ANALYSIS OF UNIVERSITY HISTORIC CLOTHING AND TEXTILE WEBSITES

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ANALYSIS OF UNIVERSITY HISTORIC CLOTHING
AND TEXTILE WEBSITES

BY

CATHERINE MURPHY

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE
IN
TEXTILES, FASHION MERCHANDISING & DESIGN

UNIVERSITY OF RHODE ISLAND
2013
MASTER OF SCIENCE
OF
CATHERINE MURPHY

APPROVED:
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DEAN OF THE GRADUATE SCHOOL

UNIVERSITY OF RHODE ISLAND
2013
ABSTRACT

Many universities with historic textile and costume collections do not have websites promoting their collections. The websites not only increase awareness about the collections, they also allow the institutions to become worldwide research facilities, while simultaneously promoting the historic textile and costume field.

This study evaluated private and public university historic textile and costume collections in the United States to determine how the websites were constructed and what material was included. Upon completion of website analysis, I contacted specific universities for further study based on how well the websites matched a list of components for a valuable website developed from the review of literature. With this analysis and survey information from website managers and developers, I developed recommendations and suggestions for creating a useful website for university textile and costume collections.

The research was conducted in multiple steps and once all the data were acquired, responses and analyses were transcribed onto an Excel spreadsheet, further developed into tables and charts identifying essential and beneficial information pertaining to my research. The recommendations and suggestions were then derived from those results.

Results demonstrated a variety of website design techniques utilized by university collections. Elements from the desired list of components were observed in all websites. Some websites were better developed matching more of the components while others were more basic.
ACKNOWLEDGEMENTS

Throughout the entire process of writing my thesis—library research, interviews and analyzing data—a number of people encouraged me, making the entire experience easier and more enjoyable. Without those people, the process would have been completely different. Firstly, I want to thank fellow grad student, Hilary Baker, who was writing her thesis at the same time. Our constant texts and conversations about how time was running out and to get it going were the highlight of the writing process. My thesis advisor and professor Dr. Linda Welters made writing my thesis possible. Her guidance and advice were instrumental, and I could not have done it without her. Dr. Margaret Ordoñez was always a positive influence, ready to help in any way. Dr. Sarina Rodrigues provided a beneficial insight into a different world of collections and databases that proved to be extremely helpful. I thank her not only for that, but for also taking the time to be a part of my thesis committee.

I also want to thank my family. My twin sister, Christina, and my dad had to put up with a lot of whiny phone calls when I thought I would never be done! My family’s constant support and humorous words of wisdom always served to lighten the mood. Lastly, I need to thank my dog Mac, who settled for a few months of fewer walks and less attention as I put in hours upon hours of time in front of the computer (it has since been made up to him!!).
PREFACE

The following research has been prepared in manuscript form following the “Guide to Theses and Dissertations,” outlined by the University of Rhode Island Graduate School with the intention of submitting it to a professional journal, "Dress, the scholarly journal of the Costume Society of America."
# TABLE OF CONTENTS

ABSTRACT ............................................................................................................................. ii
ACKNOWLEDGEMENTS ....................................................................................................... iii
PREFACE ............................................................................................................................... iv
TABLE OF CONTENTS .......................................................................................................... v
LIST OF TABLES ..................................................................................................................... vii
LIST OF FIGURES .................................................................................................................. viii
MANUSCRIPT ........................................................................................................................ 1
Chapter 1: Introduction ........................................................................................................... 2
  Background ............................................................................................................................ 2
Chapter 2: Review of Literature .............................................................................................. 7
  Content ................................................................................................................................. 7
  Virtual Exhibitions/Virtual Galleries ..................................................................................... 10
  Social Media/Interactivity ..................................................................................................... 11
  Funding/Income ................................................................................................................... 13
  Tracking Website Usage/Feedback Surveys .......................................................................... 14
  Benefits of Website ............................................................................................................ 14
  Challenges and Problems .................................................................................................... 15
Chapter 3: Methodology ......................................................................................................... 17
Chapter 4: Results and Discussion .......................................................................................... 19
  Content Analysis of Results ............................................................................................... 19
    Searchable Databases ......................................................................................................... 20
    Text and Photographs ........................................................................................................ 20
    Display Techniques .......................................................................................................... 21
    Virtual Exhibitions/Virtual Gallery ................................................................................... 22
    Social Media ..................................................................................................................... 22
    Funding .............................................................................................................................. 23
    Size and Type of Collection ............................................................................................. 23
    Members Area ................................................................................................................... 25
  Questionnaires and Further Study ..................................................................................... 26
  Discussion ............................................................................................................................. 30
    Databases, Text and Photographs ..................................................................................... 31
LIST OF TABLES

Table 1. Survey Questions ................................................................. 18
Table 2. Location of Costume and Textile Website ......................... 19
Table 3. Accompanying Text Found on Websites .............................. 20
Table 4. Images of Costume or Textile Collection .............................. 21
Table 5. Display Techniques ................................................................. 21
Table 6. Social Media Usage ................................................................. 23
Table 7. Size and Type of Collection .................................................. 24
Table 8. Institution and Job Title of Survey Subjects .......................... 26
LIST OF FIGURES

Figure 1. Michigan State University, quilt index search bar........................................ 32
Figure 2. University of Minnesota, Goldstein Museum of Design search bar.......... 32
Figure 3. Drexel University virtual exhibit................................................................. 34
Figure 4. Spurlock Museum, University of Illinois, virtual exhibit......................... 34
Figure 5. University of Nebraska "Making a Quilt" .................................................... 36
Figure 6. Drexel University website credits and biographies .................................... 38
Figure 7. University of Hawaii recognition information ............................................. 39
Figure 8. University of Virginia garment analysis..................................................... 40
Figure 9. Texas Women's University First Lady collection....................................... 40
Figure 10. University of Nebraska-Lincoln feedback and rating survey ................. 41
MANUSCRIPT

Analysis of University Historic Costume and Textile Websites

By Catherine Murphy

Is submitted to the journal of Dress, the scholarly journal of the Costume Society of America.
Chapter 1: Introduction

Providing a website for university textile and costume collections increases awareness of the historic textile and costume field, brings attention to the institution, and enables the collection to become a worldwide research facility. This allows scholars, students, and researchers access to significant information and images of historic costumes and textiles. Lack of funding, time, and staff limit the diligence necessary to construct and maintain a valuable collection website. This study evaluates private and public university historic textile and costume collections in the United States to determine how the websites are constructed and what material is included. After the completion of the review of literature and analysis, recommendations and suggestions for creating a useful website for university collections are made.

Background

Every year, the Internet becomes more important to faculty, students, researchers, and the general public. Reports from the Huffington Post estimate an average of 55 percent of Americans used the Internet daily in 2011.¹ According to reports from 2010, in the United States 77.3 percent of the population are internet users. Of that percentage, 43 percent use Facebook.²

Increasing popularity and convenience of the Internet has prompted institutions to develop websites or webpages to remain relevant and current.³ Establishing a

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website for a historic costume and textile collection provides the institutions with a wide variety of opportunities. As a research facility, digital technology provides distant scholars and students the ability to gather valuable knowledge perhaps otherwise unavailable. Digital images of collections, along with supportive information, promote fast and convenient means of communication between the general public, professors, students and researchers.  

Digital images, documents, and essential information for each object, if uploaded to the web, have a permanent location safe from fires, flood damage, and other physical hazards. In addition, objects may be handled less, prolonging their stability and decreasing chances of damage. Uploading images onto the web enables the object to be better preserved as it no longer has to be physically exhibited to view it. Paul Conway suggests three purposes for preserving objects with the use of digital technologies including protecting, representing, and transcending the originals.

University historic clothing collections have not been the subject of much published research. Sara B. Marcketti et al., support this claim about university historic clothing collections. Proclaiming how current museum practices receive little scholarly attention, regardless of their importance, Marcketti et al. focused their research on determining the best practices and strategies for creating a website for use by current universities. These researchers stressed how important university

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collections are to students, allowing them internship and volunteer possibilities without their having to leave the campus. University collections are a fundamental resource for information.

Creating websites for university historic costume and textile collections can be a tedious and extensive process, requiring the assistance of various staff from numerous departments. Many universities suffer from financial and time constraints and do not have the same capabilities that a museum might have to create a website for their collection. Tekara Stewart documented strategies used by different museums to develop a website. She acknowledged how a collaboration of people from different departments in a museum, including curators, conservators, collection managers, members of the education department, exhibit planners, and photographers are needed to create a successful and well maintained website. The development of the digital Drexel collection required the collaboration of the director of the Fashion Program at the College of Media Art & Design Renee Chase and Kathi Martin, the Director of the Graduate Fashion Program. Museums in general suffer from a lack of staff and funding for all activities, and museums must to have appropriate staff to complete the development of a website for a collection.

