Fax: (optional)

7 Are you represented by an authorized representative, such as an attorney or accountant? If "Yes," provide the authorized representative's name, and the name and address of the authorized representative's firm. Include a completed Form 2848, *Power of Attorney and Declaration of Representative,* with your application if you would like us to communicate with your representative. ☐ Yes ☑ No

8 Was a person who is not one of your officers, directors, trustees, employees, or an authorized representative listed in line 7, paid, or promised payment, to help plan, manage, or advise you about the structure or activities of your organization, or about your financial or tax matters? If "Yes," provide the person's name, the name and address of the person's firm, the amounts paid or promised to be paid, and describe that person's role. ☐ Yes ☑ No

9a Organization's website:

b Organization's email: (optional)

10 Certain organizations are not required to file an information return (Form 990 or Form 990-EZ). If you are granted tax-exemption, are you claiming to be excused from filing Form 990 or Form 990-EZ? If "Yes," explain. See the instructions for a description of organizations not required to file Form 990 or Form 990-EZ. ☐ Yes ☑ No

11 Date incorporated if a corporation, or formed, if other than a corporation. (MM/DD/YYYY) 11 / 24 / 2010

12 Were you formed under the laws of a **foreign country?** ☐ Yes ☑ No
If "Yes," state the country.

Part II Organizational Structure

You must be a corporation (including a limited liability company), an unincorporated association, or a trust to be tax exempt. (See instructions.) **DO NOT file this form unless you can check "Yes" on lines 1, 2, 3, or 4.**

1	Are you a **corporation**? If "Yes," attach a copy of your articles of incorporation showing **certification of filing** with the appropriate state agency. Include copies of any amendments to your articles and be sure they also show state filing certification.	☑ Yes	☐ No
2	Are you a **limited liability company (LLC)**? If "Yes," attach a copy of your articles of organization showing certification of filing with the appropriate state agency. Also, if you adopted an operating agreement, attach a copy. Include copies of any amendments to your articles and be sure they show state filing certification. Refer to the instructions for circumstances when an LLC should not file its own exemption application.	☐ Yes	☑ No
3	Are you an **unincorporated association**? If "Yes," attach a copy of your articles of association, constitution, or other similar organizing document that is dated and includes at least two signatures. Include signed and dated copies of any amendments.	☐ Yes	☑ No
4a	Are you a **trust**? If "Yes," attach a signed and dated copy of your trust agreement. Include signed and dated copies of any amendments.	☐ Yes	☑ No
b	Have you been funded? If "No," explain how you are formed without anything of value placed in trust.	☐ Yes	☑ No
5	Have you adopted **bylaws**? If "Yes," attach a current copy showing date of adoption. If "No," explain how your officers, directors, or trustees are selected.	☑ Yes	☐ No

Part III Required Provisions in Your Organizing Document

The following questions are designed to ensure that when you file this application, your organizing document contains the required provisions to meet the organizational test under section 501(c)(3). Unless you can check the boxes in both lines 1 and 2, your organizing document does not meet the organizational test. **DO NOT file this application until you have amended your organizing document.** Submit your original and amended organizing documents (showing state filing certification if you are a corporation or an LLC) with your application.

1	Section 501(c)(3) requires that your organizing document state your exempt purpose(s), such as charitable, religious, educational, and/or scientific purposes. Check the box to confirm that your organizing document meets this requirement. Describe specifically where your organizing document meets this requirement, such as a reference to a particular article or section in your organizing document. Refer to the instructions for exempt purpose language. Location of Purpose Clause (Page, Article, and Paragraph): _____	☑
2a	Section 501(c)(3) requires that upon dissolution of your organization, your remaining assets must be used exclusively for exempt purposes, such as charitable, religious, educational, and/or scientific purposes. Check the box on line 2a to confirm that your organizing document meets this requirement by express provision for the distribution of assets upon dissolution. If you rely on state law for your dissolution provision, do not check the box on line 2a and go to line 2c.	☑
2b	If you checked the box on line 2a, specify the location of your dissolution clause (Page, Article, and Paragraph). Do not complete line 2c if you checked box 2a. _____	
2c	See the instructions for information about the operation of state law in your particular state. Check this box if you rely on operation of state law for your dissolution provision and indicate the state: **Massachusetts**	☑

Part IV Narrative Description of Your Activities

Using an attachment, describe your *past, present,* and *planned* activities in a narrative. If you believe that you have already provided some of this information in response to other parts of this application, you may summarize that information here and refer to the specific parts of the application for supporting details. You may also attach representative copies of newsletters, brochures, or similar documents for supporting details to this narrative. Remember that if this application is approved, it will be open for public inspection. Therefore, your narrative description of activities should be thorough and accurate. Refer to the instructions for information that must be included in your description.

Part V Compensation and Other Financial Arrangements With Your Officers, Directors, Trustees, Employees, and Independent Contractors

1a List the names, titles, and mailing addresses of all of your officers, directors, and trustees. For each person listed, state their total annual **compensation**, or proposed compensation, for all services to the organization, whether as an officer, employee, or other position. Use actual figures, if available. Enter "none" if no compensation is or will be paid. If additional space is needed, attach a separate sheet. Refer to the instructions for information on what to include as compensation.

Name	Title	Mailing address	Compensation amount (annual actual or estimated)
Fabio Carrera	**President, Director**		

Part V **Compensation and Other Financial Arrangements With Your Officers, Directors, Trustees, Employees, and Independent Contractors** *(Continued)*

b List the names, titles, and mailing addresses of each of your five highest compensated employees who receive or will receive compensation of more than $50,000 per year. Use the actual figure, if available. Refer to the instructions for information on what to include as compensation. Do not include officers, directors, or trustees listed in line 1a.

Name	Title	Mailing address	Compensation amount (annual actual or estimated)

c List the names, names of businesses, and mailing addresses of your five highest compensated **independent contractors** that receive or will receive compensation of more than $50,000 per year. Use the actual figure, if available. Refer to the instructions for information on what to include as compensation.

Name	Title	Mailing address	Compensation amount (annual actual or estimated)

The following "Yes" or "No" questions relate to *past, present, or planned* relationships, transactions, or agreements with your officers, directors, trustees, highest compensated employees, and highest compensated independent contractors listed in lines 1a, 1b, and 1c.

2a Are any of your officers, directors, or trustees **related** to each other through **family** or **business relationships**? If "Yes," identify the individuals and explain the relationship. ☑ **Yes** ☐ **No**

b Do you have a business relationship with any of your officers, directors, or trustees other than through their position as an officer, director, or trustee? If "Yes," identify the individuals and describe the business relationship with each of your officers, directors, or trustees. ☑ **Yes** ☐ **No**

c Are any of your officers, directors, or trustees related to your highest compensated employees or highest compensated independent contractors listed on lines 1b or 1c through family or business relationships? If "Yes," identify the individuals and explain the relationship. ☐ **Yes** ☑ **No**

3a For each of your officers, directors, trustees, highest compensated employees, and highest compensated independent contractors listed on lines 1a, 1b, or 1c, attach a list showing their name, qualifications, average hours worked, and duties.

b Do any of your officers, directors, trustees, highest compensated employees, and highest compensated independent contractors listed on lines 1a, 1b, or 1c receive compensation from any other organizations, whether tax exempt or taxable, that are related to you through **common control**? If "Yes," identify the individuals, explain the relationship between you and the other organization, and describe the compensation arrangement. ☑ **Yes** ☐ **No**

4 In establishing the compensation for your officers, directors, trustees, highest compensated employees, and highest compensated independent contractors listed on lines 1a, 1b, and 1c, the following practices are recommended, although they are not required to obtain exemption. Answer "Yes" to all the practices you use.

a Do you or will the individuals that approve compensation arrangements follow a conflict of interest policy? ☑ **Yes** ☐ **No**

b Do you or will you approve compensation arrangements in advance of paying compensation? ☑ **Yes** ☐ **No**

c Do you or will you document in writing the date and terms of approved compensation arrangements? ☑ **Yes** ☐ **No**

Part V **Compensation and Other Financial Arrangements With Your Officers, Directors, Trustees, Employees, and Independent Contractors** *(Continued)*

d	Do you or will you record in writing the decision made by each individual who decided or voted on compensation arrangements?	☑ Yes	☐ No
e	Do you or will you approve compensation arrangements based on information about compensation paid by **similarly situated** taxable or tax-exempt organizations for similar services, current compensation surveys compiled by independent firms, or actual written offers from similarly situated organizations? Refer to the instructions for Part V, lines 1a, 1b, and 1c, for information on what to include as compensation.	☑ Yes	☐ No
f	Do you or will you record in writing both the information on which you relied to base your decision and its source?	☑ Yes	☐ No
g	If you answered "No" to any item on lines 4a through 4f, describe how you set compensation that is **reasonable** for your officers, directors, trustees, highest compensated employees, and highest compensated independent contractors listed in Part V, lines 1a, 1b, and 1c.		
5a	Have you adopted a **conflict of interest policy** consistent with the sample conflict of interest policy in Appendix A to the instructions? If "Yes," provide a copy of the policy and explain how the policy has been adopted, such as by resolution of your governing board. If "No," answer lines 5b and 5c.	☑ Yes	☐ No
b	What procedures will you follow to assure that persons who have a conflict of interest will not have influence over you for setting their own compensation?		
c	What procedures will you follow to assure that persons who have a conflict of interest will not have influence over you regarding business deals with themselves?		
	Note: A conflict of interest policy is recommended though it is not required to obtain exemption. Hospitals, see Schedule C, Section I, line 14.		
6a	Do you or will you compensate any of your officers, directors, trustees, highest compensated employees, and highest compensated independent contractors listed in lines 1a, 1b, or 1c through **non-fixed payments**, such as discretionary bonuses or revenue-based payments? If "Yes," describe all non-fixed compensation arrangements, including how the amounts are determined, who is eligible for such arrangements, whether you place a limitation on total compensation, and how you determine or will determine that you pay no more than reasonable compensation for services. Refer to the instructions for Part V, lines 1a, 1b, and 1c, for information on what to include as compensation.	☐ Yes	☑ No
b	Do you or will you compensate any of your employees, other than your officers, directors, trustees, or your five highest compensated employees who receive or will receive compensation of more than $50,000 per year, through non-fixed payments, such as discretionary bonuses or revenue-based payments? If "Yes," describe all non-fixed compensation arrangements, including how the amounts are or will be determined, who is or will be eligible for such arrangements, whether you place or will place a limitation on total compensation, and how you determine or will determine that you pay no more than reasonable compensation for services. Refer to the instructions for Part V, lines 1a, 1b, and 1c, for information on what to include as compensation.	☐ Yes	☑ No
7a	Do you or will you purchase any goods, services, or assets from any of your officers, directors, trustees, highest compensated employees, or highest compensated independent contractors listed in lines 1a, 1b, or 1c? If "Yes," describe any such purchase that you made or intend to make, from whom you make or will make such purchases, how the terms are or will be negotiated at **arm's length**, and explain how you determine or will determine that you pay no more than **fair market value**. Attach copies of any written contracts or other agreements relating to such purchases.	☐ Yes	☑ No
b	Do you or will you sell any goods, services, or assets to any of your officers, directors, trustees, highest compensated employees, or highest compensated independent contractors listed in lines 1a, 1b, or 1c? If "Yes," describe any such sales that you made or intend to make, to whom you make or will make such sales, how the terms are or will be negotiated at arm's length, and explain how you determine or will determine you are or will be paid at least fair market value. Attach copies of any written contracts or other agreements relating to such sales.	☐ Yes	☑ No
8a	Do you or will you have any leases, contracts, loans, or other agreements with your officers, directors, trustees, highest compensated employees, or highest compensated independent contractors listed in lines 1a, 1b, or 1c? If "Yes," provide the information requested in lines 8b through 8f.	☐ Yes	☑ No
b	Describe any written or oral arrangements that you made or intend to make.		
c	Identify with whom you have or will have such arrangements.		
d	Explain how the terms are or will be negotiated at arm's length.		
e	Explain how you determine you pay no more than fair market value or you are paid at least fair market value.		
f	Attach copies of any signed leases, contracts, loans, or other agreements relating to such arrangements.		
9a	Do you or will you have any leases, contracts, loans, or other agreements with any organization in which any of your officers, directors, or trustees are also officers, directors, or trustees, or in which any individual officer, director, or trustee owns more than a 35% interest? If "Yes," provide the information requested in lines 9b through 9f.	☐ Yes	☑ No

