Creation and Distribution of Monetized Online Content for Old Sturbridge Village's Virtual Village

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Abstract

The Virtual Village is a platform that Old Sturbridge Village (OSV) uses to distribute its content virtually. The goal of the project was to work through the Worcester Community Project Center to develop recommendations to create, distribute, monetize, and evaluate content for OSV's Virtual Village. This project was completed using a three-step methodology that consisted of interviews with village staff, a survey of OSV members, and an evaluation of OSV's current resources. Using the data collected from these methods, our team created recommendations outlining content categories, a distribution method, a monetization structure, and an evaluation plan for the Virtual Village. Additionally, we provided a sample video and survey to demonstrate our recommended delivery and evaluation plans.

Acknowledgements

Authorship

Every team member contributed equally to the writing and editing of this document. Included below is a table listing the lead author(s) and lead editor(s) of each section on the report.

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Executive Summary

Old Sturbridge Village (OSV), the largest open-air museum in the northeast, is set in a period of transformative years in New England (OSV.org). It is a recreation of a typical rural New England town from the 1830s and aims to provide guests with a fully immersive experience from the time period. Unlike traditional museums, Old Sturbridge Village makes use of all five senses to best convey the feeling of living in a long past time period. Visitors are able to engage with costumed historians, touch village artifacts, and experience the everyday life of villagers.

As part of their interactive village experience, Old Sturbridge Village has created a Virtual Village platform to allow members and visitors to enjoy an OSV experience without the need for a physical visit. Currently, OSV's Virtual Village consists of pictures and short videos highlighting different activities and attractions at the physical village. The goal of our project was to **work to provide recommendations for the creation of additional in-depth village experiences and engagement with the audience through a monetized, online platform.**

To achieve this goal, we identified several key research objectives that our team planned to achieve.

1. Identify OSV's past and present online content, location, and distribution.
2. Learn about current shortcomings of the online presence from visitors and staff of OSV.
3. Determine the best method of online content distribution based on OSV's visitors' feedback and background research.
4. Provide a plan for conducting an evaluation of our recommended online content creation and dissemination strategies.

To achieve our objectives, we employed the use of the following methodologies: observation of village resources, interviews with six village staff members, and a survey with more than 400 respondents.

For objective one, our team **observed the OSV website and social media sites.** Additionally, we conducted **interviews with staff and volunteers** to understand what online content has been previously implemented and if it was effective.

We achieved our second objective by **surveying village members** and visitors to learn about their interest in potential online content from OSV. Additionally, we **interviewed several**

staff members to determine what content they felt could be easily and effectively created and delivered virtually.

To achieve our third objective, our team **analyzed the data collected from surveys and interviews** to determine the **best types of content** for online distribution and monetization to satisfy the needs of members while maintaining feasibility for staff.

Finally, for objective four, we provided recommended methods for **evaluating the online content and its distribution** and provided a survey to the staff in order to collect feedback on future beta testing. By following these methods, we were able to develop an effective set of findings.

Key Findings

Overall, most of our findings have supported our project initiative in creating a "Virtual Village" for Old Sturbridge Village. Through our interviews with various OSV staff we were able to determine what type of content Old Sturbridge Village was capable and willing to create for online use. This consisted of a variety of hands-on topics that viewers can either watch or follow along with at home. Additionally, some interview participants were interested in digitizing some of the various collections that Old Sturbridge Village has to offer to visitors.

Moving to our survey, we collected over 400 responses from the OSV VIP group, consisting of regular visitors and annual members. From this survey a majority of respondents, 74.6%, wanted to see some form of online content from Old Sturbridge Village, with the most popular content style being DIY projects and at home activities. For the topics of these projects we were also able to determine cooking and gardening as the most popular. These topics had an average of 4.24 and 4.21 respectively on a scale of 1-5 representing no interest to a high interest. Cooking and gardening were also the two topics that survey respondents were most prepared for to follow along with at home. This overlap shows that these two topics are the most likely to be viewed and followed along with at home by viewers.

Additionally, our survey offered an insight into how respondents felt about monetizing the content. Majority of respondents said they would not be willing to pay for the content, but only by a small margin, 54.4% said they would not pay while 45.6% said they would pay. Of that percentage that said they would pay we asked how they would like to pay for it. The most

popular response was an individual purchase per video or lesson at 36.6% of responses. The second most popular response was an individual purchase per topic series at 24.6% of responses.

All these findings combined allow for us to make distinct recommendations to our sponsor on how to distribute online content, what topics the content should cover, and how to price the content.

Recommendations

Recommendation for Creation of Digital Content

The format of the content should follow a pre-recorded video format. We considered live streaming as an alternative format, but after conversations with our sponsor concerns about reliable internet connectivity became apparent. Additionally, OSV has experience with producing pre-recorded videos. A pre-recorded video format allows for a more polished final product with none of the limitations of a livestream. **We recommend an approximate length of 10 minutes for DIY and tutorial videos and 30 minutes for lecture style videos** for maximum viewership.

We recommend that OSV create content in the two general categories of DIY tutorial videos and lecture videos. We determined that these types of videos are the most popular among museum visitors. Additionally, we found that this type of content would be in line with what people might expect from OSV. These DIY videos and lectures can cover a wide range of topics that encompass all the activities OSV offers in person for both children and adults.

The initial content topics should be cooking and gardening. Cooking and gardening were the highest rated topics from our survey. Additionally, they are the topics that most viewers are prepared to follow along with at home. These topics require a low entry barrier for tools and materials required to both produce and to follow along with.

Recommendation for Distribution of Content

The platform for the virtual village should become a branch of the OSV website. The OSV website is where visitors can get more information about the museum, plan their visits, shop, and purchase tickets for events. By using this website as the platform for virtual village content, users will have an easier time accessing the content they are paying for.

The site should be split by content topic, similar to a library, to allow for ease of navigation through the content available. By formatting the site based on topic, users will be able to quickly find the content that suits their needs. This will significantly reduce frustration when trying to find specific videos and will allow users to see exactly what OSV has to offer through the virtual village. Separating the content by topic will also keep the virtual village true to the village mindset of self-exploration based around a visitor's interest.

The site should have interactivity built in through the use of comment sections and polls to allow users to interact with the interpreters behind the content. The visitor and interpreter relationship is key to the physical village experience. By allowing users to interact and ask questions, the content can become more valuable than just the video. Relationships can still be built through interaction and the user will be able to understand the bigger picture beyond the face value of the content.

Recommendation for Monetization Structure for Online Content

For the Virtual Village to be sustainable for OSV, it must have some sort of monetization structure to generate revenue. In our initial research we narrowed down the possible structures that could work for OSV into two broad categories: individual purchase per video or series (night school model) and subscription (academy model).

Our survey results indicated that most members and visitors would prefer the content of the Virtual Village to be either a membership add-on or be available for individual purchase. These results support our researched models. **We recommend that OSV adopt a hybrid monetization model with both an option to add the Virtual Village to a membership as well as allowing for the individual purchase of a single video or series of videos from the Virtual Village.** By adopting this monetization model, OSV will be able to maximize their potential for profit while adhering to the feedback received from its village members and visitors.