Sara Marcketti et al., recognize how crucial outside funding is to universities. Without it, universities face many challenges. Funding is continued as long as

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universities are able to demonstrate their significance. As many institutions compete for the same funds, any distinction or advantage is pivotal.\footnote{Marcketti et al., “University Historic Clothing Museums,” 249.} By establishing collection websites to better showcase their relevance, universities have a much better chance of standing out amongst the competition and continuing to acquire outside funding. A larger, broader audience may attract more funding. An increase in interest in a collection could garner more funding for the university, therefore demonstrating a greater importance for producing successful websites for university historic costume and textile collections. Digital collections featured on the World Wide Web have the potential to attract funders with interests in increasing education and technologically innovative research and development projects.\footnote{Bernard Reilly, “Collections: Museum Collections Online,” Library and Information Resources, pub88, February 2000, accessed March 14, 2013. http://www.clir.org/pubs/reports/pub88/coll-museum.html.} Many departments do not receive enough funding to support a full staff to manage historic collections. Before the 1970s a limited number of university historic textile and costume collections employed curatorial staff.\footnote{Welkers and Ordoñez, “Historic Textile and Costume Collections,” 5.} Kira Moynihan observed small historical societies relied on volunteers, and while good intentioned, many do not have the proper training to handle and care for textiles.\footnote{Kira L. Moynihan, “Care of Textile and Costume Collections in Small Museums and Historical Societies,” (Master’s thesis, University of Rhode Island, 2011): 1.} Physical museums generally require staff properly trained on the correct techniques of managing textiles including conservation, preservation and storage. Once a virtual collection is created, objects no longer need handling; therefore, finding appropriate staff and volunteers can be more manageable.

Collections are a valuable resource for teaching and research. Linda Boynton stated the primary purpose of a university collection is as a teaching resource; faculty
demonstrate styles, construction, fabrics, and silhouettes of past centuries. According to Linda Welters and Margaret Ordoñez, most costume and textile collections at land-grant institutions began from faculty members’ teaching collections.

Past research might assists universities with the creation of historic costume and textile websites; however, a study based on content analysis of established historic textile and costume websites is nonexistent. This research will fill that gap with a thorough analysis of selected university costume and textile websites.

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Chapter 2: Review of Literature

This chapter surveys previous studies in relation to this research. Each subheading represents an item from the list of components for creating a textile and costume website developed from the review of literature. Information on each subheading, along with evidence from previous research is provided to support the importance of each feature involved in a costume and textile website.

Content

What to include on a website is one of the more daunting tasks involved in the conception of a website. Paul Marty’s research demonstrated the quality of information found on the museum website as the most important aspect of a website. Digital collections and museums should lure the viewer in rather than act as a surrogate to the physical museum.\(^\text{17}\) The relationship between the museum and its corresponding website should be complementary. There should not be too many discrepancies between the two.\(^\text{18}\) Surprisingly, the ability to search the collection and website was the least important of the five criteria, which included: ease of use and accessibility, performance, efficiency and reliability, the ability to navigate and browse, and the quality of images and graphics.\(^\text{19}\)

Adrienne Fletcher and Moon Lee used surveys and interviews to discern what forms of social media are being used in American museums and for what purpose. The researchers emailed 875 museum professionals working in a communications or


\(^{19}\) Marty, “Museum Websites and Museum Visitors,” 352.
public relations department. They received, 315 fully completed surveys.\textsuperscript{20} From a list of five factors, responders declared the content quality of a museum website as the most influential component in possessing a successful motivator to encourage and engage conversation.\textsuperscript{21} The content was a way to interact with followers on a “more personal level.”\textsuperscript{22} The use of photos also promoted engagement between the museum professionals and the viewers.\textsuperscript{23}

Sebastian Chan, director of Digital & Emerging Media at The Smithsonian Cooper-Hewitt National Design Museum, presented at a workshop at Brown University on March 20, 2013, titled “Digital Media and its Use in Museums.” Chan stated that the information published on a website has the potential to be more valuable than an image. Choosing what information to supply is very important; what story is being told? Before selecting an object for display on a website, consider what people might want to know about the object. It is detrimental to build a connection and use interest in an object as a way of prioritizing by value and demand. Interest in an object has the potential to garner funding for the museum, as evident with the “Chocolate Box” dress. Websites also should inform viewers what percentage of their collection is represented online.

Diana Saiki hoped to assist in the development of historic clothing and textile collection websites by highlighting the most common details to incorporate. She stated that many factors need to be considered when planning a digital collection. Various

\textsuperscript{21} Fletcher and Lee, “Current Social Media,” 512.
\textsuperscript{22} Ibid. 514.
\textsuperscript{23} Ibid. 515.
elements, including the use of mannequins over dress forms, the number of angles photographed, images being displayed with 360 degree video, searchable databases, and what text to incorporate with each photograph are only some of the issues encountered during the stages of developing an exceptional website. Bernard Reilly introduces other issues that might receive less thought: cultural sensitivities and community standards. A wide variety and assortment of objects and textiles uploaded to the World Wide Web have the unforeseeable consequence of offending someone’s beliefs, whether they be cultural, religious or personal. These factors are important to take into account when deciding the artifacts to display.

Many points emphasized by Saiki also were documented as important features by Martin et al. They relied on a user-centered framework to achieve a wish list of favorable features to include in a museum collection website obtained by interviews, surveys, and observations. Accessing images with a 360 degree video, as mentioned in Saiki’s research, was one of the most important features desired. Following that, Martin’s research coincides with Saiki’s; appropriate text included with each image is necessary. Observing an object from all angles is instrumental in achieving the best experience for the viewer as it most closely relates to the physical museum. One of the most exciting aspects of virtual museum exhibitions is the all-around view of an object. It brings the observer closer to the object with the use of zoom features and detail images and produces a connection with the item. Selected website features can

25 Reilly, “Collections: Museum Collections Online.”
be the underlying factor between a good website design and a poorly executed one. Substantial data may increase the relevance and the value of a collection website.\textsuperscript{28}

In regards to photographs, Sebastian Chan suggested uploading all object images, regardless of image quality. After necessary staff, time, or funding has been acquired, those images can be replaced with newer, professionally photographed images, based on user demand or other criteria. Chan cites a “Chocolate Box” evening dress as an example, stating how a mediocre image of the crumpled dress, uploaded to the web, garnered so much attention that the dress was later professionally photographed. Through the use of web monitoring and usage statistics, it was discovered that fashion images and information were very important.

Chan stated that the majority of the collection should be uploaded to the web. He expressed his belief that a museum that hides its collection will remain irrelevant, therefore as much as possible should be uploaded. Museums such as the Brooklyn Museum have a “record completeness” rating for each object in their collections. This record allows viewers to see how complete and thorough each record is. Not only does this help the museum, it also serves as a way of providing more interest to museum website viewers and can help to increase funding for more research.\textsuperscript{29}

\textbf{Virtual Exhibitions/Virtual Galleries}

Online exhibitions enable museums to connect with more people and share the collection highlights. The use of a virtual gallery or exhibitions allows the information to be presented in a new way and incorporate new technologies. Roderick Davies and

\textsuperscript{28} Martin, Lin and Lunin, “User Centric Design,” 287.
\textsuperscript{29} Sebastian Chan, “Digital Media and its use in Museums,” Lecture, workshop from Brown University, Providence, RI, March 20, 2013.
Marie Jefsioutine explain ways virtual galleries overcome physical limitations, in that they can bring together works from an exhibit in ways physical museums cannot.\textsuperscript{30}

As objects are appreciated for more than their aesthetic appearance, consider the audience during the evolution of the virtual gallery. Backgrounds of viewers will be diverse whether they are students, scholars, designers, or general audience members.\textsuperscript{31} They think that website design should be geared towards the general viewer rather than towards a target market. Virtual galleries are time consuming and costly. High resolution images, audio and video are expensive. Davies and Jefsioutine urge site developers to consider budget and time frame during planning and caution against the use of three-dimensional videos and photographs, which have risen in popularity on museum websites, because they provide limitations and can complicate user interaction. Due to these obstacles, 3D technology was not utilized in their jewelry virtual exhibit, instead opting for a clear and easily navigated display.\textsuperscript{32}

\textbf{Social Media/Interactivity}

As the Internet grows in popularity, so does social media. Museums and universities are relying on social media to increase awareness of their collections and institutions more than ever before. Fletcher and Lee’s research revealed almost all surveyors, 90 percent, promoted their museums through the use of social media. Facebook (94\%) and Twitter (70\%) ranked as most popular forms of social media.\textsuperscript{33} Surveyors reported that Facebook’s far reaching capabilities and Twitter’s speed made