Part V **Compensation and Other Financial Arrangements With Your Officers, Directors, Trustees, Employees, and Independent Contractors** *(Continued)*

b Describe any written or oral arrangements you made or intend to make.

c Identify with whom you have or will have such arrangements.

d Explain how the terms are or will be negotiated at arm's length.

e Explain how you determine or will determine you pay no more than fair market value or that you are paid at least fair market value.

f Attach a copy of any signed leases, contracts, loans, or other agreements relating to such arrangements.

Part VI **Your Members and Other Individuals and Organizations That Receive Benefits From You**

The following "Yes" or "No" questions relate to goods, services, and funds you provide to individuals and organizations as part of your activities. Your answers should pertain to *past, present,* and *planned* activities. (See instructions.)

1a	In carrying out your exempt purposes, do you provide goods, services, or funds to individuals? If "Yes," describe each program that provides goods, services, or funds to individuals.	☑ Yes	☐ No
b	In carrying out your exempt purposes, do you provide goods, services, or funds to organizations? If "Yes," describe each program that provides goods, services, or funds to organizations.	☑ Yes	☐ No
2	Do any of your programs limit the provision of goods, services, or funds to a specific individual or group of specific individuals? For example, answer "Yes," if goods, services, or funds are provided only for a particular individual, your members, individuals who work for a particular employer, or graduates of a particular school. If "Yes," explain the limitation and how recipients are selected for each program.	☐ Yes	☑ No
3	Do any individuals who receive goods, services, or funds through your programs have a family or business relationship with any officer, director, trustee, or with any of your highest compensated employees or highest compensated independent contractors listed in Part V, lines 1a, 1b, and 1c? If "Yes," explain how these related individuals are eligible for goods, services, or funds.	☑ Yes	☐ No

Part VII **Your History**

The following "Yes" or "No" questions relate to your history. (See instructions.)

1	Are you a **successor** to another organization? Answer "Yes," if you have taken or will take over the activities of another organization; you took over 25% or more of the fair market value of the net assets of another organization; or you were established upon the conversion of an organization from for-profit to non-profit status. If "Yes," complete Schedule G.	☐ Yes	☑ No
2	Are you submitting this application more than 27 months after the end of the month in which you were legally formed? If "Yes," complete Schedule E.	☐ Yes	☑ No

Part VIII **Your Specific Activities**

The following "Yes" or "No" questions relate to specific activities that you may conduct. Check the appropriate box. Your answers should pertain to *past, present,* and *planned* activities. (See instructions.)

1	Do you support or oppose candidates in **political campaigns** in any way? If "Yes," explain.	☐ Yes	☑ No
2a	Do you attempt to **influence legislation**? If "Yes," explain how you attempt to influence legislation and complete line 2b. If "No," go to line 3a.	☐ Yes	☑ No
b	Have you made or are you making an **election** to have your legislative activities measured by expenditures by filing Form 5768? If "Yes," attach a copy of the Form 5768 that was already filed or attach a completed Form 5768 that you are filing with this application. If "No," describe whether your attempts to influence legislation are a substantial part of your activities. Include the time and money spent on your attempts to influence legislation as compared to your total activities.	☐ Yes	☑ No
3a	Do you or will you operate bingo or **gaming** activities? If "Yes," describe who conducts them, and list all revenue received or expected to be received and expenses paid or expected to be paid in operating these activities. **Revenue and expenses** should be provided for the time periods specified in Part IX, Financial Data.	☐ Yes	☑ No
b	Do you or will you enter into contracts or other agreements with individuals or organizations to conduct bingo or gaming for you? If "Yes," describe any written or oral arrangements that you made or intend to make, identify with whom you have or will have such arrangements, explain how the terms are or will be negotiated at arm's length, and explain how you determine or will determine you pay no more than fair market value or you will be paid at least fair market value. Attach copies or any written contracts or other agreements relating to such arrangements.	☐ Yes	☑ No
c	List the states and local jurisdictions, including Indian Reservations, in which you conduct or will conduct gaming or bingo.		

Part VIII Your Specific Activities *(Continued)*

4a Do you or will you undertake **fundraising**? If "Yes," check all the fundraising programs you do or will conduct. (See instructions.) ☑ Yes ☐ No

- ☑ mail solicitations
- ☑ email solicitations
- ☑ personal solicitations
- ☐ vehicle, boat, plane, or similar donations
- ☑ foundation grant solicitations
- ☐ phone solicitations
- ☑ accept donations on your website
- ☑ receive donations from another organization's website
- ☑ government grant solicitations
- ☐ Other

Attach a description of each fundraising program.

b Do you or will you have written or oral contracts with any individuals or organizations to raise funds for you? If "Yes," describe these activities. Include all revenue and expenses from these activities and state who conducts them. Revenue and expenses should be provided for the time periods specified in Part IX, Financial Data. Also, attach a copy of any contracts or agreements. ☐ Yes ☑ No

c Do you or will you engage in fundraising activities for other organizations? If "Yes," describe these arrangements. Include a description of the organizations for which you raise funds and attach copies of all contracts or agreements. ☐ Yes ☑ No

d List all states and local jurisdictions in which you conduct fundraising. For each state or local jurisdiction listed, specify whether you fundraise for your own organization, you fundraise for another organization, or another organization fundraises for you.

e Do you or will you maintain separate accounts for any contributor under which the contributor has the right to advise on the use or distribution of funds? Answer "Yes" if the donor may provide advice on the types of investments, distributions from the types of investments, or the distribution from the donor's contribution account. If "Yes," describe this program, including the type of advice that may be provided and submit copies of any written materials provided to donors. ☑ Yes ☐ No

5 Are you **affiliated** with a governmental unit? If "Yes," explain. ☐ Yes ☑ No

6a Do you or will you engage in **economic development**? If "Yes," describe your program. ☐ Yes ☑ No

b Describe in full who benefits from your economic development activities and how the activities promote exempt purposes.

7a Do or will persons other than your employees or volunteers **develop** your facilities? If "Yes," describe each facility, the role of the developer, and any business or family relationship(s) between the developer and your officers, directors, or trustees. ☐ Yes ☑ No

b Do or will persons other than your employees or volunteers **manage** your activities or facilities? If "Yes," describe each activity and facility, the role of the manager, and any business or family relationship(s) between the manager and your officers, directors, or trustees. ☐ Yes ☑ No

c If there is a business or family relationship between any manager or developer and your officers, directors, or trustees, identify the individuals, explain the relationship, describe how contracts are negotiated at arm's length so that you pay no more than fair market value, and submit a copy of any contracts or other agreements.

8 Do you or will you enter into **joint ventures**, including partnerships or **limited liability companies** treated as partnerships, in which you share profits and losses with partners other than section 501(c)(3) organizations? If "Yes," describe the activities of these joint ventures in which you participate. ☐ Yes ☑ No

9a Are you applying for exemption as a childcare organization under section 501(k)? If "Yes," answer lines 9b through 9d. If "No," go to line 10. ☐ Yes ☑ No

b Do you provide child care so that parents or caretakers of children you care for can be **gainfully employed** (see instructions)? If "No," explain how you qualify as a childcare organization described in section 501(k). ☐ Yes ☐ No

c Of the children for whom you provide child care, are 85% or more of them cared for by you to enable their parents or caretakers to be gainfully employed (see instructions)? If "No," explain how you qualify as a childcare organization described in section 501(k). ☐ Yes ☐ No

d Are your services available to the general public? If "No," describe the specific group of people for whom your activities are available. Also, see the instructions and explain how you qualify as a childcare organization described in section 501(k). ☐ Yes ☐ No

10 Do you or will you publish, own, or have rights in music, literature, tapes, artworks, choreography, scientific discoveries, or other **intellectual property**? If "Yes," explain. Describe who owns or will own any copyrights, patents, or trademarks, whether fees are or will be charged, how the fees are determined, and how any items are or will be produced, distributed, and marketed. ☑ Yes ☐ No

Part VIII Your Specific Activities *(Continued)*

11	Do you or will you accept contributions of: real property; conservation easements; closely held securities; intellectual property such as patents, trademarks, and copyrights; works of music or art; licenses; royalties; automobiles, boats, planes, or other vehicles; or collectibles of any type? If "Yes," describe each type of contribution, any conditions imposed by the donor on the contribution, and any agreements with the donor regarding the contribution.	☐ Yes	☑ No
12a	Do you or will you operate in a **foreign country** or **countries?** If "Yes," answer lines 12b through 12d. If "No," go to line 13a.	☑ Yes	☐ No
b	Name the foreign countries and regions within the countries in which you operate.		
c	Describe your operations in each country and region in which you operate.		
d	Describe how your operations in each country and region further your exempt purposes.		
13a	Do you or will you make grants, loans, or other distributions to organization(s)? If "Yes," answer lines 13b through 13g. If "No," go to line 14a.	☐ Yes	☑ No
b	Describe how your grants, loans, or other distributions to organizations further your exempt purposes.		
c	Do you have written contracts with each of these organizations? If "Yes," attach a copy of each contract.	☐ Yes	☐ No
d	Identify each recipient organization and any **relationship** between you and the recipient organization.		
e	Describe the records you keep with respect to the grants, loans, or other distributions you make.		
f	Describe your selection process, including whether you do any of the following:		
	(i) Do you require an application form? If "Yes," attach a copy of the form.	☐ Yes	☐ No
	(ii) Do you require a grant proposal? If "Yes," describe whether the grant proposal specifies your responsibilities and those of the grantee, obligates the grantee to use the grant funds only for the purposes for which the grant was made, provides for periodic written reports concerning the use of grant funds, requires a final written report and an accounting of how grant funds were used, and acknowledges your authority to withhold and/or recover grant funds in case such funds are, or appear to be, misused.	☐ Yes	☐ No
g	Describe your procedures for oversight of distributions that assure you the resources are used to further your exempt purposes, including whether you require periodic and final reports on the use of resources.		
14a	Do you or will you make grants, loans, or other distributions to foreign organizations? If "Yes," answer lines 14b through 14f. If "No," go to line 15.	☐ Yes	☑ No
b	Provide the name of each foreign organization, the country and regions within a country in which each foreign organization operates, and describe any relationship you have with each foreign organization.		
c	Does any foreign organization listed in line 14b accept contributions earmarked for a specific country or specific organization? If "Yes," list all earmarked organizations or countries.	☐ Yes	☐ No
d	Do your contributors know that you have ultimate authority to use contributions made to you at your discretion for purposes consistent with your exempt purposes? If "Yes," describe how you relay this information to contributors.	☐ Yes	☐ No
e	Do you or will you make pre-grant inquiries about the recipient organization? If "Yes," describe these inquiries, including whether you inquire about the recipient's financial status, its tax-exempt status under the Internal Revenue Code, its ability to accomplish the purpose for which the resources are provided, and other relevant information.	☐ Yes	☐ No
f	Do you or will you use any additional procedures to ensure that your distributions to foreign organizations are used in furtherance of your exempt purposes? If "Yes," describe these procedures, including site visits by your employees or compliance checks by impartial experts, to verify that grant funds are being used appropriately.	☐ Yes	☐ No