Recommendations for Follow-up Evaluation of Virtual Village Implementation

We recommend the use of a real time feedback system on videos as well as a follow up survey to gain specific feedback on how to improve the Virtual Village. Possible instant feedback options are to have a rating and comment section on every post similar to social media. The rating system could be five stars, thumbs up or down, or a spinoff of these ideas to evaluate

whether the viewers enjoyed the content. Comment sections allow users to expand their thoughts on each piece of content released. Additionally, the use of a survey to gain more specific feedback will allow OSV to further improve their Virtual Village.

Chapter 1: Introduction

In an age where digital devices are commonplace to our everyday life, it has become increasingly difficult for historical museums to remain relevant and attractive. From 1982-2012, the number of annual museum visitors across the U.S. fell by about 50% (Beatty, 2018). In the past 40 years, the same trend has been noticed at Colonial Williamsburg (Beatty, 2018), one of the most well-known open-air museums in the U.S. In order to keep visitors engaged, many museums, including living history museums, are turning to technology in order to enhance the museum experience and create a sense of engagement (Murphy, 2018). Additionally, many museums have been turning to internet technology to recreate their museum in a virtual space, allowing for potential visitors to virtually visit the museum without travelling to the physical location (Alwi & McKay, 2009). As a living history museum, Old Sturbridge Village hopes that the use of internet technology will allow it to showcase more of the village's stories and resources online, allowing potential visitors to have a virtual village experience.

Old Sturbridge Village is the largest "living history" museum in the northeastern United States. Museums such as these aim to recreate a time period for visitors to experience a 19th century adventure (OSV.org). There are original buildings ranging from "homes, meetinghouses, a district school, country store, bank, working farm, three water-powered mills, and trade shops" (OSV.org). Old Sturbridge Village ensures that visitors can experience almost every aspect of a 19th century life.

The Old Sturbridge Village team is looking for ways to transfer the unique experience of a visit to OSV to a virtual format while best keeping the feel of an 1830s village. One of the difficulties that Old Sturbridge village faces is that it houses limitless stories as well as two hundred and fifty acres of land full of significant landmarks that are hard to fully explore due to its size and uneven terrain. By creating a completely virtual space, potential visitors will be able to see so much of what the village has to offer in only a few clicks. This not only makes the village experience more accessible but allows all visitors to explore their specific interests all in one place.

In order for the creation and implementation of a virtual village to be successful, it must accomplish several things: 1) Add to the quality of the museum experience; 2) Engage the

visitors in a meaningful and lasting way; 3) Allow each visitor to easily access content which they are interested in; 4) Generate revenue for the museum. To realize these goals, our team has created a list of general guidelines.

1. To create a Virtual Village experience as an addition to the museum and not a replacement for existing exhibits and attractions.
2. Recommend content which appeals to a large audience and adds lasting value to the Virtual Village.
3. To create a project that has depth, which will help promote visitor retention and improve the OSV's virtual presence.

The goal of this project is to enhance the virtual visitor experience on Old Sturbridge Village's website through the addition of educational, accessible, and long-lasting Virtual Village content. This Virtual OSV would be complete with educational resources such as pictures, videos, and lectures. In order to achieve this goal, our team conducted a literature review which focused on researching previous work related to our project goals. We then created a set of methods that we used throughout our project to determine the best ways in which to deliver educational content virtually. Finally, we compiled our findings and created a list of recommendations for OSV on how best to create and display their stories and educational content in a virtual space.

Chapter 2: Literature Review

To understand the creation and implementation of educational materials in a virtual space more completely, our team conducted research on the purpose of museums and more specifically open-air museums. By researching the content that open-air museums provide to their visitors, we can better understand how to translate that content into an online format. Our team then narrowed our research to focus on the topics of technology in relation to a historic museum, specifically the addition of a virtual space online, and the effectiveness of different types of educational content in adding to the experience offered by a historic museum. Our team evaluated advantages, implementation techniques, marketing strategies, and ways to measure the effectiveness of different types of online resources and materials such as video tutorials and historic lecture series as well as effective ways to monetize online content.

2.1 Museums

A museum is a very broad term that encompasses a large variety of different sites, all of which have a similar role: "To collect objects and materials of cultural, religious and historical importance, preserve them, research them, and present them to the public for the purpose of education and enjoyment" (Arinze, 1999, p.1). According to the International Council of Museums (ICOM), "A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment" ("The Statutes of the International Council of Museums," 2007, p.3). Thus, we can see that the main goal of any type of museum is to preserve history and display it for the edification and enjoyment of all. One unique way that museums have been able to preserve, and present history is by the use of open-air museums.

2.1.1 Open-Air (Living History) Museums

Open air museums are a type of museum that specialize in preserving a "re-creation of the vanishing scenes of human life" (Chappell, 1999). These museums, often complete with livestock and actors dressed in period clothing, re-create what a typical village or town would look like in a time far lost in history. Usually these museums focus on recreating every aspect of

the time period they are set in to try and make a visitor feel like they have stepped back into that time period.

They are uniquely different from a science or art museum in that they attempt to display the history of a particular period in time through living, breathing, and continuously changing displays with the goal of "Demonstrating older lifestyles to modern audiences" (Walhimer, 2009, para. 2). This demonstration can take several forms. Some living history museums will include a blacksmith shop where visitors can watch a blacksmith create tools and weapons using the techniques and equipment from the time period. A pottery shop was essential to many villages in order to create anything from vases to plates and bowls. Using period accurate clay, a Museum potter will recreate common items using a manually powered wheel and nothing but their hands and a couple basic tools. These actors are able to immerse their audience in the time period by showing what an actual blacksmith and potter would do in the past.

By preserving original structures and landscapes open air museums attempt to preserve history through a fully immersive experience. Blacksmithing and pottery among many other trades, are able to add to the experience by giving a visitor a sense of what life was like in previous centuries. Open air villages across America and around the world are able to preserve history in a unique way through retelling stories and reenacting life.

2.1.2 Old Sturbridge Village

Old Sturbridge Village, the largest open-air museum in the northeast, is set in a period of transformative years in New England (OSV.org). It is themed after a typical rural New England town from the 1830s and aims to provide guests with a fully immersive experience from the time period. Unlike traditional museums, Old Sturbridge Village makes use of all five senses to best convey the feeling of living in a long past time period. Visitors are able to engage with costumed historians, touch village artifacts, and experience the everyday life of villagers.

2.2 Museum's Physical and Online Audience Engagement

A museum is an institution where informal learning takes place. Some researchers believe that humans use informal learning techniques in up to 90 percent of our everyday lives ("What is Informal Learning?," 2016). Museums are able to play an essential role in a person's informal learning by presenting information that a person would otherwise have never

encountered and by doing so, enrich or inform their world view. Due to the technological tendencies of generations growing up in the twenty-first century, using the internet is proving to be a vital component of a museum's success. Therefore, using effective techniques, both in person and online, to maximize a museums potential engagement is common.

To foster engagement in the 21st century, museums have turned to a variety of technologically aided techniques. Four commonly employed technologically based learning tools that we will discuss in this chapter are interactive exhibits, QR codes, interactive video screens that allow visitors to feel more connected to exhibits, and the internet.

Interactive exhibits have grown in popularity in the past thirty years due to a growing amount of research showing that they are more effective in capturing and keeping visitors' attention over the traditional static displays (Flegel, Yang, Perry, & Li, 2018). In an interactive display, visitors are able to become physically involved with an exhibit in some way. Whether it be pulling a level that demonstrates a simple machine or opening a gate to a miniature boat canal, visitors are able to learn by immersing themselves physically which leads to more time spent at an exhibit and a more positive outcome (Blanchard, Cyganski, Henderson, & Peters, 2015).