\textsuperscript{31} Davies and Jefsioutine, “Designing a Virtual Gallery,” 8.
\textsuperscript{32} Ibid. 9.
\textsuperscript{33} Fletcher and Lee, “Current Social Media,” 511.
them forerunners for most widely used social media.\textsuperscript{34} Many of the museums, 38 percent had only one person working on the social media, and both Twitter and Facebook were updated daily.\textsuperscript{35}

Social media such as Flickr are used by museum professionals. Chan provides insight into Flickr, commenting how once an image is uploaded, it gets tags, which can generate interest from viewers.\textsuperscript{36}

When a museum or institution is able to engage an audience, the museum creates a stronger bond and connection with the viewer. Chan comments interactivity should be informative and fun, yet “not cheapen the experience.” A fun interactive website does not have to be “cheesy” or “childish,” it can be done professionally, maturely, and still contain elements of excitement. B.J. Soren supports the importance of interactivity in his research, reporting how engaging the audience is vital. Information should be kept fun and educational, enabling viewers to identify items while also providing new and exciting means of viewing objects.\textsuperscript{37} Interactivity on websites has the potential to garner interest in the physical museum. The Cleveland Museum of Art creates a performance in its physical exhibits in which even the curators get involved. They have interactive computerized monitors throughout the museum. The computers show an image of an object from the collection, i.e., a statue or art work, and the person standing in front of the computer has to replicate features such as body formation and facial expressions. The Museum of Old and New Art

\textsuperscript{34} Ibid. 517.
\textsuperscript{35} Ibid. 511.
\textsuperscript{36} Chan, “Digital Media and its use in Museums.”
MONA) in Australia has a well-executed and interactive digital experience. After visiting the museum, guests are able to “retrieve my tour.” This provides museum patrons the ability to retrace their steps throughout the entire museum. Guests can find out what they missed, and plan another future trip. The museum relies on a social media application to not only track user’s footprints, but also to provide information on any objects, as there are no labels. Instead of labels, guests use the social media application on their phones to receive information about the objects being viewed.

Fletcher and Lee attribute social media as a way of increasing museum traffic. Some museums acknowledged events that would normally be underwhelmed with visitors were now at capacity with about 200 visitors thanks to social media. Tekara Stewart and Sara Marcketti explain social media usage as a means of connecting with the masses. Through websites such as Facebook and Twitter, museums possess an inexpensive and accessible means of communicating and engaging with the general public, while also garnering more fans.

**Funding/Income**

Displaying an institution costume and textile collection online provides the institution with the ability to showcase the collection without compromising valuable space. Abby Goodrum and Kathi Martin discuss the size of Drexel University’s costume collection and remark on the lack of funding and space to display a collection of its size on campus. Without any form of exposure, the collection remains hidden

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38 Fletcher and Lee, “Current Social Media,” 516.
to the public, only accessible to students and faculty in the department. Digital collections extend the reach of the collection for a variety of viewers.\(^{41}\)

**Tracking Website Usage/Feedback Surveys**

Usage trackers and feedback messages enable museums to follow most popular areas and characteristics of their website. While completing research to understand what defines quality features in an online museum project, Soren revealed how tracking users is a contributing factor.\(^{42}\) Employing usage trackers assists online museum professionals. How long viewers are staying on the website, what parts of the website are being most observed, which features are and are not popular to the audience, are all components observed from trackers.\(^{43}\)

Chan spoke about heat maps during his lecture at Brown University. Heat maps demonstrate the most cut and pasted text from the object records. It allows museum professionals to gain an understanding of what text is considered the most beneficial and what is being read the most.

**Benefits of Website**

Marty expands on existing research to support the claim that museum websites increase flux of visitors to the physical museum it represents.\(^{44}\) A well-executed website should excite the audience enough to encourage them to view the objects in person.\(^{45}\) Historic textile and costume websites representing museums or institutions

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\(^{43}\) Ibid. 137.
\(^{44}\) Marty, “Museum Websites and Museum Visitors” 339.
\(^{45}\) Ibid. 338.
have provoked teachers and students to make an appointment to visit the collection. Websites may enhance the collections capability to be used for research and teaching.

Marty’s purpose was to ascertain data regarding reasons one may visit a museum website, both before and after visiting a museum. He developed an online survey instrument using a five-point Likert scale. Questions sought to understand the circumstances behind a member’s visit to the museum website, the resources used once on the website, and how likely they were to actually visit the museum. Each respondent answered the questions for both before and after visiting the physical museum. Administered over a year, nine museums agreed to include a link to the survey on their museum website homepage. Based on 1,202 results, 91.4% of respondents reported that having a website was either important or very important, and 81.9% claimed they were either likely or very likely to visit the website before the museum. More detailed results indicated 39.6% of responders were more likely to visit a museum due to its website, 19.7% decided not to visit specifically because of the website, and 69.9% used the website as a means of determining whether or not to visit the museum.

Challenges and Problems

Stewart and Marcketti’s research involved interviewing eleven museum professionals to comprehend the practices and strategies involved in creating a museum website. The goal of the research was to provide museums with information on developing a website that best meets the needs of the physical museum. Stewart and Marcketti, “Textiles, Dress and Fashion,” 530. Marty, “Museum Websites and Museum Visitors,” 341. Ibid. 345. Ibid. 352.
and Marcketti acknowledge some of the problems faced by museum professionals during the developmental process of a website. Existing problems include, content being stolen by website viewers, making time for updates, a lag time between exhibitions and including it on the website, supplying viewers with timely information, and keeping abreast of all the constantly changing technologies. Results from their interviews confirmed that protecting published content and time for updating are the two most considerable challenges. Many of the professionals also admitted to not updating their content once the site was published. Recognizing the absence of updates, they credit that to lack of time and staff and its delegation as low priority. Ideally, all university historic textile and costume collections would benefit immensely from a digitized collection. Unfortunately, this endeavor is lengthy and laborious, with the potential of being rather costly.

Daniel Cunliffe, Efmorphia Kritou, and Douglas Tudhope identify three main problems characteristically occurring on websites. Complications first arise if clear notions of what the site should accomplish are not present. Secondly, websites need to be evaluated for user satisfaction, and finally, material present on the website should not directly duplicate the physical museum, rather, it should present the information in new ways.

50 Stewart and Marcketti, “Textiles, Dress and Fashion,” 530.
51 Ibid. 532.
52 Ibid. 528.
53 Sauro, “Digitized Historic Costume Collections,” 1941.
Chapter 3: Methodology

According to *Clothing and Textile Collections in the United States: a CSA Guide*, Sally Queen and Vicki Berger documented eighty-nine university institutions with costume and textile collections.\(^{55}\) New university collections formed since the publication of the *CSA Guide* in 2006 were included in the research, expanding the analysis to ninety-one institutions. Each university website was visited searching for a page dedicated to the institution’s costume and textile collection.

Each institution’s website underwent a content analysis to acquire data regarding collection size, staff involved in the development, or future/possible development of any textile collection website, number of staff in the department, whether or not funding was received (grants, loans, outside funding) to construct the site, how site was developed, future plans, and general website observations.

Following the content analysis, data was collected and recorded onto an Excel spreadsheet along with additional notes or comments. Utilizing research from Stewart’s thesis and Sauro, a list of popular and common components for the development and success of a university website was established, including: a searchable database, accompanying text, images, display techniques, virtual exhibition, social networking, funding, copyright, website developer or creator listed, type of collection, type of website, members area, and if any user satisfaction surveys exist.

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A survey instrument was developed and accepted by the Institutional Review Board (IRB). Upon receiving approval from the IRB, twelve educational institutions whose web pages best matched the list of components were chosen for a more in-depth study. An email including the questionnaire and consent form to participate in the study was sent to all subjects selected for further study. Questions on the survey sought to collect data regarding the process and development of the website (Table 1). University faculty provided information on their choosing objects for the website, funding received, how often the site was updated, time required to create the website, and other questions that provided a more thorough and detailed account of the inner workings of the website. Two weeks after sending out the surveys, those who had not replied received a follow up phone call to achieve the best possible response rate.