Part VIII Your Specific Activities *(Continued)*

15	Do you have a **close connection** with any organizations? If "Yes," explain.	☑ Yes	☐ No
16	Are you applying for exemption as a **cooperative hospital service organization** under section 501(e)? If "Yes," explain.	☐ Yes	☑ No
17	Are you applying for exemption as a **cooperative service organization of operating educational organizations** under section 501(f)? If "Yes," explain.	☐ Yes	☑ No
18	Are you applying for exemption as a **charitable risk pool** under section 501(n)? If "Yes," explain.	☐ Yes	☑ No
19	Do you or will you operate a **school**? If "Yes," complete Schedule B. Answer "Yes," whether you operate a school as your main function or as a secondary activity.	☐ Yes	☑ No
20	Is your main function to provide **hospital** or **medical care**? If "Yes," complete Schedule C.	☐ Yes	☑ No
21	Do you or will you provide **low-income housing** or housing for the **elderly** or **handicapped**? If "Yes," complete Schedule F.	☐ Yes	☑ No
22	Do you or will you provide scholarships, fellowships, educational loans, or other educational grants to individuals, including grants for travel, study, or other similar purposes? If "Yes," complete Schedule H. **Note: Private foundations** may use Schedule H to request advance approval of individual grant procedures.	☑ Yes	☐ No

Part IX Financial Data

For purposes of this schedule, years in existence refer to completed tax years. If in existence 4 or more years, complete the schedule for the most recent 4 tax years. If in existence more than 1 year but less than 4 years, complete the statements for each year in existence and provide projections of your likely revenues and expenses based on a reasonable and good faith estimate of your future finances for a total of 3 years of financial information. If in existence less than 1 year, provide projections of your likely revenues and expenses for the current year and the 2 following years, based on a reasonable and good faith estimate of your future finances for a total of 3 years of financial information. (See instructions.)

A. Statement of Revenues and Expenses

	Type of revenue or expense	Current tax year (a) From 11/10 To 12/10	3 prior tax years or 2 succeeding tax years (b) From / To	(c) From / To	(d) From / To	(e) Provide Total for (a) through (d)
Revenues	1 Gifts, grants, and contributions received (do not include unusual grants)	0				
	2 Membership fees received	0				
	3 Gross investment income	0				
	4 Net unrelated business income	0				
	5 Taxes levied for your benefit	0				
	6 Value of services or facilities furnished by a governmental unit without charge (not including the value of services generally furnished to the public without charge)	0				
	7 Any revenue not otherwise listed above or in lines 9–12 below (attach an itemized list)	0				
	8 Total of lines 1 through 7	0				
	9 Gross receipts from admissions, merchandise sold or services performed, or furnishing of facilities in any activity that is related to your exempt purposes (attach itemized list)	0				
	10 Total of lines 8 and 9	0				
	11 Net gain or loss on sale of capital assets (attach schedule and see instructions)	0				
	12 **Unusual grants**	0				
	13 Total Revenue Add lines 10 through 12	0				
Expenses	14 Fundraising expenses	0				
	15 Contributions, gifts, grants, and similar amounts paid out (attach an itemized list)	0				
	16 Disbursements to or for the benefit of members (attach an itemized list)	0				
	17 Compensation of officers, directors, and trustees	0				
	18 Other salaries and wages	0				
	19 Interest expense	0				
	20 Occupancy (rent, utilities, etc.)	0				
	21 Depreciation and depletion	0				
	22 Professional fees	0				
	23 Any expense not otherwise classified, such as program services (attach itemized list)	0				
	24 Total Expenses Add lines 14 through 23	0				

Part IX Financial Data *(Continued)*

B. Balance Sheet (for your most recently completed tax year) — Year End: 2010

			(Whole dollars)
	Assets		
1	Cash	1	0
2	Accounts receivable, net	2	0
3	Inventories	3	0
4	Bonds and notes receivable (attach an itemized list)	4	0
5	Corporate stocks (attach an itemized list)	5	0
6	Loans receivable (attach an itemized list)	6	0
7	Other investments (attach an itemized list)	7	0
8	Depreciable and depletable assets (attach an itemized list)	8	0
9	Land	9	0
10	Other assets (attach an itemized list)	10	0
11	Total Assets (add lines 1 through 10)	11	0
	Liabilities		
12	Accounts payable	12	0
13	Contributions, gifts, grants, etc. payable	13	0
14	Mortgages and notes payable (attach an itemized list)	14	0
15	Other liabilities (attach an itemized list)	15	0
16	Total Liabilities (add lines 12 through 15)	16	0
	Fund Balances or Net Assets		
17	Total fund balances or net assets	17	0
18	Total Liabilities and Fund Balances or Net Assets (add lines 16 and 17)	18	0

19 Have there been any substantial changes in your assets or liabilities since the end of the period shown above? If "Yes," explain. ☐ Yes ☑ No

Part X Public Charity Status

Part X is designed to classify you as an organization that is either a **private foundation** or a **public charity**. Public charity status is a more favorable tax status than private foundation status. If you are a private foundation, Part X is designed to further determine whether you are a **private operating foundation**. (See instructions.)

1a Are you a private foundation? If "Yes," go to line 1b. If "No," go to line 5 and proceed as instructed. If you are unsure, see the instructions. ☐ Yes ☑ No

b As a private foundation, section 508(e) requires special provisions in your organizing document in addition to those that apply to all organizations described in section 501(c)(3). Check the box to confirm that your organizing document meets this requirement, whether by express provision or by reliance on operation of state law. Attach a statement that describes specifically where your organizing document meets this requirement, such as a reference to a particular article or section in your organizing document or by operation of state law. See the instructions, including Appendix B, for information about the special provisions that need to be contained in your organizing document. Go to line 2. ☐

2 Are you a private operating foundation? To be a private operating foundation you must engage directly in the active conduct of charitable, religious, educational, and similar activities, as opposed to indirectly carrying out these activities by providing grants to individuals or other organizations. If "Yes," go to line 3. If "No," go to the signature section of Part XI. ☐ Yes ☐ No

3 Have you existed for one or more years? If "Yes," attach financial information showing that you are a private operating foundation; go to the signature section of Part XI. If "No," continue to line 4. ☐ Yes ☐ No

4 Have you attached either (1) an affidavit or opinion of counsel, (including a written affidavit or opinion from a certified public accountant or accounting firm with expertise regarding this tax law matter), that sets forth facts concerning your operations and support to demonstrate that you are likely to satisfy the requirements to be classified as a private operating foundation; or (2) a statement describing your proposed operations as a private operating foundation? ☐ Yes ☐ No

5 If you answered "No" to line 1a, indicate the type of public charity status you are requesting by checking one of the choices below. You may check only one box.

The organization is not a private foundation because it is:

a 509(a)(1) and 170(b)(1)(A)(i)—a church or a convention or association of churches. Complete and attach Schedule A. ☐

b 509(a)(1) and 170(b)(1)(A)(ii)—a **school**. Complete and attach Schedule B. ☐

c 509(a)(1) and 170(b)(1)(A)(iii)—a **hospital**, a cooperative hospital service organization, or a medical research organization operated in conjunction with a hospital. Complete and attach Schedule C. ☐

d 509(a)(3)—an organization supporting either one or more organizations described in line 5a through c, f, g, or h or a publicly supported section 501(c)(4), (5), or (6) organization. Complete and attach Schedule D. ☐

Part X Public Charity Status *(Continued)*

e 509(a)(4)—an organization organized and operated exclusively for testing for public safety. ☐

f 509(a)(1) and 170(b)(1)(A)(iv)—an organization operated for the benefit of a college or university that is owned or operated by a governmental unit. ☐

g 509(a)(1) and 170(b)(1)(A)(vi)—an organization that receives a substantial part of its financial support in the form of contributions from publicly supported organizations, from a governmental unit, or from the general public. ☐

h 509(a)(2)—an organization that normally receives not more than one-third of its financial support from gross **investment income** and receives more than one-third of its financial support from contributions, membership fees, and gross receipts from activities related to its exempt functions (subject to certain exceptions). ☐

i A publicly supported organization, but unsure if it is described in 5g or 5h. The organization would like the IRS to decide the correct status. ☐

6 If you checked box g, h, or i in question 5 above, you must request either an **advance** or a **definitive ruling** by selecting one of the boxes below. Refer to the instructions to determine which type of ruling you are eligible to receive.

a **Request for Advance Ruling:** By checking this box and signing the consent, pursuant to section 6501(c)(4) of the Code you request an advance ruling and agree to extend the statute of limitations on the assessment of excise tax under section 4940 of the Code. The tax will apply only if you do not establish public support status at the end of the 5-year advance ruling period. The assessment period will be extended for the 5 advance ruling years to 8 years, 4 months, and 15 days beyond the end of the first year. You have the right to refuse or limit the extension to a mutually agreed-upon period of time or issue(s). Publication 1035, *Extending the Tax Assessment Period,* provides a more detailed explanation of your rights and the consequences of the choices you make. You may obtain Publication 1035 free of charge from the IRS web site at *www.irs.gov* or by calling toll-free 1-800-829-3676. Signing this consent will not deprive you of any appeal rights to which you would otherwise be entitled. If you decide not to extend the statute of limitations, you are not eligible for an advance ruling. ☐

Consent Fixing Period of Limitations Upon Assessment of Tax Under Section 4940 of the Internal Revenue Code

For Organization

(Signature of Officer, Director, Trustee, or other authorized official) | (Type or print name of signer) | (Date)

(Type or print title or authority of signer)

For IRS Use Only

IRS Director, Exempt Organizations | (Date)

b **Request for Definitive Ruling:** Check this box if you have completed one tax year of at least 8 full months and you are requesting a definitive ruling. To confirm your public support status, answer line 6b(i) if you checked box g in line 5 above. Answer line 6b(ii) if you checked box h in line 5 above. If you checked box i in line 5 above, answer both lines 6b(i) and (ii). ☐