QR codes are common in many museums due to their low cost to implement and to maintain (Haworth & Williams, 2012). Additionally, QR codes are able to offer an advantage of being easily modifiable to fit the exhibit or museum and allow for the museum to offer extra content at each exhibit in a way that allows quick access. By simply scanning the QR code, a visitor can use their smartphone to learn more about a particular exhibit in addition to what is displayed. QR codes also present some down sides; mainly that their content must be maintained and that they may present a challenge to some visitors who are not as technologically inclined (Haworth & Williams, 2012). However, their low cost and added value have made them a widely used tool in museums.

Interactive screens attempt to engage visitors in a different way from actual exhibits by allowing them to create their own journey within the display. An example of an interactive screen might be a display that allows the user to follow a timeline and select different time periods. Once a time period is selected, the user could tap on different artifacts on the screen that would prompt the screen to display information relative to the time period and the artifact. Such a display would be useful in a history museum to compare and contrast different time periods

within one display. This display is effective in facilitating informal learning by giving the user the sense that they are present in that time period.

Another screen-based engagement tool is the implementation of gigapixel imaging through the use of GigaPan. This photograph system creates high resolution images by using a robotic camera mount with a digital camera attached. This camera takes hundreds of photos and

Figure 1: GigaPan exhibit at Carnegie Museum of Natural History (CMNH - "Stories in the Rock" Exhibit, 2012)

the software pieces them together. The result is a massive panoramic image that can provide a dynamic view of the area photographed (Louw & Crowley, 2013). The integration of gigapixel images in museums can bring a new perspective for visitors to experience. A museum could even add these photos to their webpage to spark interest in the museum online.

One use of the gigapixel in an exhibit is The Carnegie Museum of Natural History's use of gigapixel technology to bring archaeological findings to museum goers. By using gigapixel, archaeologists are able to capture the smallest of details for people to see and experience without the need to physically bring artifacts to the museum (Crowley & Louw, 2013). The Carnegie

Museum of Natural History is able to use technology to tell stories and bring the narrative home through the medium of photographs.

Visitor engagement was a top priority at the Bullock Museum in Texas. The goal set forth by the administration there was to, "Create a dialogue, putting the visitor in control of the outcome of the experience, extending engagement beyond the walls of the galleries." (Munns, 2016, p.193) The need for these kinds of experiences came from the need to use technology in more engaging ways rather than a, "Passive click-to-read-or-view" (Munns, 2016, p.193). This goal led to the creation of the Texas Story Project, which allowed communities statewide to contribute stories to the museum. These stories would then be shared online with the hope of connecting Texas culture and history with museum visitors (Munns, 2016). After the launch of this program, the museum saw an increase in its website's visitation. Website visitors started spending longer amounts of time on the project section, with a median of four and a half minutes. This is in contrast to the average visitors spending under a minute on information pages (Munns, 2016).

A good way of coming up with this technological integration is looking to other examples of historical exhibits that have employed technology to enhance the visitor experience. One example of this is the Fire and Mountain exhibit at the Civic Museum of Como in Italy (Garzotto & Rizzo, 2007). This exhibit uses several digital and historical hybrid artifacts such as a virtual book, a talking dictionary, and two different research tables. The virtual book could be flipped through showing visitors the coal mines of Como valley. The talking dictionary acted as a storytelling device where you could select different parts of the screen and the character would tell a story about the meaning. The research tables, which are displays that visitors could interact with, had either pieces of coal or a map on them. Visitors were observed interacting with these materials, and data was collected on their behavioral response to the exhibit as well as the role that these virtual exhibits played in their visit. The goal of the collected data was to determine how comfortable young visitors, ages 7-12, were interacting with virtual displays and if they seemed to enjoy them over traditional displays. The study found that most children observed seemed to have a positive reaction and very few had difficulty navigating the touch screen displays. This demonstrates the potential of virtual engagement techniques in aiding museum engagement especially among children and young adults.

These technological integrations can provide good backgrounds for the type of exhibits in a physical museum, and in a time of heavy technological incorporation into daily life, the internet could prove the difference between a museum that has a local vs. a global reach. The internet is a way not only to increase online awareness but to engage audiences that are interested but not able to visit a certain location, specifically a museum (Lagrosen, 2003). When transportation is limited or there are obstacles preventing the physical exploration of a museum, the internet provides the perfect opportunity to attract potential visitors (Loran, 2005). Common approaches to increase visitor engagement online include virtual tours, lectures, and videos expressing the unique components of the museums. Virtual tours allow exploration through the museum and exhibits without the need to be physically at the museum. This approach is commonly accomplished using 360-degree cameras to capture all angles and permit free movement adding a component that pictures could not accomplish. Museums serve as a firsthand resource to obtain knowledge, so it is not uncommon to run into history buffs desiring to expand their grasp of past events. A lecture series can prove to be a successful online resource, as it can reach a much wider audience than a classroom lecture. Another option that can make a museum stand out online is demonstrating their unique characteristics through videos on websites, social media, and other online platforms (Loran, 2005). If a museum is known for unique food, crafts, or displays this can easily be taken advantage of in the form of a video series. Not only could this be used for social media attention but can be monetized for even more potential to make money at more places than just the front gates.

In an age where online access is so simple, it is important to refer to organizations who have a leading edge in the online capability of displaying their exhibits and unique characteristics. Using a virtual tour, as discussed above, has been refined by the National Museum of the United States Air Force (Available at: https://www.nationalmuseum.af.mil/Visit/Virtual-Tour/). The online tour has all that a viewer could want, a free view tour that can be guided by arrows as if the audience is at the museum, and even the capability to zoom into signs and read the text at each exhibit. This capability to easily move and view every detail is vital to stand out from pictures and videos. Videos should not be ignored, because when used correctly, they can make a huge difference in online traffic.
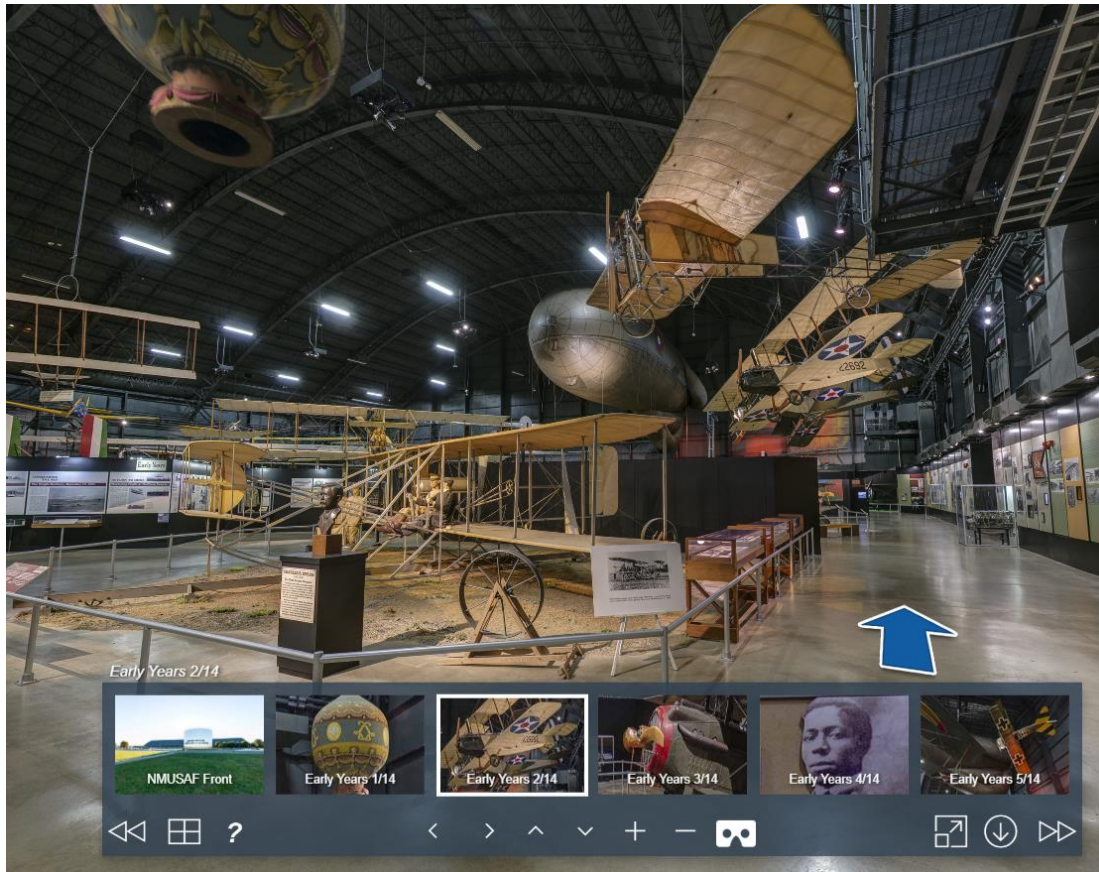
Figure 2: Example of a virtual tour exhibit at the National Museum of the United States Airforce (http://www.nmusafvirtualtour.com/)