Table 1. Survey Questions

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the entire collection is not shown on the web, how are the pieces selected?</td>
</tr>
<tr>
<td>What is the size of the entire collection of textiles and clothing and what percentage is online?</td>
</tr>
<tr>
<td>Are photographs of the collection available for purchase or use?</td>
</tr>
<tr>
<td>Are they high resolution copies?</td>
</tr>
<tr>
<td>Are all items in the collection photographed and available even if they are not present on the website?</td>
</tr>
<tr>
<td>How long did it take to create the website?</td>
</tr>
<tr>
<td>How is the website updated? How often? Who does it?</td>
</tr>
<tr>
<td>Is there a dedicated person and or job specific for the website?</td>
</tr>
<tr>
<td>Who replies to the correspondence?</td>
</tr>
<tr>
<td>Does the person have other responsibilities?</td>
</tr>
<tr>
<td>Teaching, research, etc.?</td>
</tr>
<tr>
<td>Do they work with the collection?</td>
</tr>
<tr>
<td>Was any funding received, or will there be any funding received, to assist with the development of the website?</td>
</tr>
<tr>
<td>Have there been any economic benefits from the website?</td>
</tr>
<tr>
<td>How are the usage statistics monitored? Is there a counter tracker on the site?</td>
</tr>
</tbody>
</table>
Chapter 4: Results and Discussion

Of the ninety-one institutional websites analyzed, 64\% (n=58) offered a textile or fashion program and 36\% (n=33) did not. The majority (85\%, n=28) of the institutions without a textile or fashion program had either a theater or drama program that was affiliated with the costume or textile collection.

Content Analysis of Results

Sixty-seven (73\%) institutions had some mention of a costume or textile collection. Collections were observed in four locations: a collection webpage that was located on the university website, a university museum website with a webpage or mention of the textile or costume collection, a website solely designated for the costume and textile collection found from the main university website, and a university library website. A designated website is designed for the sole purpose of representing the costume and textile collection. These data are represented in Table 2.

Navigating the websites of some institutions proved difficult, as their collections were not easily accessible. One such university, Shippensburg University, required a multi-step approach. The museum website could only be found upon visiting the institution’s Facebook page where a link directed visitors to the digital collection.

Table 2. Location of Costume and Textile Website

<table>
<thead>
<tr>
<th>Type of Website</th>
<th>Number of Institutions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part of university</td>
<td>29</td>
<td>43%</td>
</tr>
<tr>
<td>Museum website</td>
<td>19</td>
<td>28%</td>
</tr>
<tr>
<td>Designated site</td>
<td>18</td>
<td>27%</td>
</tr>
<tr>
<td>Library</td>
<td>1</td>
<td>0.02%</td>
</tr>
</tbody>
</table>
Searchable Databases

Not all universities had searchable databases that allowed visitors to search the collection based on metadata such as: keyword, date, style, or a more advanced search. Eighteen institutions of the 67 (27%) with websites supplied a searchable database. Others had a database where one could not search with the use of text, but instead browse by category, type of object, or date of object.

Text and Photographs

One of the most important factors from the list of components for all the costume and textile collection websites involved the text accompanied by images. Without sufficient text, the website fails to educate and provide valuable information. Of the sixty-seven institutions with mention of costume or textile collections, thirty-four (51%) supplied text with images. The date of an object was recorded 91% of the time. Accession numbers for all objects were documented for twenty-five institutions. Text most often noted is demonstrated in Table 3 and includes title description, place of origin, medium, donor/gift, designer/maker, object type, measurements, and, if item of apparel, wearer. Other forms of text were observed, but were not as prominent.

Table 3. Accompanying Text Found on Websites

<table>
<thead>
<tr>
<th>Text</th>
<th>Number of Institutions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of object</td>
<td>31</td>
<td>91%</td>
</tr>
<tr>
<td>Accession number</td>
<td>25</td>
<td>74%</td>
</tr>
<tr>
<td>Description</td>
<td>24</td>
<td>71%</td>
</tr>
<tr>
<td>Title</td>
<td>23</td>
<td>70%</td>
</tr>
<tr>
<td>Place of origin/Provenance</td>
<td>19</td>
<td>56%</td>
</tr>
<tr>
<td>Medium</td>
<td>18</td>
<td>53%</td>
</tr>
<tr>
<td>Donor/gift</td>
<td>17</td>
<td>50%</td>
</tr>
<tr>
<td>Designer/maker</td>
<td>16</td>
<td>47%</td>
</tr>
<tr>
<td>Object Type</td>
<td>9</td>
<td>26%</td>
</tr>
<tr>
<td>Measurements</td>
<td>9</td>
<td>26%</td>
</tr>
<tr>
<td>Wearer</td>
<td>5</td>
<td>15%</td>
</tr>
</tbody>
</table>
Digital galleries showcase the costume and textiles from university collections.

Thirty-six of the sixty-seven institutions with mention of a costume or textile collection had photographs of their collection, detailed in table 4. Features being analyzed consisted of number of images, ability to enlarge or zoom, detail photographs, additional view of objects and 360 degree views of the item. The majority of institutions had only one image of an object.

Table 4. Images of Costume or Textile Collection

<table>
<thead>
<tr>
<th>Image</th>
<th>Number of Institutions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single image</td>
<td>24</td>
<td>67%</td>
</tr>
<tr>
<td>Enlargement/zoom</td>
<td>16</td>
<td>44%</td>
</tr>
<tr>
<td>Detail views</td>
<td>9</td>
<td>25%</td>
</tr>
<tr>
<td>Additional views</td>
<td>6</td>
<td>17%</td>
</tr>
<tr>
<td>360 view</td>
<td>2</td>
<td>0.06%</td>
</tr>
</tbody>
</table>

**Display Techniques**

Costume and textiles were displayed three different ways in the photographs: on a mannequin, placed on a flat surface, or on a dress form. A mannequin is a form to display garments with a head attached, and a dress form has no head or arms. Flat surfaces allow for both garments and accessories to be displayed. Only thirty-six of the sixty-seven institutions with a costume or textile website displayed their objects utilizing one or more of the three methods. Mannequins were used more than dress forms. Table 5 summarizes the use of display techniques.

Table 5. Display Techniques

<table>
<thead>
<tr>
<th>Display Type</th>
<th>Number of Institutions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mannequin</td>
<td>24</td>
<td>67%</td>
</tr>
<tr>
<td>Flat</td>
<td>20</td>
<td>56%</td>
</tr>
<tr>
<td>Dress form</td>
<td>11</td>
<td>31%</td>
</tr>
</tbody>
</table>
**Virtual Exhibitions/Virtual Gallery**

Virtual exhibitions are online exhibitions based on a theme. They provide a similar experience to a physical exhibit. Virtual exhibitions are a panoramic slideshow of an exhibition, encompassing every aspect viewable in person. Viewers observe the layout and spacing, backgrounds, and other key elements incorporated in a physical exhibit. Only two of sixty-seven (0.03%) institutions had a virtual exhibit, Drexel University and the University of Illinois. Eight universities (0.12%) provided a virtual gallery. Virtual galleries consist of images of exhibits or objects featured in exhibits, sometimes assisted with the use of a slide show. The University of California Los Angeles relied on the assistance of social networking site Vimeo to showcase their exhibition photographs.

**Social Media**

Half of the institutions with costume and textile collections used at least one of the various social media websites. Social networking was observed in thirty-eight (57%) of the sixty-seven institutions with a mention of textile or clothing collections and is presented in Table 6. Facebook was the predominant social networking site with 23% more usage than Twitter, observed as the second most popular social networking website. Other popular networking sites included Flickr, blogs, YouTube, and Pinterest. Less popular social networking sites, used by fewer than three institutions included podcasts, newsletters, LinkedIn, Vimeo, Foursquare, Klout, Storify, Instagram, Google Earth, Tumblr, wiki, iTunes, and an iPod/iPad application. Social media websites were used in conjunction with each other. No institution utilized only
one type of social media. A definition of each form of social media is provided in Appendix I.

Table 6. Social Media Usage

<table>
<thead>
<tr>
<th>Social Network</th>
<th>Number of Institution</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>32</td>
<td>84%</td>
</tr>
<tr>
<td>Twitter</td>
<td>23</td>
<td>61%</td>
</tr>
<tr>
<td>Flickr</td>
<td>11</td>
<td>29%</td>
</tr>
<tr>
<td>Blogs</td>
<td>9</td>
<td>24%</td>
</tr>
<tr>
<td>YouTube</td>
<td>9</td>
<td>24%</td>
</tr>
<tr>
<td>Pinterest</td>
<td>4</td>
<td>11%</td>
</tr>
<tr>
<td>Podcasts</td>
<td>3</td>
<td>0.08%</td>
</tr>
<tr>
<td>Newsletter</td>
<td>2</td>
<td>0.05%</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>2</td>
<td>0.05%</td>
</tr>
<tr>
<td>Vimeo</td>
<td>2</td>
<td>0.05%</td>
</tr>
<tr>
<td>Foursquare</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>Klout</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>Storify</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>Instagram</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>Google Earth</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>Tumblr</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>Wiki</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>iTunes</td>
<td>1</td>
<td>0.03%</td>
</tr>
<tr>
<td>iPod/iPad application</td>
<td>1</td>
<td>0.03%</td>
</tr>
</tbody>
</table>

**Funding**

Eleven institutions (16%) of the sixty-seven with costume and textile websites received funding for the development of a digital collection or museum. Thirty-seven percent (n=25) had a copyright or license on their photographs or websites. The website developer or creator received credit on sixteen (24%) websites.