(i) **(a)** Enter 2% of line 8, column (e) on Part IX-A. Statement of Revenues and Expenses. _____

(b) Attach a list showing the name and amount contributed by each person, company, or organization whose gifts totaled more than the 2% amount. If the answer is "None," check this box. ☐

(ii) **(a)** For each year amounts are included on lines 1, 2, and 9 of Part IX-A. Statement of Revenues and Expenses, attach a list showing the name of and amount received from each **disqualified person.** If the answer is "None," check this box. ☐

(b) For each year amounts are included on line 9 of Part IX-A. Statement of Revenues and Expenses, attach a list showing the name of and amount received from each payer, other than a disqualified person, whose payments were more than the larger of (1) 1% of line 10, Part IX-A. Statement of Revenues and Expenses, or (2) $5,000. If the answer is "None," check this box. ☐

7 Did you receive any unusual grants during any of the years shown on Part IX-A. Statement of Revenues and Expenses? If "Yes," attach a list including the name of the contributor, the date and amount of the grant, a brief description of the grant, and explain why it is unusual. ☐ **Yes** ☐ **No**

Part XI User Fee Information

You must include a user fee payment with this application. It will not be processed without your paid user fee. If your average annual gross receipts have exceeded or will exceed $10,000 annually over a 4-year period, you must submit payment of $750. If your gross receipts have not exceeded or will not exceed $10,000 annually over a 4-year period, the required user fee payment is $300. See instructions for Part XI, for a definition of **gross receipts** over a 4-year period. Your check or money order must be made payable to the United States Treasury. *User fees are subject to change. Check our website at www.irs.gov and type "User Fee" in the keyword box, or call Customer Account Services at 1-877-829-5500 for current information.*

1	Have your annual gross receipts averaged or are they expected to average not more than $10,000? If "Yes," check the box on line 2 and enclose a user fee payment of $300 (Subject to change—see above). If "No," check the box on line 3 and enclose a user fee payment of $750 (Subject to change—see above).	☐ **Yes**	☐ **No**
2	Check the box if you have enclosed the reduced user fee payment of $300 (Subject to change).		☐
3	Check the box if you have enclosed the user fee payment of $750 (Subject to change).		☐

I declare under the penalties of perjury that I am authorized to sign this application on behalf of the above organization and that I have examined this application, including the accompanying schedules and attachments, and to the best of my knowledge it is true, correct, and complete.

Please Sign Here ▶

(Signature of Officer, Director, Trustee, or other authorized official)	(Type or print name of signer)	(Date)
	(Type or print title or authority of signer)	

Reminder: Send the completed Form 1023 Checklist with your filled-in-application.

Appendix X: Bank Account Information

Bank: TD Bank

Company Name: Vernacular Culture Preservation Society

Account Type: Business Convenience Checking

Minimum Balance: $0 for 1 year, then $100 thereafter

Member(s) on Account: Daniel Pierson

Appendix Y: PreserVenice By-Laws (Italian)

STATUTO

Art. 1 - Denominazione e sede

E' costituita con sede legale in Venezia, Calle Gorizia n. 6, una Associazione denominata "*ASSOCIAZIONE PER LA CONSERVAZIONE E LA VALORIZZAZIONE DELL'ARTE PUBBLICA DI VENEZIA E DELLA LAGUNA*".

L'Associazione è disciplinata dalle norme contenute nell'atto costitutivo e nel presente statuto.

Art. 2 - Finalità

L'Associazione è costituita per il perseguimento di uno scopo ideale comune fra gli Associati e caratterizzato, in via generale, dalla conservazione e valorizzazione del Patrimonio di Arte Pubblica della città di Venezia, nonché della sua Laguna, attraverso la catalogazione e il restauro della collezione di artifatti godibili dal pubblico, disseminati nelle calli, campi, campielli e canali della città e delle isole.

Con il termine Arte Pubblica si vogliono configurare tutti gli oggetti artigianali o artistici, creati con qualsiavoglia materiale, esposti alla pubblica vista, anche si di proprietà privata.

In via esemplificativa e non esaustiva sono esempi di Arte Pubblica: le Statue, i Capitelli, i Mascaroni, i Pozzi, gli Stemmi, le Patere, le Formelle, le Croci, gli Altorilievi e i Bassorilievi, le Lapidi, i Portali, i Portabandiera e altro. Sono incluse nella definizione anche le Campane in quanto udibili dal Pubblico.

L'Associazione opererà nell'ambito dell'intero bacino lagunare, inclusa la città di Chioggia.

Art. 3 - Attività

L'Associazione si propone di contribuire tangibilmente alla conservazione del Patrimonio di Arte Pubblica della città di Venezia e della sua Laguna, promuovendo il restauro e la valorizzazione di tali opere, il corretto impiego dei fondi eventualmente ricevuti, indicando una priorità delle opere secondo l'effettiva ed oggettiva importanza e urgenza degli interventi conservativi.

Il perseguimento degli scopi di cui all'articolo che precede avverrà attraverso:

1. la catalogazione di tutti gli oggetti rientranti nell'Arte Pubblica della città di Venezia e della Laguna;
2. l'analisi dello stato di conservazione e del rilievo artistico di ogni opera per determinarne il livello di priorità;
3. l'avvio di iniziative dirette alla raccolta di fondi, pubblici e privati, indispensabili per i restauri più urgenti;
4. la sensibilizzazione della cittadinanza locale, nazionale e internazionale, rispetto all'Arte Pubblica della città e della laguna;
5. la collaborazione con altri Istituti, Organizzazioni, Enti e Associazioni che perseguono scopi comuni a supporto della conservazione dell'Arte Pubblica della città e della Laguna.

Art. 4 - Modalità operative per il raggiungimento dello scopo associativo

Il conseguimento dello scopo dell'Associazione verrà costantemente perseguito attraverso l'esercizio delle attività indicate nell'articolo che precede e, in particolare, mediante le seguenti - indicative e non esaustive - modalità operative:

a) la creazione di banche dati informatizzate aggiornate sui vari tipi di Arte Pubblica della città e della laguna;
b) l'adozione di un supporto informatico geografico denominato "Geographical Information System" per la gestione dei dati raccolti sul territorio;
c) la promozione della partecipazione di studenti e docenti, locali e stranieri, alla ricerca storica e scientifica, all'analisi e lo studio di tale patrimonio artistico;
d) il trasferimento, all'interno dell'attuale realtà artistica veneziana, delle conoscenze e delle esperienze maturate all'estero in paesi e territori con elementi di similarità con Venezia, con la conseguente applicazione in loco delle soluzioni che appaiano di provata affidabilità ed efficacia;
e) la diffusione degli studi attraverso convegni, pubblicazioni, reti telematiche, mostre ed altri media.

Art. 5 - Esercizio attività commerciale

L'Associazione potrà gestire un'attività commerciale che abbia carattere marginale e accessorio rispetto alle attività associative e ciò all'unico scopo di destinare gli utili eventualmente derivanti per il raggiungimento dei propri fini, nonché per giungere alla realizzazione immediata delle finalità associative.

L'Associazione potrà costituire società commerciali o acquisire partecipazioni su società già esistenti per esercitare indirettamente un'attività economica diretta al reperimento di mezzi finanziari e, in ogni caso, volta al raggiungimento dello scopo associativo.

Tutte le entrate, gli utili ed i dividendi percepiti nell'esercizio di attività imprenditoriali - dirette o indirette - saranno completamente devoluti al patrimonio dell'Associazione con esplicito divieto di distribuzione, anche parziale o marginale, sotto qualsiasi forma, agli associati.

Art. 6 - Fondo Comune

Il fondo comune dell'Associazione è costituito:

1. dai contributi versati dagli associati all'atto dell'ammissione e dai successivi contributi annuali dovuti dai medesimi nella misura che verrà stabilita per la prima volta dall'atto costitutivo e, successivamente, dall'Assemblea degli associati;
2. dagli utili e dai dividendi eventualmente derivanti dall'esercizio, diretto od indiretto delle attività economiche di cui all'art. 5 del presente statuto;
3. dai beni, mobili o immobili, acquistati, con le somme di cui ai numeri che precedono, dalla stessa Associazione;
4. da sovvenzioni, finanziamenti, contributi o conferimenti elargiti da Organizzazioni Internazionali, Enti Pubblici e Privati.

Art. 7 - Struttura organizzativa

Sono Organi dell'Associazione:

A. Presidente
B. Vice Presidente
C. Consiglio d'Amministrazione
D. Comitato Scientifico
E. Assemblea degli Associati

Art. 8 - Il Presidente

Il Presidente dell'Associazione viene nominato per il primo mandato dall'atto costitutivo e, successivamente, dall'Assemblea degli Associati a maggioranza assoluta dei voti degli aventi diritto, resta in carica cinque anni ed è immediatamente rieleggibile.

Egli presiede l'Assemblea dei Soci nonché le sedute del Consiglio d'Amministrazione del quale è membro di diritto.

E' membro di diritto del Comitato Scientifico con potere insindacabile di nomina degli altri due membri.

E' il rappresentante legale a tutti gli effetti dell'Associazione, nei confronti dei terzi e in giudizio.

Il Presidente ha diritto ad un rimborso spese forfetario, predeterminato annualmente dall'Assemblea degli Associati.

Art. 9 - Il Vice Presidente

Il Vice Presidente, viene nominato per il primo mandato dall'atto costitutivo e, successivamente, a maggioranza da tutti i membri facenti parte del Consiglio d'Amministrazione.

In caso di assenza od impedimento del Presidente lo sostituisce in tutte le sue funzioni assumendone i poteri e le attribuzioni e rappresentando l'Associazione anche nei rapporti esterni.

In caso di impedimento o assenza del Vice Presidente le funzioni di questo, con i relativi poteri ed attribuzioni, vengono esercitate dal Consigliere più anziano di età.

Art. 10 - Il Consiglio d'Amministrazione

Il Consiglio d'Amministrazione viene nominato per il primo mandato dall'atto costitutivo e, successivamente, dall'Assemblea degli Associati ed è costituito dal Presidente dell'Associazione, membro di diritto, e da quattro Consiglieri eletti dall'Assemblea degli Associati con votazione successiva a quella di designazione del Presidente.

Dura in carica cinque anni e i Consiglieri uscenti sono immediatamente rieleggibili.

Elegge a maggioranza il Vice Presidente scegliendolo tra i suoi membri.

Art. 11 - Funzioni del Consiglio d'Amministrazione

Il Consiglio d'Amministrazione è titolare di tutte le attribuzioni e dei poteri necessari per il raggiungimento degli scopi dell'Associazione.