Social media is a great resource as there are millions of visitors daily, and this is the perfect place to advertise and post videos such as lectures and classes. One popular social media site, Facebook, is a paradigmatic social network which continues to be the number one social platform, with 2.2 billion active users monthly (Belanche, 2019). A competing site with primarily visual stimulation making it another option for videos is Instagram, which has its greatest growth in Spain (Constine, 2018), with more than 800 million active users worldwide, and more than 1 million advertisers (Belanche, 2019). This medium has the capability to bring in potential members from all over the world. When comparing the time spent on these platforms, Instagram visitors stay 45 per cent longer than on Facebook, and 40 per cent longer than on Twitter (Belanche, 2019). Both of these platforms provide a great space to share information with users, but Instagram captivates users for a longer amount of time. This can be taken into account when considering visitor engagement online and can further be expanded onto the

museums website where content can be monetized, and this will be discussed in a later portion of the report.

All of these techniques have their pros and cons associated with their use in museum engagement. Using our research of these exhibits in traditional museums and existing internet exhibits we will be able to determine the best way in which to benefit a museums' online presence.

2.2.1 Online Visitor Engagement at Open Air Museums

Despite the majority of living history museum's content being driven by their brick and mortar locations, the importance of maintaining an online presence is not forgotten. Colonial Williamsburg, the largest living history museum in the country, has a successful website, and runs social media pages on the major social media and content platforms. Their Facebook page is used to post content that advertises the museum and describes the museum's stories and value through an online format that is free for everyone to see (available at: https://www.facebook.com/ColonialWilliamsburg/). Their YouTube channel is used to post promotional videos that are also embedded into the Colonial Williamsburg website. These videos expand the stories of the museum and they even offer live streamed question and answer sessions with interpreters dressed as historic figures, such as Thomas Jefferson (available at: https://www.youtube.com/user/ColonialWilliamsburg). The Colonial Williamsburg website serves as a platform for not only planning a visit, but for learning about the content that the museum has in the form of exhibits and a digital collection of their archives (colonialwilliamsburg.org).

Plimoth Plantation (plimoth.org) is a prominent historical museum in Massachusetts that focuses on the pilgrims that came over on the Mayflower. They maintain an online presence that is very similar to that of Colonial Williamsburg. The Plimoth Plantation Facebook posts about museum updates, programs, and other educational pieces that visitors may be interested in (https://www.facebook.com/PlimothPlantation1620/). The YouTube channel is not avidly updated as the last post was in October 2019 (https://www.youtube.com/channel/UCk_9lwNP5j-jeMyyh_6GKBg). Their YouTube presence is lacking compared to that of Colonial Williamsburg, however they do offer programs through the site Eventbrite where customers can pay for virtual tours and educational sessions. This can be accessed through a program that

Plimoth Plantation calls Experience History @ Home (https://www.eventbrite.com/o/plimoth-plantation-946828729). This program allows them to monetize a virtual experience and bring the content of the museum to those who may be unable to visit the museum or who may want to experience the content in an online format.

To engage audiences virtually, museums rely mostly on their websites and social media platforms to provide content to potential visitors. The other piece of online engagement is to generate passive income through monetization of the content. Facebook, YouTube, Instagram, and Twitter are all free to access and view the content. However, Plimoth's use of a paid online classroom is a great way to generate income from those that are passionate or interested in the content being sold. Living history museums have so much historical content and their online engagement appears to be focused around the use of social media to generate interest in visiting the physical museum rather than monetizing their content in an online format.

2.2.2 Current Online Engagement at Old Sturbridge Village

Currently, OSV has a foundation for a virtual village set up on their website. Their setup consists mainly of posts from their Instagram and Facebook accounts which share fun activities, recipes, and historical facts about the village (OSV.org). These activities attract several hundred likes across both platforms; however, they merely provide a glimpse of the OSV's village experience. Additionally, they are not unique to the virtual village as they can be viewed on either Instagram or Facebook as previously mentioned. In the future, this virtual village framework could be updated to include more in-depth tutorials and lectures which could potentially be monetized by the village. This content could be made exclusive to the website, with only teasers displayed on OSV's social media in order to draw interest.

2.3 Museum Marketing

Museum marketing is a newer concept to the late 20th century, as many museums have moved to a management style akin to a business (Caldwell, 2000). With demand for museums decreasing in the past forty years (Beatty, 2018), museums have needed to find creative ways to market themselves to remain successful. The marketing of a museum relies on many different techniques, such as advertising in both physical and digital places, sponsorships, and different forms of public outreach. All of these different marketing techniques are trying to accomplish the same tasks. They are meant to shape the messages about the experience that a museum hopes to

deliver. By marketing a museum's new exhibits and features, the museum is able to keep potential visitors interested and informed which increases their likelihood to visit (Caldwell, 2000).

How a museum measures its success in marketing is mostly based on visitor numbers and statistics. If a new marketing campaign is run and the museum notices an increase in the number of visitors then the marketing campaign is considered to be working, but not yet successful. If the increase in visitors then generates a profit that is more than the investment needed for the marketing campaign, then it is considered successful (Ingenthron, 2000).

Another important technique that many museums are adopting today is creating a brand for themselves. In today's world, a "brand" has many useful aspects. The largest benefit of having a brand is that it creates a network of people who have enjoyed a specific product or experience that want to connect over it and share it with others. Essentially, each visitor that buys into the brand acts as another point of marketing for the museum (Caldwell, 2000). Increasing the geographic reach of the brand is challenging. One simple way that a museum can market its brand is by selling their museum-branded merchandise, such as stickers or keychains, that bear the name of the museum. These small items are then used by visitors and attract more interest when asked about them. The purpose of these items bearing the name of the museum is to have visitors associate that museum with a positive experience, and with that museum specifically.