**Size and Type of Collection**

The size of the collection varied as did the type of objects in the collection. Forty-nine institutions of the sixty-seven (73%) with costume or textile collections provided information on the size and type of collection, shown in Table 7.
<table>
<thead>
<tr>
<th>Institution</th>
<th>Size of Collection</th>
<th>Type of Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brigham Young University</td>
<td>3,000</td>
<td>Costume and artifacts</td>
</tr>
<tr>
<td>Columbia College Chicago*</td>
<td>6,000</td>
<td>Costume, accessories, adornments</td>
</tr>
<tr>
<td>Cornell University</td>
<td>9,000+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>Drexel University*</td>
<td>7,000</td>
<td>Costume, accessories, fashion plates</td>
</tr>
<tr>
<td>Ferrum College</td>
<td>50</td>
<td>Quilts</td>
</tr>
<tr>
<td>Framingham State University</td>
<td>4,000</td>
<td>Costume, textiles, accessories, books, periodicals</td>
</tr>
<tr>
<td>Fashion Institute of Design &amp; Merchandising (FIDM)*</td>
<td>15,000</td>
<td>Costume, textiles, accessories</td>
</tr>
<tr>
<td>Fashion Institute of Technology (FIT)*</td>
<td>50,000</td>
<td>Dresses, textiles, accessories, shoes</td>
</tr>
<tr>
<td>Illinois State University</td>
<td>2,000</td>
<td>Dresses, hats, vests, other</td>
</tr>
<tr>
<td>Indiana University-Bloomington</td>
<td>20,000</td>
<td>Costume and accessories</td>
</tr>
<tr>
<td>Iowa State University</td>
<td>9,500+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>Kent State University</td>
<td>40,000</td>
<td>Costume and accessories</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>4,200+</td>
<td>Quilts, coverlets, Kente cloth, military uniforms, MSU band uniforms, costume, and accessories.</td>
</tr>
<tr>
<td>Michigan State University Quilt Center</td>
<td>700</td>
<td>Quilts</td>
</tr>
<tr>
<td>Mount Mary College</td>
<td>9,000</td>
<td>Costume, accessories, fashion art, tools, periodicals</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>4,000+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>North Dakota State University*</td>
<td>4,000+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>12,500</td>
<td>Costume, textiles, accessories, fashion plates and magazines, books, patterns</td>
</tr>
<tr>
<td>Oregon State University</td>
<td>2,000</td>
<td>Euro-American and Ethnic apparel</td>
</tr>
<tr>
<td>Philadelphia University</td>
<td>250,000+</td>
<td>Objects related to textiles and fashion</td>
</tr>
<tr>
<td>Rhode Island School of Design (RISD)</td>
<td>26,000+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>San Diego State University</td>
<td>2,000</td>
<td>Costume</td>
</tr>
<tr>
<td>School of the Art Institute of Chicago (SAIC)*</td>
<td>13,000+</td>
<td>Textiles, 66,000 sample swatches</td>
</tr>
<tr>
<td>Shippensburg University*</td>
<td>25,000-30,000</td>
<td>Costume and accessories</td>
</tr>
<tr>
<td>Stephens College*</td>
<td>13,000</td>
<td>Ethnic dress and everyday costume</td>
</tr>
<tr>
<td>Texas Tech University</td>
<td>25,000</td>
<td>Costume, textiles, accessories</td>
</tr>
<tr>
<td>Texas Women’s University</td>
<td>42</td>
<td>Dress collection of the First Ladies of Texas</td>
</tr>
<tr>
<td>University of Arizona</td>
<td>3,500+</td>
<td>Ethnographic and Folk costumes</td>
</tr>
<tr>
<td>University of California, Los Angeles (UCLA)</td>
<td>15,000+</td>
<td>Textiles</td>
</tr>
<tr>
<td>University of California Davis (UC Davis)</td>
<td>5,000+</td>
<td>Ethnic and endangered textiles and costumes from around the world</td>
</tr>
<tr>
<td>University of Colorado</td>
<td>5,000+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>University of Delaware</td>
<td>3,000+</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>1,500+</td>
<td>Costume, textiles, accessories, magazines, photographs</td>
</tr>
<tr>
<td>University of Hawaii</td>
<td>15,000</td>
<td>Asian, Hawaiian, ethnic and western costume, textiles, accessories</td>
</tr>
<tr>
<td>University of Idaho</td>
<td>10,000+</td>
<td>Costume, textiles, accessories, hats, shoes, costume jewelry</td>
</tr>
<tr>
<td>University of Kentucky</td>
<td>2,5000</td>
<td>Costume, textiles, lace, dolls, hats</td>
</tr>
<tr>
<td>University of Minnesota</td>
<td>29,000+</td>
<td>Premier designer fashions, textiles, Navajo rugs and blankets</td>
</tr>
<tr>
<td>University of Missouri, Columbia</td>
<td>5,500</td>
<td>Costume, textiles, quilts, ethnographic garments and textiles</td>
</tr>
<tr>
<td>University of Nebraska-Lincoln*</td>
<td>3,500</td>
<td>Quilts</td>
</tr>
<tr>
<td>University of North Texas</td>
<td>15,000</td>
<td>Costume and accessories</td>
</tr>
<tr>
<td>University of Rhode Island</td>
<td>20,000</td>
<td>Costume, textiles, accessories, lace Patterns CoPA- about 50,000</td>
</tr>
<tr>
<td>University of Texas at Austin</td>
<td>5,000</td>
<td>Costume and textiles</td>
</tr>
<tr>
<td>University of Virginia*</td>
<td>1,000+</td>
<td>Costume</td>
</tr>
<tr>
<td>University of Washington*</td>
<td>18,000+</td>
<td>Costume, textiles, rugs, international costume and textiles</td>
</tr>
<tr>
<td>University of Wisconsin, Madison*</td>
<td>13,000</td>
<td>Archaeological, ethnographic, European and American home furnishings and apparel fabrics</td>
</tr>
<tr>
<td>Virginia Commonwealth University</td>
<td>1,040</td>
<td>Costume</td>
</tr>
<tr>
<td>Virginia Mari College of Art and Design</td>
<td>500</td>
<td>Designer clothing</td>
</tr>
<tr>
<td>Virginia Tech</td>
<td>5,000</td>
<td>Swimwear, wedding dresses, apparel</td>
</tr>
<tr>
<td>Woodbury University</td>
<td>6,000+</td>
<td>Costume and accessories</td>
</tr>
<tr>
<td>Yeshiva University</td>
<td>8,000</td>
<td>Jewish culture-dress, ceremonial objects</td>
</tr>
</tbody>
</table>

Note-Schools with an asterisk (*) were contacted for further study and emailed questionnaires.

**Members Area**

Of the sixty-seven institutions exhibiting an online collection, twenty-three (34%) included a membership area. Thirteen of the twenty-three are on university museum websites, and ten belonged to university collection websites. Member’s areas
allow institutions to establish a designated area on the website specifically for contributing viewers. Depending on monetary donation, the level of membership and benefits offered varied. Benefits include, but are not limited to discounts on the museum shop, tours, publications, invitations to exhibits or special events, tour of the collection, newsletters, and free admission to the museum. Many of the member’s areas had titles such as “Friends of the (textile collection name).” Only four (0.06%) institutions have a survey or feedback form.

Questionnaires and Further Study

Twelve university institutions were chosen for more in-depth study based on how well its website content matched the list of suggested components for a successful website developed and expanded on from Sauro and Stewart’s research. From the invitations sent to the twelve institutions, seven replied, resulting in a 58% response rate. Two replies were received from the same institution with a total of three people assisting with the questions. Table 8 displays the institution and job position of each questionnaire participant.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Job Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution 1 (I-1)</td>
<td>Museum media manager</td>
</tr>
<tr>
<td>Institution 2 (I-2)</td>
<td>Director</td>
</tr>
<tr>
<td>Institution 3 (I-3)</td>
<td>Director</td>
</tr>
<tr>
<td>Institution 4 (I-4)</td>
<td>Curator</td>
</tr>
<tr>
<td>Institution 5 (I-5a)</td>
<td>Museum registrar</td>
</tr>
<tr>
<td></td>
<td>(I-5b) Art director/web producer</td>
</tr>
<tr>
<td></td>
<td>(I-5c) Associate curator</td>
</tr>
<tr>
<td>Institution 6 (I-6)</td>
<td>Curator</td>
</tr>
<tr>
<td>Institution 7 (I-7)</td>
<td>Director</td>
</tr>
</tbody>
</table>

Each institution had varying reasons for selecting which artifacts to promote.