In particolare il Consiglio d'Amministrazione:

A. procede alla convocazione dell'Assemblea degli Associati e provvede all'attuazione e all'esecuzione delle sue delibere;
B. delibera sull'ammissione, sulla decadenza e sulla esclusione dei Soci;
C. rappresenta, collettivamente e individualmente, l'Associazione nei rapporti con i terzi, con facoltà per ogni membro di agire in nome e per conto dell'Associazione medesima e ciò ai sensi dell'art. 38 del Codice Civile;
D. redige, anche avvalendosi di professionisti esterni, i bilanci consuntivi e preventivi dell'Associazione;
E. stipula le opportune convenzioni, gli accordi e le intese con gli Enti, Nazionali e Sovranazionali, che erogano, a favore dell'Associazione, finanziamenti, sovvenzioni e/o contributi;

F. controlla l'amministrazione dell'Associazione, vigila sull'osservanza della legge e delle norme contenute nell'atto costitutivo e nel presente statuto, provvede alla tenuta della contabilità;
G. individua le eventuali attività economiche il cui esercizio, per le loro peculiarità, favorirebbe il raggiungimento degli scopi e delle finalità dell'Associazione e, in questo senso, provvede a stipulare tutti gli accordi necessari per la costituzione o la partecipazione a società direttamente operanti sul mercato, ovvero stabilisce le modalità operative cui deve attenersi l'Associazione allorché intenda, in via diretta, gestire l'attività economica;
H. controlla la consistenza del fondo comune vigilando sul regolare versamento nel medesimo di tutti gli utili derivanti dalle suddette attività economiche;
I. stipula accordi di collaborazione con tecnici e professionisti la cui opera appaia indispensabile per il corretto svolgimento dell'attività associativa.
J. riferisce all'Assemblea sulle proposte ed iniziative suggerite da quest'ultima ai sensi del n. 8 dell'art. 13.
K. controlla la legittimità formale del regolamento interno del Comitato Scientifico.
L. stipula i contratti di assicurazione che dovessero ritenersi indispensabili per garantire, entro i limiti stabiliti dalla legge, l'esenzione dei Consiglieri e del Presidente dalla responsabilità personale connessa all'esercizio dell'attività associativa.
M. delibera l'istituzione di uffici e rappresentanze sia in Italia che all'estero.
N. nomina il Vice Presidente.

Art. 12 - Riunioni del Consiglio d'Amministrazione

Il Consiglio d'Amministrazione è convocato dal Presidente in qualsiasi sede purchè in Italia, ogniqualvolta questi ne ravvisi l'opportunità e, comunque, almeno due volte all'anno.

L'avviso di convocazione, contenente l'ordine del giorno, deve essere recapitato almeno tre giorni prima della data fissata al domicilio di ciascun Consigliere.

Ogni Consigliere può farsi rappresentare con delega scritta, inviata anche via telefax.

Per la validità delle deliberazioni del Consiglio d'Amministrazione è necessaria la presenza della maggioranza degli Amministratori in carica. Le deliberazioni sono adottate a maggioranza assoluta dei presenti. In caso di parità prevale il voto del Presidente.

Le deliberazioni devono risultare da verbale sottoscritto dal Presidente e dal Consigliere facente funzioni di Segretario.

Ogni Consigliere ha diritto al rimborso delle spese sostenute a seguito dell'esercizio dell'attività associativa. La misura di tale rimborso verrà determinata forfetariamente dall'Assemblea degli Associati in sede di approvazione del bilancio.

Art. 13 - Il Comitato Scientifico

Il Comitato Scientifico è organo autonomo dotato di potere decisionale in ordine alle questioni tecniche ad esso devolute dal Consiglio d'Amministrazione o dall'Assemblea degli Associati. In tali casi, quando richiesto, esso esprime parere vincolante sulla questione portata alla sua attenzione, con obbligo per gli altri organi associativi di conformarsi a quanto espresso.

In ogni caso esso è competente a stabilire le modalità di restauro dei singoli beni artistici, della priorità degli interventi da effettuarsi, della scelta del personale che, secondo le circostanze, appaia idoneo ed in possesso dall'indispensabile competenza tecnica per effettuare tali interventi sulle opere di Arte Pubblica.

Qualora lo ritenga necessario il Comitato può anche avvalersi dell'opera di esperti esterni all'Associazione.

Esso è composto dal Presidente dell'Associazione, membro di diritto, e da due membri scelti insindacabilmente dal Presidente stesso il quale può nominare anche membri esterni all'Associazione.

Le modalità di riunione e di votazione saranno deliberate in seno allo stesso Comitato il quale provvederà, entro un anno dalla costituzione, a dotarsi di un proprio regolamento interno sul quale il Consiglio di Amministrazione effetterà un controllo limitato esclusivamente alla legittimità formale delle disposizioni.

Art. 14 - L'Assemblea degli Associati

All'Assemblea partecipano tutti gli Associati che risultino in regola con il pagamento dei contributi di cui al n. 1 dell'art. 6 che precede.

L'Assemblea è presieduta dal Presidente dell'Associazione il quale provvede a nominare un Segretario verbalizzante scelto tra gli Associati presenti.

Le deliberazioni devono risultare da verbale sottoscritto dal Presidente e dal Segretario

Ogni Associato ha diritto ad un voto e può farsi rappresentare, mediante delega scritta, anche trasmessa via telefax, da un altro Associato.

L'Assemblea delibera:

1. l'approvazione dei bilanci;
2. la nomina del Presidente secondo le modalità di cui all'art. 8;
3. la nomina del Consiglio d'Amministrazione nelle forme previste dall'art. 10;
4. le modificazioni all'atto costitutivo e allo statuto dell'Associazione;
5. lo scioglimento e l'estinzione dell'Associazione e la devoluzione del fondo comune;
6. il rimborso spese forfetario spettante al Presidente ed ai membri del Consiglio d'Amministrazione;

7. sugli atti proposti al suo esame dal Consiglio d'Amministrazione;
8. di proporre al Consiglio d'Amministrazione l'avvio di iniziative idonee al raggiungimento degli scopi sociali;
9. la misura del contributo associativo annuo a carico degli Associati.

Art. 15 - Convocazione dell'Assemblea

L'Assemblea degli Associati viene convocata dal Consiglio di Amministrazione ogniqualvolta questi ne ravvisi la necessità e, comunque, almeno una volta all'anno per l'approvazione dei bilanci consuntivi e preventivi.

L'Assemblea deve essere convocata quando ne è fatta motivata richiesta da almeno un quinto degli associati.

L' Assemblea può essere convocata in qualsiasi sede, purchè in Italia, mediante avviso contenente l'indicazione del giorno, dell'ora e del luogo dell'adunanza, dell'elenco delle materie da trattare, nonché il giorno, l'ora ed il luogo della seconda convocazione.

L'avviso deve pervenire al singolo associato almeno sette giorni prima della data fissata per l'Assemblea.

Le deliberazioni dell'Assemblea sono prese, in prima convocazione, a maggioranza di voti e con la presenza di almeno la metà degli Associati; in seconda convocazione la deliberazione adottata a maggioranza è valida qualunque sia il numero degli intervenuti.

Le deliberazioni sulla modifica dello statuto e dell'atto costitutivo, nonché quelle relative allo scioglimento e all'estinzione dell'Associazione e, infine, alla devoluzione del fondo comune devono essere adottate con la presenza di almeno i tre quarti degli Associati e con il voto favorevole della maggioranza di essi.

Ai sensi dell'art. 21 del Codice Civile nelle deliberazioni di approvazione del bilancio e in quelle che riguardano la loro responsabilità, gli amministratori non hanno voto.

Art. 16 - Gli Associati

Il numero degli Associati è illimitato e l'appartenenza all'Associazione non dà diritto ad alcun utile e/o dividendo.

Per far parte dell'Associazione è necessario presentare domanda al Consiglio d'Amministrazione il quale deciderà insindacabilmente sull'ammissione.

Ogni Associato è obbligato al versamento all'atto di ammissione di un contributo il cui ammontare è stabilito dall'Assemblea degli Associati.

Ogni Associato è obbligato al versamento del contributo annuale d'associazione.

La qualità di Associato è intrasmissibile e il vincolo associativo termina esclusivamente per decesso, recesso, decadenza ed esclusione dell'Associato.

In ogni caso in cui cessi il vincolo associativo il singolo Associato non può ripetere i contributi versati all'Associazione né avere diritti sul fondo comune della medesima.

Ai sensi dell'art. 24, comma II° del Codice Civile l'Associato può sempre recedere dall'Associazione con effetto immediato a decorrere dalla comunicazione per iscritto fatta al Consiglio d'Amministrazione.

La decadenza dalla qualità di Associato si verifica laddove lo stesso non corrisponda, entro la data fissata dall'Assemblea, il contributo d'ammissione ovvero il contributo annuale associativo.

L'esclusione dell'Associato è deliberata dal Consiglio d'Amministrazione allorché sussistano gravi motivi.

Ogni Associato ha diritto, se in regola con i versamenti dovuti, ad un voto in seno all'Assemblea dell'Associazione

Art. 17 - Estinzione dell'Associazione

L'Associazione si estingue, oltre che per il raggiungimento dello scopo, per le causa previste dall'art. 27 del Codice Civile.

Art. 18 - Rinvio a norme di legge

La durata dell'Associazione è a tempo indeterminato.

Per quanto non espressamente stabilito nell'atto costitutivo e nel presente statuto si rinvia alle norme di legge previste dall'Ordinamento Italiano.

Venezia,

Appendix Z: PreserVenice By-Laws (English)

STATUTE

Article 1 - Name and address

And 'constituted with headquarters in Venice, Calle Gorizia No 6, an association called "Association for the preservation and enhancement of public art of Venice and the Lagoon." The Association is governed by the rules contained in the articles and by-laws.

Article 2 - Purpose

The Association is formed for the pursuit of a common purpose among the members and characterized, in general, the preservation and enhancement of the heritage of public art in the city of Venice and its lagoon, through the restoration and cataloging of the collection of artifacts can be enjoyed by the audience, scattered in the narrow streets, squares and canals of the city and islands.

The term Public Art you want to configure all the crafts and art created with qualsiavoglia material, exposed to public view, is also privately owned.

By way of example and are not exhaustive examples of public art: the statues, the Capitals, the Mascaron, Wells, coats of arms, paterae, the panels, the crosses, the high relief and bas-reliefs, tombstones, portals, and Flag more. Are included in this definition as the bells audible from the audience.

The Association will work in the whole lagoon, including the city of Chioggia.

3 - Activities

The Association aims to contribute to the conservation of tangible heritage of public art in the city of Venice and its lagoon, promoting the restoration and enhancement of such works, the proper use of any funds received, indicating a priority of the works according to ' effective and objective importance and urgency of conservation work.

The pursuit of the purposes referred to above will be through:

1. the cataloging of all items covered in public art in the city of Venice and its lagoon;
2. analysis of the conservation status and artistic value of each work out the level of priority;
3. the launch of an initiative aimed at raising funds, both public and private, essential to the most urgent repairs;
4. awareness of local citizens, national and international respect for public art in the city and the lagoon;
5. collaboration with other institutes, organizations, agencies and associations that pursue common goals to support the conservation of public art in the city and the Lagoon.