Another strategy to promote a brand is through rebranding. By rebranding, a museum can reignite the publics' interest in its exhibits as well as modernizing their logos to be more recognizable. An example of a successful rebranding is The Metropolitan Museum of Art. Commonly known as The Met, they decided to rebrand in 2013 to take advantage of their nickname. Their new logo has become universally recognizable by people all around the world and has become one of the museums most powerful assets (Coates, 2019).

An example of a successful museum brand is the Guggenheim Museum (guggenheim.org). The Guggenheim has emerged as the first global museum brand by leveraging its brand name awareness (Caldwell, 2000). They were able to achieve this by using the popular marketing technique of franchising in order to extend their geographical reach (Caldwell, 2000). Now visitors associate that specific name as one of the premier museums of modern art.

2.3.1 Shaping a Museum's Method of Marketing

A museum shapes its method of marketing in a variety of ways. These methods generally break down into two categories, internal benchmarks and external feedback (Cook, 2006). Internal benchmarks serve as the primary method for a museum to determine the experience they want a visitor to have, as well as the stories they want to convey. External feedback provides a visitor's point of view on what the museum is providing and how they enjoy it. An example of an internal benchmark is how staff and volunteers are enjoying the experience they are providing, while external feedback, shown through visitors' surveys or focus groups, determines what visitors are enjoying and what they want more of.

External feedback is the more prominently used tool for shaping the marketing strategy of the museum. In 2002, the American Association for State and Local History (AASLH) and Center for Nonprofit Management (CNM) launched a museum survey visitor tool to help generate more specific and usable statistics on visitor feedback (Cook, 2006). This tool provided a new way to analyze successful exhibits and determine issues with exhibits that are not as successful. Using tools like these, museums can tailor their marketing strategies to the more successful exhibits and experiences that they provide and help to re-market or revitalize exhibits that were changed or added.

2.3.2 Internet Marketing Techniques

Internet marketing is also a new concept to the early 21st century with the exponential rise in online capabilities. Developing a central website for a product or service is the most common and most successful method of online marketing (Powell & Ralls, 2010). A website such as this allows consumers to obtain a glimpse of the services provided by a business from practically anywhere. Additionally, large website search engines, such as Google and Bing, are able to act as marketing tools to spread the reach of these websites. For example, a user can input a general search term such as "living history museum," or "museums near me," and are able to reach the central website for a specific museum without needing to search for it directly.

Social networks, such as Facebook, Twitter, Instagram, Pinterest, and Snapchat, also act as a prominent vehicle for marketing. Products and services can make "pages," for themselves on these networks and invite all of their consumers to join. Doing so allows them to push announcements, surveys, and other information about themselves to consumers in a few simple

clicks. Social networks also provide the service of analytics on these pages to measure things like traffic the pages generate, how many new consumers have joined in a period of time, and how many times consumers are sharing their posts outside of the group page (Powell & Ralls, 2010).

Online marketing also comes with several drawbacks. Firstly, depending on the museums target audience, marketing online might not reach the correct demographic (Taherdoost & Jalaliyoon, 2014). Secondly, to maintain an effective social platform, it must be constantly updated with new information and visual aids. This adds both resource and labor cost demographic (Taherdoost & Jalaliyoon, 2014). Finally, marketing on social platforms may draw negative publicity from unhappy visitors or internet trolls which may hurt a museum's reputation demographic (Taherdoost & Jalaliyoon, 2014). All these drawbacks should be investigated when considering an online platform for marketing.

Overall, these marketing techniques provide a simplistic and accessible way for businesses and products to be marketed to a wider audience than conventional physical advertising. Other online marketing techniques can even further enhance the reach and engagement of consumers.

2.3.3 Distribution of Online Content

With the internet as large of a digital place as it is, many methods of content distribution have become apparent. Some of the most popular websites on the internet are places where users can distribute any content of their own. The type of content that is distributed on the internet breaks down into three main categories, owned, earned, and paid. Owned content or media are distribution methods that belong to the provider entirely where they control the content such as their own website. Earned media is a method where others share a provider's content. This includes social media pages and media coverage. Paid media takes the form of exposure that a provider pays for such as ads (Lee, 2014). The Venn diagram in Figure 3 shows how these three types of content distribution combine to form a comprehensive marketing strategy.
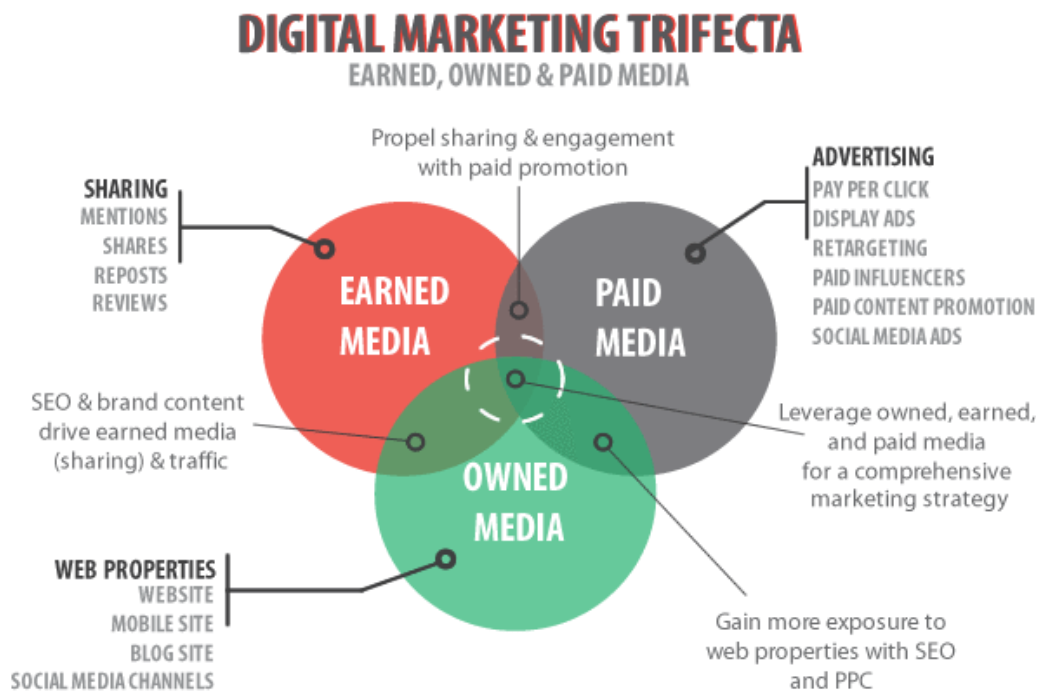
Figure 3: Venn Diagram of the Digital Marketing Trifecta (Erica Garman, n.d.)

YouTube is the website that generates the second most traffic every month and is a platform for content to be distributed in a video form (Armstrong, 2019). YouTube users can upload videos to their central page called their "channel" and other users can subscribe to these channels to receive notifications when new videos are posted. This allows for direct content distribution to reach consumers. Digital video content such as this allows for a widespread reach compared to the analog or physical alternative (Mukai, 2005). YouTube offers additional benefits as well, as it can provide you with analytics for things such as what videos are generating the most views, how people arrived at these videos, and data about the people watching them.