Institution 1 (I-1) chose objects accompanied by what it considered to be a quality
image. Institution 2 (I-2) displayed almost every object in its collection on its website; however, it does not publish fragments. Institution 3 (I-3) based its decisions on a number of variables, and the process is overseen by the curatorial department and director of the digital museum project. Reasoning behind object selection is based on “historic and design significance of the garment, condition of the garment, photogenic quality of the garment.” Institution 4 (I-4) also implemented several criteria: “visually interesting artifact, historic or fashion importance, that fit into the themes that were included on the site.” Institution 5 (I-5) selected objects for the web based on image quality and objects that had already been photographed. Institution 6 (I-6) tried to represent each decade in fashion with its selections. Institution 7 (I-7) selected the pieces that had been professionally photographed prior to exhibition.

The websites for universities questioned did not include every object in their collection. I-1 acknowledged that less than 2% of the collection is displayed online. I-2 showcases more than 90% of its collection online. I-3 features less than one percent (0.01%) online. Four percent of I-4’s collection is visible to viewers. Two to five percent of I-5’s collection is represented on its website. I-6 has 2% of its collection published online. During the first ever inventory of the collection, I-7 discovered the collection far exceeded what was previously assessed. Instead of the previous count of 14,000, the responder estimates the collection to contain around 25,000-30,000 objects, with less than 1% featured online.

Four museums (57%) allow the purchase of their photographs. I-3 reported images had been used for educational purposes; however, they had yet to be approached for commercial purposes. Similar to I-3, I-6 has not received formal
requests for the purchase of photographs of its collection. I-4 replied “They can be grabbed by others, as I have seen them on Pinterest.” When asked if the entire collection was photographed, regardless of if it was online, all of the institutions, 100%, stated no. If an item is requested for publication, I-7 will have a photograph taken professionally if a previous photograph is not acceptable.

Respondents indicate that the length of time to complete or launch a website varied widely. I-1 and I-4, responded four months, I-5 six months, and I-2 one year. One institution, I-3 created a prototype in a year and launched the finalized version two years later. Undergoing a redesign, its website took another two years. I-3 also reports “…the college just redesigned their logos, I’ll need to spend the summer fixing that before re-launch.” No response was received from I-6. I-7 did not record the exact time, rather estimated several months.

Website updates are performed at different times by various people throughout the institutions. In regards to the online collection object records, I-1 updates from “time to time” by either curatorial or registrar staff; however, the main website is updated daily. I-2’s website receives daily monitoring by the communications coordinator and is updated on an as-needed basis. The communications coordinator tries to update the database on the site with photographs and information every six months. One respondent (I-3) answered “not often enough,” and acknowledges updating takes a team including the director, curator, and photographer. I-4 reported the collection manager and web developer perform any website revisions, yet did not mention how often revisions are conducted. Multiple departments assist with updating I-5’s website including the museum social media manager and the publications
department. As a result of requiring an upgrade, I-6 cannot presently update its website, nevertheless, updates are generally performed by the curator during the summer. I-7 jokingly responded “I lost my webmaster, and now I’m stuck. I have to get my husband to teach me how to do it!”

Of the seven institutions that replied, 57% (n=4) employ designated personnel for the online collection or museum; three do not (43%). Responsibilities of I-4’s collection manager include the operation of the collection website. A team of employees, including the producer, art director, copywriter, developer, museum coordinator, and social media manager all cooperate as a joint effort in the maintenance and production of its website. Correspondence is managed by museum media staff and the education department (I-1), communications coordinator (I-2), director or curator (I-3), collections manager (I-4), curator or registrar (I-5c), curator (I-6), and director (I-7). Half of the respondents, 50%, rely on the curator to supervise correspondence. Three, 43%, of the questionnaire subjects also embrace other responsibilities, such as teaching, research, public relations, exhibit planning, and budgeting; two (29%) work along with the collection, and two (29%) respondents failed to completely answer the question.

Seventy-one percent of the respondents (n=5) received funding for their websites. Two institutions (29%) received no funding at all. I-1 acquired funding (>3,000) about five years ago to assist with the renovation of its website. Two universities were able to procure funds from their institution; I-4 with the help of the collections endowment, and I-5b from the Fashion Department at its institution. DuPont Foundation supported I-6 in 2007 with a grant.
Fifty-seven percent (n=4) recognize direct economic benefit from the website, whereas 29% (n=2) do not. I-2 attributes its increase in revenue to image requests and museum publication sales. Respondent I-5a claims its benefit is seen with:

…increased foot traffic, Internet traffic, research requests, institutional loan requests, image requests, and volunteer and intern interest. All these aspects have indirect economic benefits. We do have a Donate Now section on the website to receive online donations, which has had a small amount of success.

Institution 7 mentioned benefits were seen from, “…the online store! It has brought me customers for our products (something else that I started here) who never would have known about them otherwise.” Institution 3 neither confirmed nor denied economic benefits, instead exclaiming how the website is used to assist with applying for grants, where they can promote the website while also demonstrating technological skills.

Usage statistics are tracked by Google Analytics (I-1) and Firespring’s (the web host) own analytic tracker, which is similar to Google Analytics (I-2). One respondent relies on its institution to monitor unique visitors, page flow, and visit duration in addition to multiple counter trackers on the site (I5b). I-3 utilizes a tracker although it is seldom accessed, instead relying heavily on feedback, word of mouth, and emails from fans. I-7 employs Google Analytics, however, admits has no time to monitor traffic or worry about website hits. I-4 reports no knowledge of a usage statistics monitor on its website, and I-6 operates no counter tracker.

Discussion

Utilizing the established list of components developed from the review of literature, this section will highlight strengths and weaknesses of institution websites.
Ways in which components are being used on existing websites are discussed with observations as to why they work, or do not work.

**Databases, Text and Photographs**

A searchable database is an appropriate means to increase the usefulness of costume and textile collection websites. There are many ways to design a searchable database. Some instances included an advanced search that allows viewers to more thoroughly research his or her desired topic with keyword or category searches, filtering their results. An additional method of featuring searchable databases is simply with a “keyword” search bar. Well executed search bars were evident on institutions such as Michigan State University, Quilt Index (Fig. 1) and University of Minnesota, Goldstein Museum of Design (Fig. 2). Michigan State University uses a very comprehensive search bar lexicon where viewers can search with a variety of quilt related terms. A basic search bar is simplistic, granting the viewer a quick search option. Although it is not an advanced option it still provides a means of filtering search results. Institutions without any type of searchable databases typically provide viewers the ability to browse the collections by viewing random images in no particular order.
Regular and consistent updates are time consuming. Including the entire collection online is a large undertaking. The University of Rhode Island showcases student object analyses on its website. Currently, thirteen objects are documented on the website; however, only three are completed with a title, accession number, donor information and a material culture analysis. Ten objects are left in preparation with no further information. Illinois State University’s Jett Costume Collection is not online yet, although the faculty are working to catalog and program its collection into an
online database. They hope to garner more interest and foot traffic to the collection so that it can go from a collection to a museum. If in the process of building an electronic database, digital collections or online collection websites should inform the public of their preparation. University of Delaware mentions an electronic database and what it hopes to have on it in the future.

**Virtual Exhibits/Virtual Galleries**

Of the sixty-seven institutional websites mentioning a textile or costume collection, two included a virtual exhibit, Drexel University and the University of Illinois. Virtual exhibits provide viewers a panoramic representation of the physical exhibit in ways a virtual gallery cannot. A gallery supplies pictures of the exhibit. Drexel University includes a photograph of their exhibit with the option to view it as a panoramic video (Fig. 3). Spurlock Museum at the University of Illinois at Urbana-Champaign offers an alternative form of virtual exhibition. A layout of the exhibit is provided with the ability to select an area on the layout for more information and photographs (Fig. 4). Several institutions advertised virtual galleries, images of objects in exhibits, or from exhibits. Even well-established museums such as the Metropolitan Museum of Art and the Museum of Fine Arts, Boston do not have virtual exhibits.
For virtual exhibits to work, with panoramic representation, the proper flash media downloads need to be supported on viewers’ computers and browsers. One
problem with Drexel’s website was the lack of flash media support. Even on different browsers and computers in varying locations, the multimedia effect of a video would not work. Difficulties such as this deter usage and detract from the experience of the digital collection.