4 - Operational procedures for the achievement of the objective associated

The attainment of the objective of the Association will be constantly pursued through the exercise of the activities mentioned in the article above, and, in particular, from the following - indicative and not exhaustive - modes of operation:

a) the creation of computerized databases up to date on the various types of public art in the city and the lagoon;

b) the adoption of a computerized geographic named "Geographical Information System for the management of data collected on the ground;

c) promoting the participation of students and teachers, local and foreign, to the historical and scientific research, analysis and study of this heritage;

d) the transfer, the current reality in Venetian art, knowledge and experience in overseas countries and territories with elements of similarity with Venice, with the consequent application of the solutions displayed on site with proven reliability and effectiveness ;
e) dissemination of research through conferences, publications, computer networks, shows and other media.

5 - year business
The Association can manage a business that has marginal and incidental to the activities of the association and that the sole purpose of allocating the profits that may result to achieve its purposes, and to arrive at the immediate implementation of the Association's aims.
The Association may be commercial companies or acquire participations on existing companies to exercise an economic activity indirectly addressed to raise money, and in any case, time to achieve the goals.
All revenues, profits and dividends received in the exercise of business activities - direct or indirect - will be fully vested in the Association's assets with explicit prohibition of the distribution, even partial, or marginal, in any form to the members.

6 - Common Fund
The common fund of the Association shall consist of:
1. by the contributions paid by members upon admission and subsequent annual contributions payable by them in so far as to be determined for the first time in the Constitutive Act and, later, by the members;
2. gains and dividends may be derived from the direct or indirect economic activity in art. 5 of this Statute;
3. of property, movable or immovable property, purchased with the sums mentioned in paragraphs above, the same association;
4. by grants, loans, grants or contributions bestowed by international organizations, public and private entities.

Article 7 - Management Structure
Bodies are:
A. President
B. Vice President
C. Board of Directors
D. Scientific Committee
E. Meeting of Members

8 - The President
The President of the Association shall be appointed for the first term of incorporation and, later, by Associates of the absolute majority of votes of the persons entitled, shall remain in office for five years and is immediately re-elected.
He chairs the General Meeting and the meetings of the Board of Directors which is a member of law.
And 'member of the Law of the Scientific Committee with sole power of appointment of the other two members.
And 'the legal representative for all purposes of the Association, against third parties and in

court.
The President is entitled to a refund lump sum, determined annually by the Associates.

9 - The Vice President
The Vice President, was appointed to his first term in the Constitutive Act and, later, by a majority of all members belonging to the Board of Directors.
In case of absence or incapacity of the President replaces it in all its functions assuming the powers and functions and also represent the Association in external relations.
In case of impediment or absence of the Vice President of the features of this, with its powers and functions are exercised by the most senior in age.

10 - The Board of Directors
The Board of Directors shall be appointed for the first term of incorporation and, later, by Associates and is the President of the Association, a member of law, and four directors elected by the Members to vote next to the designation of the President.
Remain in office for five years and retiring directors shall be immediately re-elected.
Vice President-elect by majority vote from among its members.

Article 11 - Functions of the Board of Directors
The Board of Directors is entitled to all the functions and powers to achieve the aims of the Association.
In particular, the Board of Directors:
A. shall call a meeting of the Assembly of Members and ensure the implementation and enforcement of its resolutions;
B. decides on the admission, on the removal and exclusion of members;
C. represents, collectively and individually, the Association in dealings with third parties, for each faculty member to act on behalf of the Association itself and this is according to art. 38 of the Civil Code;
D. draw, also making use of outside professionals, the balance sheet and budget of the Association;
E. signing the appropriate conventions, agreements and arrangements with the Local, national and international, that provide, for the Association, funding, grants and / or contributions;
F. Directors of the controls, monitors compliance with the law and the rules contained in the articles and the present statute, provides for the keeping of accounts;
G. identifies any economic activities which exercise, their characteristics, to facilitate the achievement of the objectives and purposes of the Association and, in this sense, it shall enter into all agreements necessary for the establishment or participation in a company directly operating in the market , which establishes the operating procedures to be followed when the Association intends, directly, to manage the business;
H. check the consistency of the mutual fund by ensuring the regular payment of the same in all the revenue generated from these economic activities;
I. partnership agreements with technicians and professionals whose work appears essential for the proper conduct of the association.
J. report to the Assembly on proposals and initiatives suggested by the latter under subparagraph Article 8. 13.
K. review the legality of the formal rules of procedure of the Scientific Board.

L. conclusion of insurance contracts that may be regarded as essential to ensure, within the limits prescribed by law, the exemption of Directors and the President from personal liability related to the exercise of the association.
M. resolution for the establishment of offices and representatives in Italy and abroad.
N. appoint the Vice President.

12 - Meetings of the Board of Directors
The Board of Directors shall be convened by the President in any location as long as in Italy, whenever it thinks fit and such, but at least twice a year.
The notice, containing the agenda, must be delivered at least three days before the date set to the address of each director.
Each Board may be represented by written proxy, sent via fax.
For the validity of the resolutions of the Board of Directors requires the presence of a majority of the directors in office. Resolutions are taken by majority vote of those present. In the case of a tie vote of the President.
The resolutions must be in the minutes signed by the President and Director acting as Secretary.
Each Board is entitled to reimbursement of expenses incurred upon exercise of the association. The extent of this lump sum repayment will be determined by the Members in approving the budget.

13 - The Scientific Committee
The Scientific Committee is an autonomous body with decision-making power with regard to technical matters assigned to it by the Board of Directors or the Assembly of Associates. In such cases, when required, it expresses binding opinion on the matter brought to its attention, with the requirement for other association bodies to conform to what was expressed.
In any case, it is competent to determine the mode of restoration of individual works of art, the priority actions to be carried out, the choice of staff, under the circumstances seem appropriate and in possession dall'indispensabile technical competence to perform those actions on the works Public Art.
If considered necessary, the Committee may also avail themselves of experts outside the Association.
It is composed of the President of the Association, a member of law, and two members appointed by the President himself who unquestionably can also appoint external members to the Association.
The arrangements for meeting and voting will be discussed by the same Committee which shall, within one year from the constitution, to adopt its own rules of procedure on which the Board of Directors effetterà limited control only the formal legality of the provisions.

14 - The Assembly of Members
Assembly attended by all the Members that they are in with the payment of the fees referred to in paragraph Article 1. 6 above.
The meeting is chaired by the President of the Association who shall appoint a secretary taking the minutes chosen among the members present.
The resolutions must be in the minutes signed by the President and Secretary
Each member has one vote and may be represented by written proxy, also sent by fax, by another member.

The Assembly resolves:
1. approval of budgets;
2. the appointment of the President in the manner provided for in art. 8;
3. the appointment of the Board of Directors in the manner prescribed by art. 10;
4. amendments to the Constitution and the articles of association;
5. the dissolution and termination of the Association and the allocation of the fund;
6. lump sum to defray the expenses due to the Chairman and members of the Board of Directors;
7. acts proposed for its consideration by the Board of Directors;
8. to propose to the Board of Directors of the launch appropriate initiatives to the achievement of social goals;
9. the measure of the annual membership fee paid by the Associates.

15 - Notice of
The General Meeting shall be convened by the Board whenever he / she deems necessary and in any event at least once a year to approve the final accounts and estimates.
The Assembly must be convened when so requested by at least motivated one-fifth of the members.
The Shareholders' Meeting may be convened at any location, provided that in Italy, by a notice stating the date, time and place of the meeting, the list of matters to be discussed and the date, time and place the second call.
The notice must be sent to each member at least seven days before the date fixed for the meeting.
The deliberations of the Assembly shall, on first call, a majority of votes and the presence of at least half of the Members, on second call the resolution adopted by majority vote shall be valid whatever the number of participants.
The deliberations on amendments to the statutes and articles of association, as well as those relating to the dissolution and extinction of the Association and, finally, to the return of the fund should be adopted with the presence of at least three-fourths of the members and the vote of the majority of them.
Under Article. 21 of the Civil Code on resolutions approving the budget and those that affect their responsibilities, administrators did not vote.

16 - Associates
The number of Members is unlimited and belonging to the Association not give rise to any income and / or dividend.
To join the Association must apply to the board which will decide on the admission unquestionably.
Each Member is obligated to pay at the time of admission of a contribution in amount established by the members.
Each Member is obligated to pay the annual contribution of association.
The quality of member associations and the bond is intrasmissibile ends only on death, withdrawal, limitation and exclusion of the association.
In every case where the constraint associated processes can not say the one associated with contributions to the Association or have rights to fund it.
Under Article. 24, paragraph II of the Civil Code, the Associate can always withdraw from the Association with immediate effect from the notification made in writing to the Board of Directors.

The Expulsion of Associated occurs when the same are not matched by the date fixed by the contribution of admission or the annual membership.
The exclusion of the Association is approved by the Board of Directors when there are serious reasons.
Each Associate has the right, if all required payments due to a vote in the Assembly of the Association

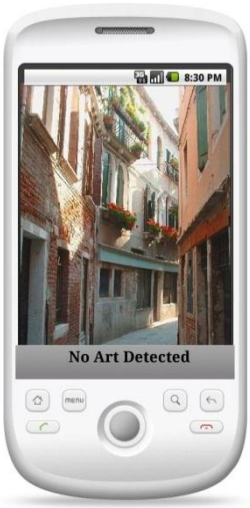
Article 17 - Settlement Association
The Association shall cease, and for the intended purpose, due to the provisions of art. 27 of the Civil Code.

Article 18 - Referral to legal norms
The Association is open-ended.
As expressly stated in the deed and not in this statute refers to the rules provided for by Italian law.

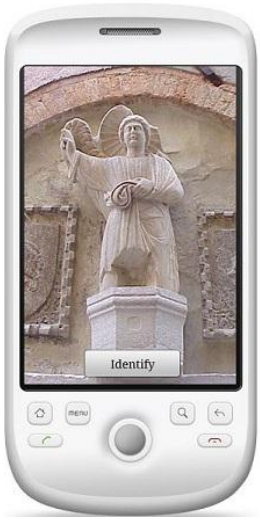
Venice

Appendix AA: Explanation of the Mock-Up

Starting on the main screen of the Android, the user would select the PreserVenice Icon.



After loading the application, the phone will immediately turn on its camera, much like Layar does, and start to scan the area in the picture for piece of art In our database.



If a piece of art is detected, the application will give the user an option to “Identify” the piece of art.

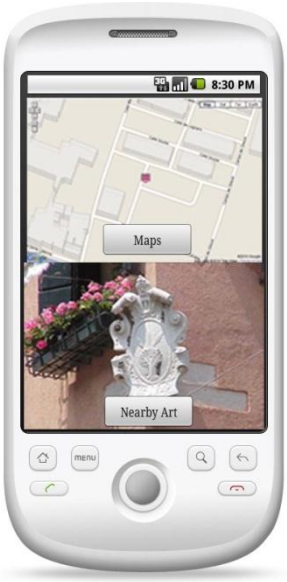
If the user chooses to “Identify” the piece of art, the application will display most of the pieces information from our database plus give the user the option to “Like” or “Dislike” the piece (to eventually create a recommendation list for them), the option to Donate directly to that piece of art, and the option to learn more about that piece which would take them to the Venipedia article on that specific piece.

When the user "Identifies" the piece of art, the application will compare the view of the piece to the pictures we have in our database to check for major changes. If one is found, it will prompt the user to notify us.