Another popular method of online content distribution is a central website for a product or service. As mentioned above, a website like this can be not only used for marketing purposes, but for content distributions as well. This method requires a bit more technical knowledge as the entire framework for both creating the content and its method of distribution need to be developed. Fortunately, many pre-made tools to aid in this are available, both paid and free. An example of this is Buffer. Buffer is a tool that allows for pre-timed releases of content that link

from a company's website to their social media pages. This allows for easier setup for content distribution without having to update a main website every time something new needs to be posted.

2.3.4 Monetization Methods for Online Content

With online content distribution becoming more and more common, many institutions such as museums have been looking at ways to capitalize on their digital assets. This has led many institutions to initialize digital revenue-generating ventures without any established business plan or business model to accompany it (Kron-Daleo, 2018).

In order to make online video monetization effective, several considerations must be made in the creation of content as well as the monetization. The two main considerations are: 1) Audience, 2) Monetization Strategy (Portilla & Medina, 2016). Tailoring content creation to fit the needs of a target audience will result in more interest in the content and therefore more revenue. The chosen monetization strategy will then maximize the profit from the created content.

In a 2018 audience segmentation research project, OSV found that their audience consists of four main groups: History buffs, Hands-on explorers, Family focusers, and Guide groupies. The history buffs are most interested in the historical education the village offers. Hands-on explorers prefer to learn through touching artifacts and interacting with the village interpreters. Family focusers use the village as a place where the whole family can enjoy an experience together. Guide groupies enjoy the structure of a toured village experience. Each of these distinct groups will have their own specific interests in the village. By creating content to cater to these groups, OSV can make their content more marketable and therefore, easier to effectively monetize (Portilla & Medina, 2016).

Once an audience has been identified and content has been created, an institution must decide what monetization strategy to employ. For online educational content, there are two models that are usually found to be effective: The "night school" model and the "academy" model (Johnson, 2018). The "night school" model is used for a buyer who just wants to access one specific type of content and is not interested in purchasing access to the entire library. This buyer will simply pay a one-time fee for the product they want. An "academy" model is implemented for buyers who would like unlimited access to all educational content available.

These buyers will pay a monthly or yearly subscription fee, similar to a Netflix subscription. In exchange they will have unfettered access to all available content for the duration of their subscription (Johnson, 2018). Both these models have pros and cons. The "night school" model allows a user to only buy content that specifically interests them without having to pay for content they do not need. The advantage of the "academy" model is that a user can purchase much more content for a marginally larger price over the one-time buyer. By implementing these two models, OSV can allow each buyer to pay for the content they want without having to buy content they do not need.

2.4 Background Summary

The use of technology in aiding a visitor's experience at a museum is an ever-expanding domain with the rise of more sophisticated technology. In order to increase visitor engagement and simultaneously membership, many institutions have found interesting and creative ways to utilize online technology to make their content more accessible to patrons. At Old Sturbridge Village (OSV) and many other history museums, incorporating a virtual village as an online initiative is a challenging but rewarding new direction. By finding ways for OSV to share its content online, the village will be able to tell more of its stories and share more experiences with visitors, wherever they are. This will allow the museum not only to profit from their content in a virtual space but will better engage potential visitors and foster interest in a visit to the village.

Chapter 3: Methodology

The goal of our project was to work to provide recommendations for the creation of additional in-depth village experiences and engagement with the audience through a monetized, online platform. In order to achieve this goal, we identified several key research objectives that our team planned to achieve.

1. **Identify OSV's past and present online content, location, and distribution.**
2. **Learn about current shortcomings of the online presence from visitors and staff of OSV.**
3. **Determine the best method of online content distribution and monetization based on OSV's visitors' feedback and background research.**
4. **Provide a plan for conducting an evaluation of our recommended online content creation and dissemination strategies.**

These objectives and our planned methods for achieving them are discussed in detail in the following sections of this report. Due to our limited time frame, we decided to create objectives mainly focused on online content distribution for Old Sturbridge Village. This allowed us to focus our project in the one area of need and allowed us to provide more detailed and thorough recommendations.

3.1 Objective 1: **Identify OSV's past and present online content, location, and distribution.**

In an increasing internet savvy society, online resources are a powerful way to reach out to potential visitors regardless of visiting the physical site. The first step was to identify OSV's website and online content to see the extent of their resources. Our group investigated this by interviewing staff about past attempts to create online content. Through observation of OSV's website and social media combined with interviews with the directors of Curation, Education, and Interpretation, we identified the foundation for their online presence and came up with a plan to most effectively create and disseminate this content.

A vital part of moving forward with improvements relied on interviews with employees to investigate what technology has been attempted in the past. We interviewed several village employees and volunteers and determined what OSV previously attempted and what techniques they currently use to engage visitors. The full interview protocol can be found in Appendix A.

The reason we chose to conduct interviews is because a lot more detail could be gained with an interview as opposed to a survey due to the open-ended procedure of a semi-structured interview. We used semi-structured interviews and obtained both information directly from questions as well as added information from allowing the interviewee to talk about their personal experience (Macgregor, 2006). This type of type of information could not possibly have been collected from a survey. Some disadvantages of interviews are that they can be very time consuming and can sometimes be unproductive if the line of conversation strays too far from the subject matter. To mitigate these disadvantages, our team chose to only interview people we considered essential to our project. Additionally, before each interview, our team compiled a list of specific questions for the interviewee and assigned a facilitator to make sure that the interview stayed in target.

By interviewing several critical employees in the village rather than surveying all village employees, we gained more precise information as well as additional information we might not have inquired about due to the flexibility inherent in an interview (Green, 2017). Our interviews were conducted over a video chat software called Zoom. Zoom allows for multiple people to virtually communicate through audio and video calling without the need for an in-person meeting.

By observing their online presence, we were able to further evaluate their current resources at their disposal. Through interview questions and reviews of literature, we further explored how these ideas have worked for other organizations.

3.2 Objective 2: **Learn about current shortcomings of the online presence from visitors and staff of OSV.**

To learn more about how Old Sturbridge Village uses its website and distributes online content, we identified two different populations to gather information from. Those populations were annual members and staff at Old Sturbridge Village. These populations combined gave a breadth and depth to our data collection.

Surveys seemed to be the best method for data collection among members, as they are quick, easy to fill out, and can give us a large number of responses for data analytics. Additionally, surveys are extremely cost effective as they can be done using a digital format, which costs practically nothing, or a paper format that has a small, almost negligible cost

(DeCarlo, 2018). Surveys, as a form of passive data collection, also allowed for multiple areas of inquiry. Conversely, surveys also have several demerits and challenges. Two of these demerits are the typical response rate and the quality of the data collected which can sometimes be low since respondents do not typically put significant effort into answering a survey. We mitigated these demerits by sending the survey to OSV's V.I.P mailing list. The V.I.P. mailing list has agreed to answer monthly quizzes for the village which will increase our response rate. Additionally, if a person is on OSV's V.I.P. list, they will most likely have a significant connection the village and will be more likely to put more effort into answering the survey questions. The data we gathered from the surveys was used to support our claims and findings made in our recommendations.

By using surveys, we aimed to find the general opinion of a member's experience with using online content for projects or activities at home, as well as how much they have used the online content already published by OSV. The main points of the questions that we asked were: what types of activities the Village provides that they would like to see online, if they would use the online content provided by the Village, what format they would like to see the content presented in, and an acceptable price point for it. The full survey can be seen in Appendix B. The survey was distributed to members in a digital format through an emailing list provided by Old Sturbridge Village. The responses were recorded by Qualtrics. We aimed to make the survey extremely quick to fill out to ensure as many responses as possible.