Social Media/Interactivity

Interactive material and resources are more widely available to the general public, garnering a greater interest in Internet capabilities. This research found institutions are acknowledging this by developing interactive features. Interactivity provides new opportunities not only for learning and research, but also has the potential to establish new interests for viewers. The University of Nebraska utilized these innovations on its website. A section of its site entitled “Quilt Explorer” grants viewers a chance to design their own quilt. Features include: layout, changing colors, changing patterns (pattern variation, shading and number of blocks), borders, fabric choices, and quilting choices (Fig. 3). Once completed, the virtual quilt can be saved and also submitted to the “Quiltmaker’s Gallery.” The gallery showcases user designs, and other aspects consist of quilt stories told by people worldwide that visit the site. Another feature promoting University of Nebraska is its Masters in Textile History degree program with an emphasis on Quilt Studies; it is the only program of its kind in the world.
Drexel University entertains viewers and allows them to contribute to the collection with an area designated as “mystery.” Garments are displayed with a photograph, and Drexel asks any viewers with information regarding the object and its provenance to contact the collection. Philadelphia University’s Design Center offers a spot on its website for “ask me anything” where viewers can ask questions. The University of Washington provides an embroidery stitch identification guide.

Interactivity at the University of Miami’s Lowe Art Museum is demonstrated once an item of interest is selected and clicked on. A link for the museum floor plan displaying the precise location in the museum where the object can be found is provided.

**Funding/Income**

Websites could have the potential of garnering more income for the university. More income might become available as the digital collection can attract more viewers and potential students to the institution, as was corroborated by I-5a’s statement regarding the increase of student interest in its collection. According to I-5a, an
increase in student interest was seen with additional volunteer and intern requests. A rise of student interest might attract potential students.

As a museum website will often feature an online store, this characteristic is also seen on university websites. The Fashion Institute of Design and Merchandising, Shippensburg University, University of Arizona, and the School of the Art Institute of Chicago have stores on their websites where one can purchase a wide variety of items related to the museum. FIDM offers exhibition related items, university merchandise, alumni designs, books and children’s items. Shippensburg sells museum catalogs, bags, and dress patterns for dolls. Website viewers are able to purchase apparel, accessories, books, home furnishings, jewelry, stationery and art from SAIC.

**Copyright/License**

Photographs of objects taken or copied from collections appear all over the web. In most cases no preventative methods are taken to deter this. Copyrights and photo licenses are used by university museums as a means of retaining rights to the images of objects in their collection. Twenty-five of the institutions observed applied copyrights to their websites. As noted in questionnaire results, some institutions have noticed items from their collections on popular social networking and image sharing websites, such as Pinterest.

**Web developer**

The web developer or creator of the website is not always given appropriate credit. Only sixteen of the ninety-one universities analyzed gave proper acknowledgment. Drexel University offers brief biographies of essential personnel important to the creation of its digital costume collection (Fig. 6). Acknowledging
those responsible was observed in a variety of ways. Some universities included a brief mention in the “About” section, such as the University of Hawaii (Fig. 7). How the acknowledgements are provided is not as critical as the actual act of recognition. Other institutions supporting their hardworking staff with accolades include: University of North Texas, University of New Mexico, Texas Tech University, Michigan State University, Stephens College, SAIC, North Dakota State University, Harvard University, University of Virginia, University of Washington, CUNY, University of Nebraska-Lincoln, UC Davis and UCLA.

Figure 6. Drexel University website credits and biographies
Size and type of collection

The size and type of collections did not appear to affect the characteristics of the university websites. University of Nebraska’s website admirably showcased its 3,500 item quilt collection similarly to FIDM’s collection of 15,000 items, and FIT’s 50,000 item collection. Both FIT and FIDM’s collections encompass textiles, costumes, and accessories. University of Virginia’s smaller collection of over 1,000 items was displayed differently than others. Upon entering the costume collection website, the options to browse further are displayed by decade. Each item selected incorporates a description of the object. Each description is from a student analysis; however, only students are able to access the analysis in its entirety (Fig. 8).

Texas Women’s University contains a collection of forty-two dresses from First Ladies of Texas. The small collection grants them the capability of demonstrating the complete collection online. First Lady ensembles are listed in order by date with the name of the First Lady and date followed by a link delivering additional information and photograph (Fig. 9).
Some university websites may opt to have a designated location on the website where membership access is required. Private membership access is a way of increasing funds, while also offering members special privileges. The Museum at the Fashion Institute of Technology features member’s only access to the collection for a
fee. Special Collections at the University of Rhode Island Library features the Commercial Pattern Archive (CoPA), which contains about 50,000 patterns from 1868 to 2000 that can be accessed for recreation or scholarly purposes. For a fee, members receive access to website features such as a searchable database, keyword search, access to images and the ability to print and bookmark patterns.56

**Feedback Surveys**

A feedback survey is an integral feature to delving into the needs and wants of website viewers. Surveys allow for viewer representation of the museum. Audience members are able to communicate with the institution their likes, dislikes, desires and needs. University personnel creating the digital collection have the ability to use this specialized component in updates and developmental changes. Three universities, of the ninety-one analyzed, provided a feedback survey option. University of Arizona, University of North Texas and University of Nebraska-Lincoln employed a feedback form, with University of Nebraska combining a rating section as well (Fig.8). Michigan State University provides a contact form rather than a feedback form or survey.

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Challenges and Problems

Remembering the needs of the viewer during the website development process is vital. University websites will differ from museums in this, as a viewer’s requirements are generally more tailored to a designated subject. University costume and textile collection websites are intended for research and teaching on specific topics of interest, while a museum is more expansive, with a focus on collections of many types of objects. Similarities between the two include research, teaching, and exhibitions and also the ability to shop in the museum store and interact.

Websites should reflect technological changes with updated or up-to-date modifications to their websites to keep the audience’s attention. Allowing the website to go stagnant will not benefit the viewer or the collection. One such example is North Dakota State University, who last updated their historic costume collection website February 24, 2011. Any relevant or recent changes, exhibits, and acquisitions to the collection are virtually unknown by viewers not associated with the institutions, as they are not online.

University museums often times do not have the budget or means to employ the staff needed to manage both a collection and a collection website in addition to their other responsibilities. Supporting this claim, I-7 remarks on the responsibilities sometimes designated to one person due to lack of staff:

…University has one professional staff member directing every aspect of operations in a 27.25 part-time schedule. I oversee several undergraduate work-study student employees, one Graduate Assistant, student interns (both grad and undergrad), and community volunteers. Right now, I find it easier to keep up on Facebook than on the website (see: link to Facebook account). Because my job here is only part-time, I also do work as an adjunct professor and as a writing tutor. Things are going to be very different for me this year because I have to move the museum to a new location on
campus (the current building in which I am located is slated for demolition in June 2014 as part of the current campus master plan).

According to research found in the review of literature, a digital museum/virtual exhibit/online collection should embody a multitude of components. Soren developed an account of the ways an exhibit is utilized during his research to discern what features are defined as “quality” in online museum projects. Exhibits grant viewers the ability to share or obtain information, communicate with others, learn or gain an experience, explore a database, experiment, exchange ideas, experience an assortment of resources and active their critical response and creative process.57

Chapter 5: Conclusion and Recommendations

Determining what to include on a costume and textile collection website can seem daunting, yet it is paramount. The following list of components for a successful and informative website are based on an analysis of the sixty-seven universities with costume and textile collection websites.

- **Searchable databases**
  - Collection websites can function without a searchable database, but the ability to filter search results is a helpful feature. It accelerates the search process with limited complications. The use of search terms, key terms, and keyword search provides additional means of bringing attention to the website. If a website has the capability to prompt a Google search to recognize specific phrases or words, traffic to the website might increase.

- **Text**
  - Descriptive information provides insight on the object that most researchers and students both find invaluable. The ideal data could include: date of object, accession number, description, title, provenance, medium, and how the object was obtained (gift or donor). If known, the designer, owner, user, or maker is also appropriate. Any additional information is advantageous.

- **Images/display techniques**
  - Images provide the visual component that correlates with the text. High resolution images are optimal; however, mediocre images representing
the object are better than none. Initial images do not have to be permanent; once the image is uploaded, a higher resolution image can be exchanged at a later date. Multiple views provide even more information. If the object has a unique feature, a close-up image can document it. Deciding to display an object on a mannequin, dress form, or flat surface is simple; choose the support that best suits the object. To ensure high quality images, use photographs of objects taken from exhibitions. Before each exhibit, photograph the objects prior to installation. This insures that each object is pressed, steamed, and on a supportive form. These images can then be used for the website. Incorporate object photography into planning and executing every exhibition to have these photographs available.

- Virtual exhibitions
  - Probably the most laborious to construct, a virtual exhibition has potential to attract visitors and increase the likelihood of obtaining additional funding or donations. Based on a theme, virtual exhibitions can place related objects in content and provide a greater effect than individual pictures of objects.

- Social networking
  - Perhaps most manageable and straightforward, utilizing social networking sites such as Facebook and Twitter allow for a wide reach of “fans” and “followers”. As social networking grows in popularity, more businesses and museums are utilizing this unique feature. It
provides the ability to network and spread word of events and important information worldwide. Events can be created on Facebook and reach countless fans. Special giveaways or incentives can be provided to those who promote an event on their own Facebook to attract more fans to attend an event. Twitter followers also can spread word of collection highlights, exhibitions, and special events. Universities could use the information supplied by social media websites to target audiences for specific events. Based on what people are saying on their social media website, universities can manipulate the website data to meet their needs. Are they college students wanting to learn more about a type of objects? Quilters looking for inspiration in patterns and colors? Men looking at armor or medieval textiles?