From here, the user can pull up the menu and two new options appear. They can either "Share" the piece with a friend, or "Rate Condition".

The User can submit a condition report by selecting from a numbered list from Good to Bad. There is a "Help" button to better explain this. This data will get sent to Preservenice to help with condition assessments but will be weighted that it is subjective.

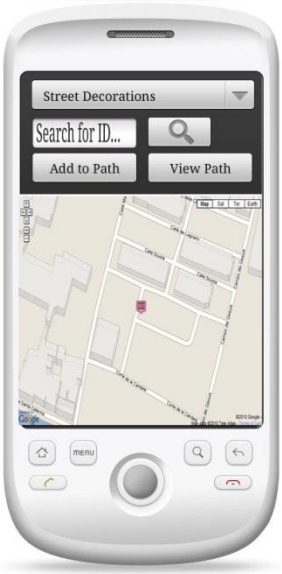
Under the Menu tab, whether art is found or not, the user will have the option to look for art using the "Find Art" option.



The user is given a choice on how they would like to search for art. They can either select “Find Nearby Art” which will start up the embedded Layar application, or select “Map” which will bring up embedded google maps.

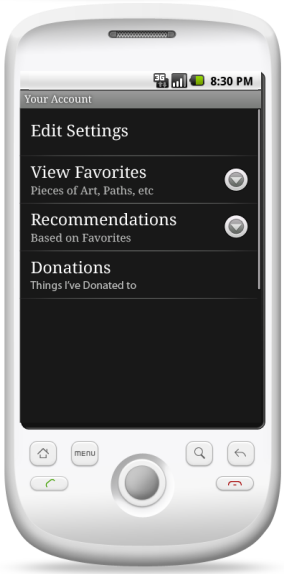
The embedded Layar application will run and function just like Layar, with the choice of the different layers located at the top for easy searching.

After selecting a piece, the drop down menu will be replaced with the options to “like”, “dislike” and “donate”.

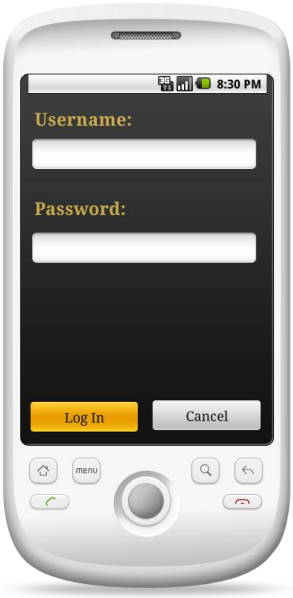


If the user chooses to use the Map function instead, they will be presented with a google map and drop down box to select the kind of art they wish to find. After selecting a category, they user can also search for a specific piece. As the user finds pieces, they can add them to a path to make their own guided tour.

When viewing the guided tour, the User can choose to “Share Path” to send their walking tour to a friend, “Edit Path” to add or subtract points, “Save Path” if they like it, and “Load Path” if they would like to use one they have already favorite. They can also turn “Recommendations” on or off at the top. If this option is turned on, the app will highlight additional routes to other pieces based on the users favorites list or similar pieces to what they have added to their path.



To perform all of the user specific actions, such as “like”, “dislike” and “donate”, they will need to create an account and log in. This will save their preferences and credit card data to pay for the donations.
Under Favorites, the user can view pieces of art they have specifically liked, walking paths they have liked, or recommendations based off of their favorites list.

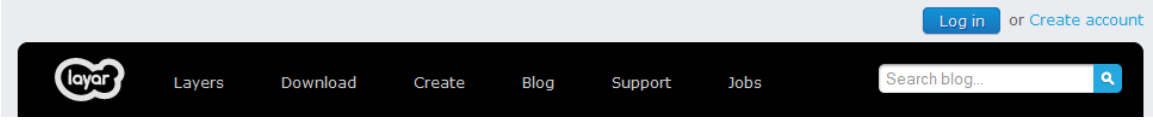


Appendix AB: Creating a Layar Application

Creating a Layar Application:

Step 1 - Create a Layar account. (Both for publishing and developing)

In order to do anything using Layar, you will first need to create a Layar account. Go to www.layar.com and click on "Create an Account" in the upper right hand corner. Fill out the needed information and it will send you a confirmation e-mail. Confirm your account and then go to the tab called "Create". On this page will be a large orange button entitled "Become a Developer". You will need to click this and make a matching account as a Developer before creating your own layers. (One log-in is for publishing and the other is for developing. Layar does not do a very good job of explaining this but you do need both accounts.)



Step 2 - Access needed websites. (Bluehost and Layar Wiki)

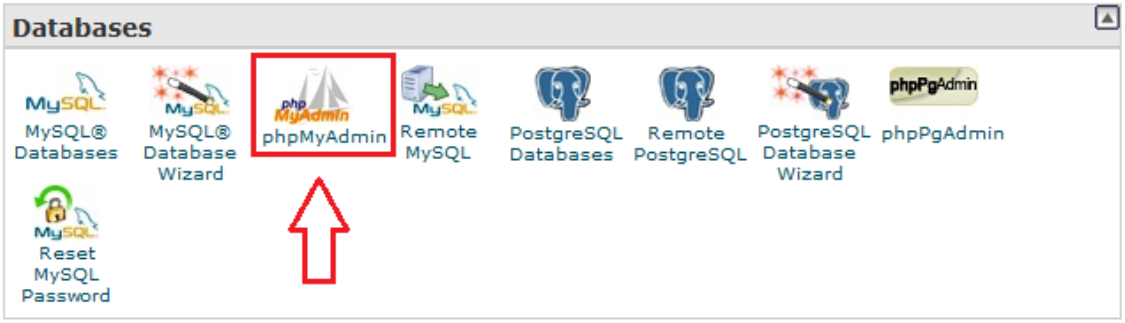
Besides creating a Layar account, there are two other important websites you will need to access before making a Layar. The first on is the Layar wiki which can be found at http://layar.pbworks.com/w/page/7783228/FrontPage.

The second website is the site that is used to host most of the web based parts to the Venice projects which is called Bluehost and is found at www.bluehost.com. (Please refer to an adviser for log-in information)

Step 3 - Create the POI table in Bluehost

Once logged into all of the above websites, I recommend keeping them all open until your Layar is complete. This makes changes quicker and easier in the long run.

After all accounts have been created you can now start actually making you Layar. The first step is on Bluehost. Once logged in, scroll down to the ninth frame, named "Databases" where you will find a button called "phpMyAdmin".



Click here and Bluehost will prompt you for a second log-in which will not be provided here for security reasons. (Please see an adviser for this information.) After you have succefully logged on to phpMyAdmin on Bluehost, a clickable list of known databases will appear in the left coloumn. You will need to click on the corresponding database of where you would like to store your information. (If working on this project specifically, the database is entitled venicetw_preservenice.)

Once at this point, click on the SQL tab at the top of the screen and alt tab to either this document or the Layar Wiki site. Copy and paste the following code into the window Bluehost has provided to create your empty Points of Interest table, replacing the word "POI_Table" at the top with your own name. (Example: When creating a POI table for fountains, follow Layar's naming scheme but replace POI_Table with FOUNTAIN_Table or something similar. This should be a clear name that you won't forget what it refers to at a later date and that someone else who wants to edit the table can easily find.)

```
CREATE TABLE IF NOT EXISTS `POI_Table` (

  `id` varchar(255) NOT NULL,
  `attribution` varchar(150) default NULL,
  `title` varchar(150) NOT NULL,
  `lat` decimal(20,10) NOT NULL,
  `lon` decimal(20,10) NOT NULL,
  `imageURL` varchar(255) default NULL,
  `line4` varchar(150) default NULL,
  `line3` varchar(150) default NULL,
  `line2` varchar(150) default NULL,
  `type` int(11) default '0',
  `dimension` int(1) default '1',
  `alt` int(10) default NULL,
```

```
  `relativeAlt` int(10) default NULL,
  `distance` decimal(20,10) NOT NULL,
  `inFocus` tinyint(1) default '0',
  `doNotIndex` tinyint(1) default '0',
  `showSmallBiw` tinyint(1) default '1',
  `showBiwOnClick` tinyint(1) default '1',
  PRIMARY KEY  (`id`)
) ENGINE=MyISAM  DEFAULT CHARSET=utf8;
```

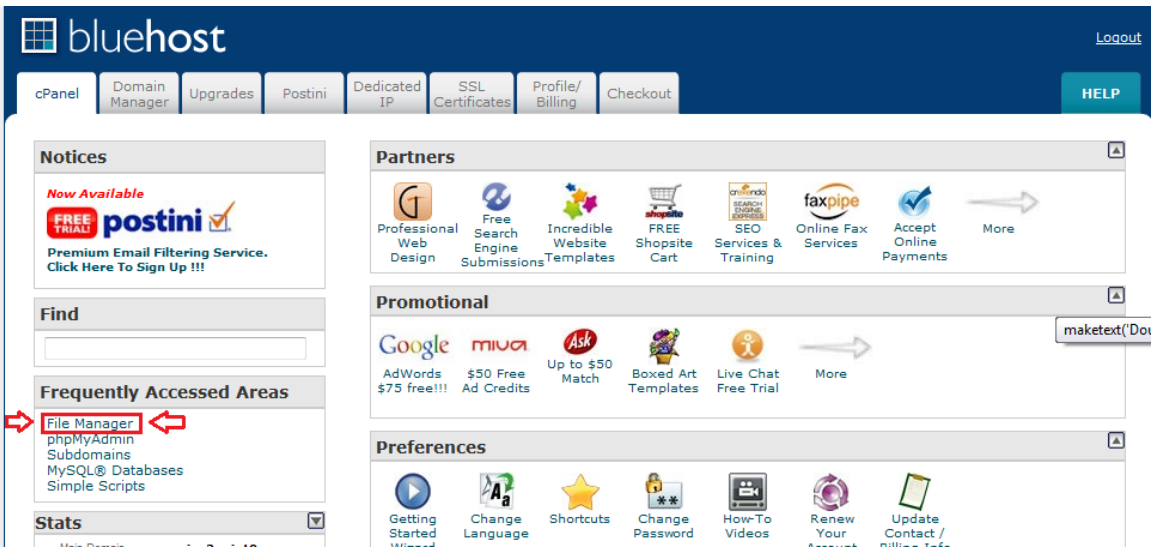
{Above code is provided on the Layar wiki site under "First Tutorial" where it goes into detail for what the code does piece by piece.}

Once you have pasted this into the space Bluehost provides and re-named it, click on the "Go" button at the lower right of the pane. You now have an empty POI table to work with.

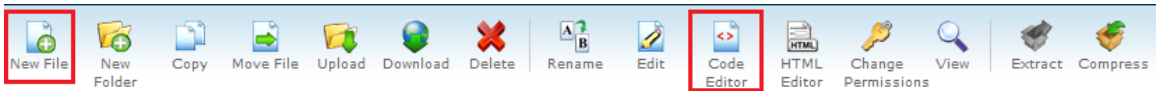
Step 4 – Create the PHP filein Bluehost

While you are already running code I would recommend getting it all done at once and creating the PHP file next. This code is far too long and indepth to do it justice by pasting it here, so you will need to refer to the Layar wiki under First Layar Tutorial. On this page, Layar gives you a very nice break down for what each piece of code is doing but they also provide a link at the bottom to download the full code in a text file.