Interviewing Old Sturbridge Village Staff also provided insight about what the staff wanted to see for online content, and what they would need to feel comfortable creating it. These interviews provided us with feedback on what the staff saw as the most popular activities for visitors, and how well they thought it would translate to an online format. As mentioned above, the full interview protocol can be seen in Appendix A. Additionally, before beginning our interviews, all interviewees were briefed on the interview process, the possible risk involved, and asked to sign an IRB consent form.

3.3 Objective 3: **Determine the best method of online content distribution and monetization based on OSV's visitors' feedback and background research.**

Once our team gathered data related to objectives 1 and 2, we assembled a list of recommendations for the most effective method for distribution of online content on OSV's

virtual village. Using the knowledge we gained from our literature review as well as our interviews and survey, our team used additional methods to determine how best to structure and implement this platform to effectively cater to the expressed needs of visitors and members while maintaining profitability to the village.

To determine which types of content would be most effective for an online platform, our team compiled and analyzed both our interviews with staff and village interpreters and our survey responses. From the data obtained through these two methods, we were able to determine what content OSV members would like to see and what content OSV staff and interpreters thought would be easiest to produce without significant additional work outside their normal responsibilities.

To determine the best method for monetizing online content, our team conducted an extensive literature review to understand the available methods for monetization of online content and determine what options would work best for OSV. Additionally, we asked members in our survey what style they would most prefer. From these two sources, we determined which monetization method would maximize profitability for OSV.

3.4 Objective 4: **Provide a plan for conducting an evaluation of our recommended online content creation and dissemination strategies.**

The final step before our recommendations could be given was to provide OSV with a plan for evaluating our recommended content distribution methods. The goal of this objective was to give OSV the tools to determine how effective our recommendations were and how our recommendations could evolve past the initial submission.

We accomplished this goal by creating a survey for the OSV marketing team, which they could use when beta testing to evaluate the response of visitors to the online content distribution platform. Beta testing is a common second phase of testing for a product in which users try the product out and offer feedback. The basis for this method was from the regular use of beta testing to validate a product's concept and to solve any problems that may arise during testing (Dolan & Matthews, 1993). By beta testing samples, OSV would be able to determine what visitors like and dislike about the online content distribution platform. The determined effectiveness of the online content and its distribution would allow OSV to determine if the

recommended content and distribution platform were meeting expectations or how it could be improved to succeed in the future.

3.5 Challenges and Limitations:

While we planned to do our best to use the resources we had to achieve our objectives, we did expect there to be several challenges and limitations. First, the switch to an online project provided challenges relating to internet issues, limited technology, and reduced visitor engagement. Interviews were conducted online, and there was one instance where the interviewee had limited technology and knowledge regarding technology. Additionally, due to time limitations, there was the possibility of not being able to conduct enough surveys to accurately reflect all groups that engaged with the village. Another obstacle was that the surveys were delivered via email, which had the chance of leading to even fewer responses.

3.6 Ethical Considerations

Before conducting online interviews, we provided a background of who we are and asked for consent for the interviews to be audio recorded. Before interviewing, the team asked the individual to read and sign the IRB consent form (Appendix C). Before emailing the survey, the team informed the participant in the introduction everything about their rights as human subjects in this research. For surveys, the team only collected personal information regarding whether or not the participant was an annual member at the village, age, gender, and education level. All data collected was kept completely anonymous and is not able to be traced back to a person. Additionally, we made sure that any person surveyed was not a member of a vulnerable population determined by the IRB.

3.7 Chapter Summary:

To increase OSV's online presence, our team has created a list of project objectives. These objectives, when achieved, culminated in a list of recommended best practices for incorporating an online presence for OSV.

Figure 4: Team objective flowchart

To complete objective one, our team observed the OSV website and social media sites. Additionally, we conducted interviews with staff and volunteers to understand what online content has been previously implemented and if it was effective. We achieved our second objective by surveying village members and visitors to learn about their interest in potential online content from OSV. Additionally, we interviewed several staff members to determine what content they felt could be easily and effectively created and delivered virtually. To achieve our third objective, our team analyzed the data collected from surveys and interviews to determine the best types of content for distribution online to satisfy the needs of members while maintaining feasibility for staff. We also recommended a model for monetization based on our research and survey feedback. Finally, for objective four, we provided recommended methods for evaluating the online content and its distribution and provided a survey to the staff in order to collect feedback on the beta test. The complete project objective timeline can be seen in Appendix D. We used the data from these methods to generate our results.

Chapter 4: Findings

This chapter presents the findings from the data our team has collected from our interviews with six Old Sturbridge Village staff and volunteers, survey responses from 476 OSV members and visitors, and analysis of archival data in the form of Village resources and other relevant literature. We have analyzed our collected data to identify common themes in our findings. From the data we have analyzed we have determined several **key findings:**

1. OSV currently houses the vast majority of its content at the physical museum with only a small portion of it available online.
2. Their online content is almost entirely static, while lacking an interactive element which is very prevalent at the physical village.
3. The content categories that interest OSV members and visitors the most are: Cooking, Gardening, and Farming.
4. The optimal distribution strategy for online content is to produce online videos on a platform which is very simple to access and easy to navigate.
5. An effective monetization strategy for the Virtual Village is a combination of the "night school" and "academy" models allowing the entire Virtual Village content to be purchased as a membership add-on or a single lesson or series of lessons to be purchased with or without a membership.

Data is presented in the following sections to validate our findings and support our recommendations.

4.1 Current Physical and Online Content at OSV

In order to understand the current physical and online content lineup at Old Sturbridge Village we asked our interviewees questions about what activities visitors can participate in, whether in person or online. During the interview process multiple interviewees also talked about the theory behind how content is delivered and the thought process that goes into generating a good user experience at the village.

In our interview with Emily Dunnack, the Director of Education, we learned that OSV offers the majority of their content in a physical form. The only major online content is produced by the marketing team for marketing communications. Being physically present at the village is very immersive and key to the learning process. Rhys Simmons, the Director of Interpretation,

explained that the model that drives this immersion is the promotion of self-exploration, where the experience is left open ended with the intention of letting the visitors' interests drive their learning process. This exploration of the village revolves around the interactions with the interpreters and participating in hands-on activities, the most popular of these, being blacksmithing and woodworking. As Tom Kelleher, Curator and Chief Historian, explained, the activities are hooks to attract people's attention, however, the real connection is with explaining the bigger picture. The nature of the village's goals is not easily translated into an online format as the connections that are formed between the visitors and the interpreters are easily lost by simply reading something online.

However, OSV has offered online content in the past. Tom Kelleher remarked that the village used to offer online documents and complete lesson plans on historical topics through their website. During our interview with the Director of Curation, Caitlin Emery Avenia, we learned that the village has a collection of over forty thousand historic objects along with a research library. This collection was the basis for the founding of the village and serves as the inspiration for many of the hands-on activities that the village prides itself in offering. Unfortunately, only 6-10 percent of the collection is on view to the public at any given time. However, the village is working to digitize items and stories to make them available online, with around seven thousand items currently available on OSV's website (OSV.org).