Social media is an excellent way of promoting a collection.

- Funding
  - Funding or institutional support is an integral component of website design. The greater the support to provide the time and staff to create a collection website, the more features the site can offer. Outreach can help to obtain funding and also increase interest in the collection, thus the university.

- Copyright
  - The general consensus is that copyright or licenses do little to reduce unlawful copying of website content and using it without credit to the collection.
• Website developer or creator
  o Individuals responsible for the creation and development of a website should be acknowledged.

• Collection type and size
  o The size and type of objects in a collection should be included.

Researchers can benefit from this information to determine if it coincides with their research topic. Without this information, universities containing valuable objects may be overlooked and ignored by potential researchers. A rough estimate will suffice if the exact number is unknown. Utilizing student assignments and research is a great way to provide information on the objects in a collection.

• Members area
  o An easy way to garner funds and interest in the collection is to include a member’s area. Provide exclusive and significant information in a member’s only capacity. It will create a personal connection to the collection and increase personal involvement.

• Survey or feedback form
  o Viewers and fans of the website can provide insightful and meaningful assessments. Their impressions of the site are significant and should be taken into consideration. Websites can undergo minor changes or updates based on opinions of viewers. Institutions featuring a survey feedback form can benefit from discovering what viewers want to see or know. A feedback form or website survey is provided on a
designated area of the website. It can ask questions regarding a viewer’s experience while on the website and ask people to provide thoughts and comments on areas they liked, did not like, or features they would like to see improved or added. A contact form that lists an email address might also work, as viewers can email the website developer or responder their comments or concerns. A record log of all feedback would be beneficial as it provides a means of collecting all thoughts into one area. This log can then be utilized when determining what changes, if any, should be made to the website.

Many university historic costume and textile collections are used for research. A digital collection has the ability to reach students and researchers worldwide and provide resources otherwise unattainable. This research provides staff and faculty working with university historic textile and costume collections with components that have been successfully implemented on other websites. Website developers will know what has been successful and unsuccessful, what areas of website design can benefit from more research, and why each component is a valuable feature to include.

To increase outreach and make the collections more visible, universities have the opportunity to document their collections on the Internet. As costume and textile collection websites require funding and staff, sometimes a website may not be an option, in which case, stating the existence of a collection on the university website may increase awareness and interest. A brief description of size and type of collection can only be beneficial. As interest in the collection grows, additional funding sources
may become available. Respondent I-5a reinforces this claim stating a variety of reasons, including an increase in interest to economic benefits:

…increased foot traffic, Internet traffic, research requests, institutional loan requests, image requests, and volunteer and intern interest. All these aspects have indirect economic benefits. We do have a Donate Now section on the website to receive online donations, which has had a small amount of success.

The suggested components, whether it be all of them, some of them, or even features unmentioned, can be used by website creators as a guide. Understanding what works and what does not expedites a digital project in a straightforward way. With this new research, universities featuring a clothing and textile collection will have the necessary knowledge to create a digital collection, providing the university with an online presence and extending its reach worldwide. Possessing a well-developed and thoroughly considered plan is fundamental to the development process of a university website.

Implications for Further Study

More extensive research is needed on copyright and license procedures and protocol. What are the best methods of protecting website content? Research can delve into protection methods geared toward website content, images that cannot be right-clicked and copied. Even with all precautions taken to prevent stolen content with a copyright, is there any way to protect against screen shots?

Technological advances in cameras and photo equipment have enhanced the image quality of photographs. University museums might benefit from studies on high resolution images and how to determine what defines a quality image. An investigation on lighting, backdrops, staging, and object angles may assist with determining budgets and how to photograph images for publication on the website.
360-degree views are an exciting idea to include on a costume and textile collection website. Opinions on 360-degree features have been mixed thus far. The technology is not always supported on all browsers, making the feature useless to many people. People who use tablets will not be able to use this feature as tablets do not support flash media at this point. A benefit of 360-degree features is the ability to provide an all-around view of the object that most relates to an experience similar to visiting the physical museum. More research would determine if the benefits outweigh the time commitment and obstacles, or if it is a feature that is too advanced for most browsers.
Appendix A. Definition of Terms

This appendix defines terms used in my thesis. Each form of social networking mentioned in my thesis is supplied with its own definition.

**Blogs**
A website on which an individual or group of users post comments, opinions, and information on a regular and consistent basis for others to read.

**Collection**
Any group of objects stored in one location, whether that place is a museum, gallery, study center, design lab, university department or, simply a collection.\(^{58}\)

**Collection website**
A website featuring items from a university’s textile and costume collection; may include, but not limited to, catalog entries, a digital collection, and virtual exhibits.

**Dress form**
A form without a head to display garments.

**Funding**
Financial resources to finance a need, program, or project.\(^{59}\)

**Mannequin**
A form with a head attached to display garments.

**Medium**
The technique or materials the creator or maker used to make the object, for example, type of fabric or textile.

**Object type**
The type of object in the collection, for example, dress, gown, quilt, accessory, or shoe.

**Title**
The title of the object, if it has one. The title clarifies what the object is.

**University costume and textile collection**
Collection of textiles and costumes used in institutions for teaching, scholarly resource, and exhibition. It generally consists of men’s, women’s, and children’s

\(^{58}\) Welters and Ordoñez, “Historic Textile and Costume Collections,” 2.

clothing and accessories. Textiles from all over the world are represented in most university collections.

*Virtual exhibition*
An exhibition based on one theme and placed online.

*Virtual museum*
A collection of digitally recorded images, sound files, text documents, and other data of historical, scientific, or cultural interest that are accessed through electronic media.\(^{60}\)

*Social networking*
Forms of electronic communication through which users create online communities to share information, ideas, personal messages, and other content.\(^{61}\) Examples include:

*Facebook*
A social networking site used to promote contact and communication between friends, family and colleagues. Facebook users are considered “fans.”

*Flickr*
Image and video hosting website.

*Foursquare*
A social networking site where users can “check in” to a place they are visiting.

*Google Earth*
A visual globe of the world, can pin point to a direct area.

*Instagram*
A photo sharing website.

*iPod/iPad Application*
An application for a smart phone or tablet.

*iTunes*
A music sharing website.

*Klout*
Klout allows for users to measure social media and rank based on a Klout score.

*LinkedIn*

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A social networking site used for businesses.

*Newsletters*
Digital newspapers sent out to followers or subscribers of a website.

*Pinterest*
A photo sharing website.

*Podcasts*
A digital audio or video file or recording, usually part of a themed series, which can be downloaded from a website to a media player or computer.  

*Storify*
A social networking site where members can “tell a story.”

*Tumblr*
A blogging website. Can post photos, videos, text and audio.

*Twitter*
Online social networking and information site used for microblogging. Twitter users are considered “followers.”

*Vimeo*
A video based social networking site.

*Wiki*
A website of information where users can update content.

*YouTube*
A video hosting website.

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Appendix B. Screen Shots

This appendix provides examples of successful university historic textile and costume collection websites. Each photograph was chosen because it represents parts or all of the components established in my research.
Kent State University
http://www.kent.edu/museum/collection/gallery-of-costume.cfm

This screen shot demonstrates a successful search bar and information screen. Detailed information is listed on the information screen in a clear and easy to read manner. Vital characteristics, such as date, medium and origin are provided.
This photo was chosen as it demonstrates a searchable database. Items shown on the left can be sorted by heading. When selected, as seen on the right, each item is provided with numerous accompanying images and relevant information.
FIDM’s costume collection displays an image of each object in the collection. When selected, a large image is displayed with a brief amount of text. This screen was chosen due to image quality and size.
FIT’s search results demonstrate a simple searchable database with basic information.
The Henry Art Gallery showcases an alternative display technique. Instead of providing the information in a list, the Art Gallery provides a block of text instead, accompanied by a large image.
The International Quilt Study Center (IQSC) has a very thorough searchable database. Viewers are able to search for a quilt by features such as designer, quilt type, and measurements. The IQSC had one of the most well-developed and extensive searchable databases of all the university textile and costume websites observed.
NDSU exhibits great photographs with the objects in their collection. Multiple views of the item are given, along with close up images.
SAIC displayed a well-executed searchable database. Not many universities had such an extensive search bar option. The more choices a viewer is given to narrow their search, the better it filters out unwanted objects.
Indiana University-Bloomington’s website shows that a single image with basic information can be a manageable introduction to the collection.
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