After downloading the code, open it in your choice of text editing programs and then return to the Bluehost homepage. Instead of going to phpMyAdmin this time, select "File Manager" from the list of options on the left hand side of the screen. This will be found just below the searching bar. From here, select the web domain where you will be hosting your ph file from. (For those working on PreserVenice, your web domain is preservenice.org)



If you are using a different domain that does not already have a folder named "Layar" you will need to create one here. Access the Layar folder and select "New File" from the options at the top. The naming convention here for Layars is "get_XXXX.php" where the x's would be replaced by your title. This is not mandatory at all, but it is recommended for ease of use. (i.e. - If this is to retrieve date stored in the FOUNTAIN_Table, it would be a good idea to name your php file "get_FOUNTAINS.php"). Do not forget the ".php" at the end of your files name!



Once your file has been created, select it from the file list and then click on "Code Editor" at the top. Do not double click on the file to open it. In the Code Editor view, copy and paste the code you have downloaded from Layar here. Replace the Author at the top of the file with your own name and the date. The only other part of this file that will need changing is the following, the rest should be left alone.

Scroll down till you find this piece of code...

```
$dbhost = "localhost";
$dbdata = "database_name";
$dbuser = "database_username";
$dbpass = "database_password";
```

Replace that with...

```
$dbhost = 'localhost';
$dbdata = 'venicetw_preservenice';
```

{Then substitute the log-in information your advisers have provided you with. }

Save this file.

Step 5 – Add an entry to the Layar or Import from Excel/Access

When you are ready to actually add points of interest to your POIT table, you have two options. If there are only a few entries you can choose to entire data by hand, one of point of interest at a time, or, if there are many entries, you can simply upload CSV sheet made by Excel.

a.) Entering Single Entries:

If you choose to simply enter data by hand you can select the "Insert" tab at the top of your "XXXX_Table" database in Bluehost. Then follow the example from the Layar Wiki site where it explains each field. (Note: line 4 comes before line 3 in the table, etc. but on the actual screen of the phone, line 4 will appear as the bottome line and so on. Keep this in mind when arranging your date.) When done entering your point of interest, simply click on "Go" and your entry will be entered into the table. Repeat these steps for as many entries as you have.

b.) Importing a list of Entries:

If you have a very long list of points to add to the table, I would recommend creating an Excel spreadsheet first and importing that into Bluehost. It will take a fraction of the time it would take to enter them all by hand, especially if there are over a hundered. Start off by filling the first row across the top with the fields defined in the table. (i.e. - ID, Attribution, etc)

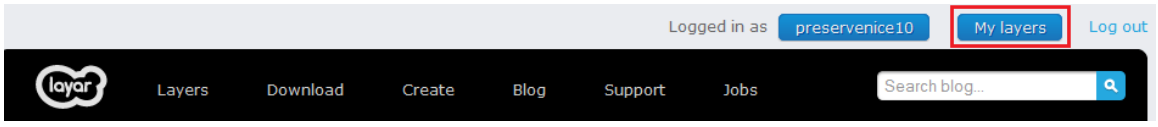
To fill in the columns now you have another choice to make. If you have the data already set up in another Excel sheet or an Access database, you can copy and paste coloumns into your new spreadsheet then just fill in the common rows as dictated by Layar. (For example, with these simple Layar, Distance will always equal zero. So you can enter one zero at the top and simply drag it down to fill in the coloumn.) If your data is not already in Excel or Access, you need to enter the uncommon data (Title, etc) by hand and then you can fill in the common areas.

Either way you choose, you will end up with a table filled in with your information for each point of interest in an excel spreadsheet. Save this as an Excel file to chang it later and a CSV file. Go back to your table in Bluehost and instead of selecting "Insert", select "Import" and the CSV file you just made. At the bottom, change "Fields Terminated by" to a comma instead of a semi-colon. When you click on "Go" at the bottom, this should populate your table with all of your information.

{NOTE: You CAN leave fields blank in your excel sheet, like if you have no pictures for your objects, as long as you have something in the first row at the top so Excel knows there is really row there that is empty.}

Step 6- Create Layar

Now that the POI Table and PHP file exist and are linked together, it's time to pass them through Layar and create your mobil application. If you are not logged onto the Layar site, you need to do that first. At the top after logging in, there will be a button named "My Layers".



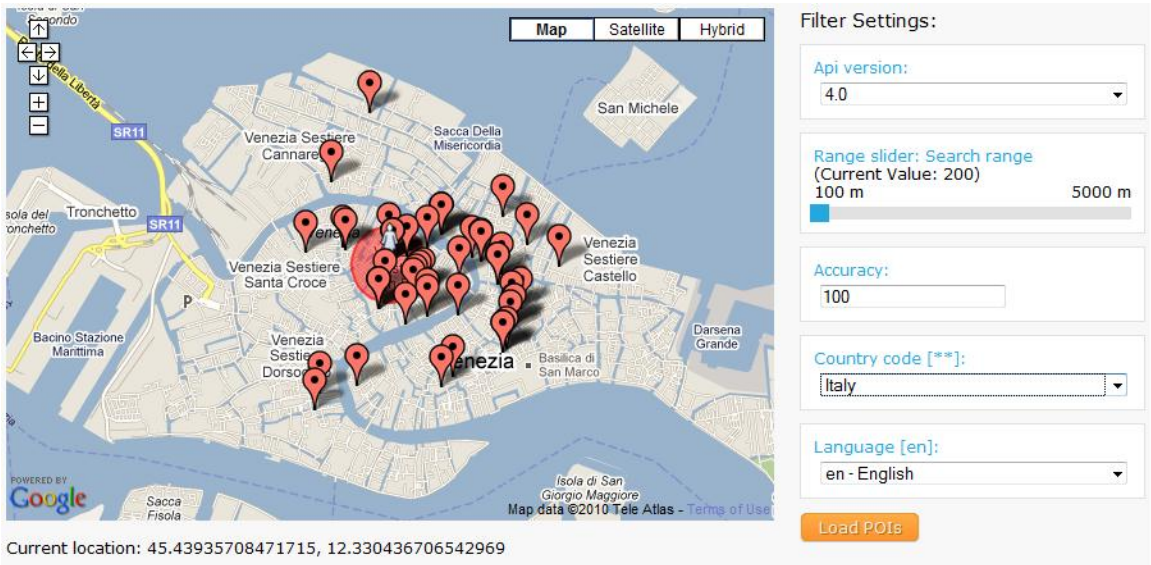
Click that. Then select the orange "Create Layer" button. Decide on an approriate title and description for your application being careful of the word limit. For the API endpoint, this is the path Layar will take when trying to find your PHP file to read. For those working on the Preservenice project, you would use the following...

http://preservenice.org/Layar/get_XXX.php (Replacing get_XXX with the title of your PHP file).

After initally creating your layer you can now change it's apperance and prefrences to fit your content.

Step 7 – Test Layar

The last important step in creating a layer is testing, and as much as you can do of it. First, test your layer on your computer by returning to "My layers" and selecting "Test". The little person on the map will always start in Amsterdam which is where the Layar office is located. Drag the little person to somewhere in the world where they will be in range of the Point of Interest for your layer. After relocating the person, click on "Load POIs" from the right side of the map. If there are no errors, your POIs will load into the goggle map. If this does not happen, scroll down to the bottom of the log box at the bottom and read the errors that will appear in red.



{Example of an error message}

After the layer has passed it's testing phase on the computer, you must check it on an actual phone! Keep in mind, Layar does run on both the iPhone and Android. Install Layar on your phone free from the market place and there will be an option under "Settings" or "More" depending on the phone you use where you can log in. Log in to Layar using your account information that you used to create the layer you are testing. Your layers should now appear under "My Layers" in the "Test" folder. Test for as long as you can using the phone and try to cover most POIs to ensure the GPS coordniates are correct, etc. before publishing your application to the public.

Step 8 –Publish the layer

To publish the Layar, log into your Layar account but instead of hitting “Test”, select “Request for Approval”. At this point, Layar will inform you if all our fields are filled out correctly. If not, adjust the setting in your layer until the error messages stop. For example, all layers must have a list of countries that they work in and an icon to represent them. After your layer has been submitted for approval it should get approved within five business days and made available to the public.

Creating Actions for Layar:

Step 1- Create Action table in Bluehost

With the use of an Action Table you are allowed to add up to five actions to any given POI which you can select from five different types. E-mail, Calling, Webpage, Audio and Video. (There are five types and five Action possibilites for a POI, but that does mean you need one of each. You can potentially make all five web page addresses, etc.) To create a Action Table, return to your database on Bluehost under phpMyAdmin. Follow the same steps to create a POI table but copy and paste this code instead, which can also be found on the Layar Wiki under "Second Tutorial."

```
CREATE TABLE IF NOT EXISTS ‘ACTION_Table’(

  `poiID` varchar(255) NOT NULL,

  `label` varchar(30) NOT NULL,
  `uri` varchar(255) NOT NULL,
  `autoTriggerRange` int(10) default NULL,
  `autoTriggerOnly` tinyint(1) default NULL,
  `ID` int(10) NOT NULL,
  `contentType` varchar(255) default 'application/vnd.layar.internal',
  `method` enum('GET','POST') default 'GET',
  `activityType` int(2) default NULL,
  `params` varchar(255) default NULL,
  `closeBiw` tinyint(1) default '0',
  `showActivity` tinyint(1) default '1',
  `activityMessage` varchar(255) default NULL,
  PRIMARY KEY  (`ID`)
) ENGINE=MyISAM DEFAULT CHARSET=utf8;
```

Once again, replace the name "ACTION_Table" with something appropriate that you will remember. Please refer to the Layar Tutorial to fill in these fields with appropriate values. The table can be populated the same way as any POI Table.

Step 2- Link Action Table to PHP File

After creating the Action Table, go back to File Manager and fine the PHP file you made for the POI table you want to connect the actions too. Go to the Layar Wiki under the second tutorial and download the code that they provide and add it to the top of your PHP file. Once again, replace anything that says "Action_Table" with the name of your Action Table. Also, find

```
$poi["actions"] = array();
```

In the GetHotspots function to replace it with...

```
$poi["actions"] = Getactions ( $poi, $db );
```

After adding the new code and changing that one line, save the file.

Step 3- Test

On the actual Layar site you shouldn't have to change anything. Test your layer on the computer and phone to make sure your Actions now show up for the correct POIs.

Mainting or Updating Layars:

Adding a New Entry

If a new entry must be added to the POI table after it's creation, you can either simply select "Insert" and fill in it's data, or edit the excel spreadsheet you've made, save it as a CSV, empty your POI table, and re-import the CSV. (Refer to above)

Deleting an Entry

To delete an entry, simply delete it from your POI table or remove it from your excel spreadsheet, save as a CSV, empty the table, and re-import your CSV file.

Editing an Entry

To edit data in an existing entry, simply locate it within the POI table and select "Edit."