Figure 5: Hands-on Interaction Between OSV Staff and Visitor

The importance of hands on content became increasingly evident during our interviews, which leads to the challenge of developing an online experience that can complement or supplement the experience of the physical village.

4.2 Possible Types of Content for OSV's Virtual Village

To identify which types of online content would be best for implementation on OSV's Virtual Village, our team asked specific questions to each of our interviewees on how they think

content could be broken up into tiers. From these interviews we found that the best way to tier their online content would be into the following three categories: DIY projects and activities, educational material for children, and online lectures on more in-depth historical topics. Once we had learned about these preliminary categories, we surveyed 1764 OSV members and visitors (of which 476 responded giving us a response rate of 27%) to determine which of the three tiers interested them the most. Additionally, we asked the respondents to identify themselves as one of the four main audience segments (based on a market research study by OSV) that regularly attend OSV. We used this data to determine which tier each group would be most interested in, allowing OSV the ability to tailor the tiers of its Virtual Village more accurately toward its target audience.

4.2.1 Optimal Segmentation of Village Content

When speaking to our interviewees, there were three main types of content that were mentioned as being very popular at the village: hands-on activities for adults, hands-on educational material for kids, and broader discussion topics. In our interview with OSV's Coordinator of Horticulture, Ruth diBuono, we were able to further see how each activity at the village could be segmented into these three tiers. For the first tier, Ruth recommended that we focus on a quick and easy tutorial with instant gratification for the viewer such as how to harvest vegetables, in which the viewer can experience the satisfaction of seeing the end product without having to put in the large amount of time needed to grow things themselves. The second category, educational material for children, could focus on something more in depth such as the creation as well as the background of herbal medicine. This way, the viewer could not only learn how to make herbal medicine, but also gain knowledge on the history of herbal medicine and its benefits. To create content for the third category, online lectures, Ruth suggested that content could be geared more toward deeper learning. An example that she gave was the creation of monthly garden lectures in which topics such as plant identification could be discussed in detail.

4.2.2 Content Preference Based on Audience Segmentation

A second consideration our team had while determining the possible tiers of content for the Virtual Village was the segmentation of OSV's audience. In our literature review, we learned that OSV's audience consists of four main groups: (1) History Buffs; visitors who enjoy the historical aspects of the village, (2) Hands-on Explorers; visitors who enjoy the interactive

elements of OSV, (3) Family Focusers; who attend the village mostly for their children, and (4) Guide Groupies; visitors who enjoy learning from a structured tour. In order to make the Virtual Village interesting and usable for each group our team proposed each tier to be personalized to the interests of each group; A lecture series for history buffs, DIY projects and activities for Hands-on Explorers, supplemental educational material for Family Focusers, and a combination of all three tiers for Guide Groupies. We then surveyed OSV Members and visitors to see if their responses matched our hypotheses. The results of the survey are displayed in Figure 6. For History Buffs, the survey showed that online lecture series and DIY projects and activities interested them the most. Hands-on Explorers were most interested in DIY projects and activities. Family Focusers much preferred supplemental educational material and DIY projects and activities to the lecture series. Finally, Guide Groupies seemed most interested in lecture
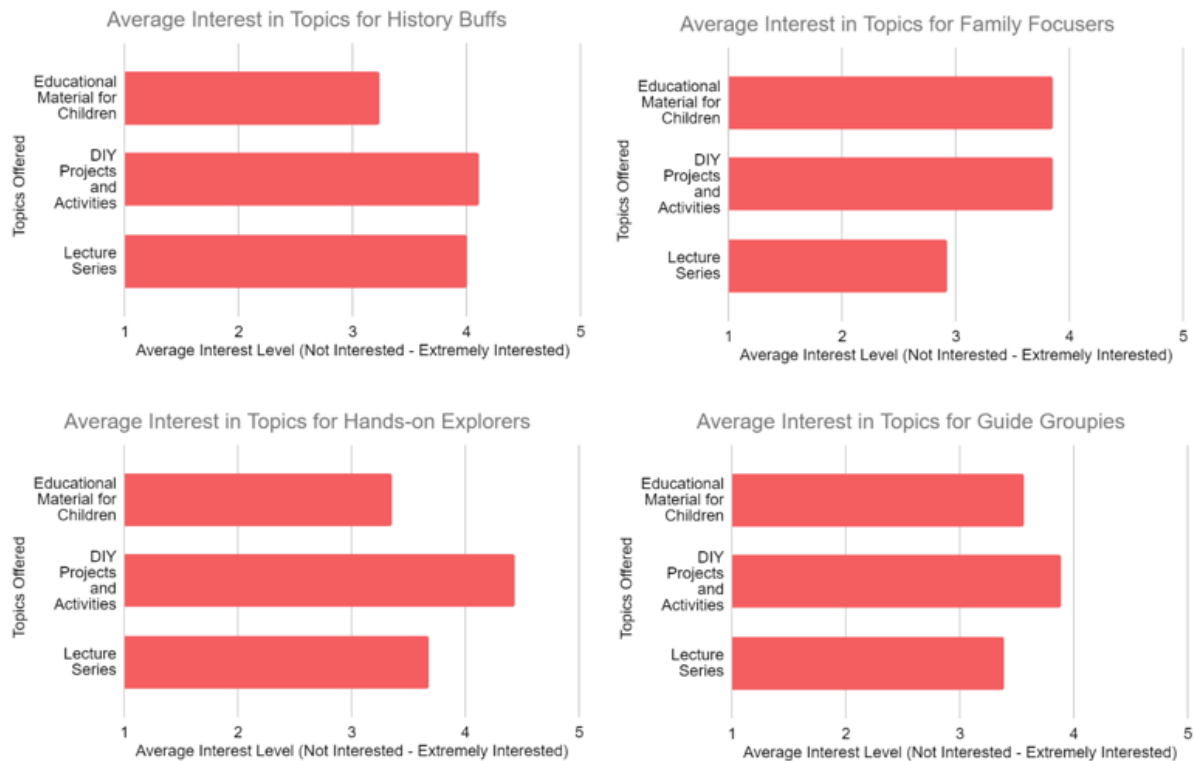
*Figure 6: Interest in OSV Activities Segmented by Target Audience*

series and DIY projects and activities. These data showed that most of the audience was drawn to their predicted categories; however, among all four groups, DIY projects and activities were shown to be the most popular tier. These data indicate that OSV should focus on producing DIY projects and activities first, before creating content for the other tiers.

Several limitations were present in our survey data, two of which were the diversity in the audience surveyed, and the specific interests of the respondents. By only surveying the OSV's V.I.P. mailing list, the responses we received were mostly from members and visitors who are more heavily invested in OSV. Our results might have shifted if we had been able to survey less invested village visitors. Secondly, among the 476 respondents, nearly 55% identified as History Buffs. This may have caused History Buffs to be overrepresented in our survey data.

4.3 Optimal Categories of Content

Once we had determined the way in which to structure OSV's Virtual Village content, we began to investigate which specific topics and content categories could be most effectively produced by the village. We were able to collect this data through our interviews with three of OSV's expert interpreters. In addition, we collected data from survey responses to understand which topics and content categories would be most popular among the OSV members and visitors. From these methods, we found that the most popular and most feasible categories of online content for the Virtual Village were videos on the subjects of cooking and gardening.

The first step in identifying optimal categories of content for the Virtual Village was to determine what types of content the village offered visitors in person and what they found to be most popular. We achieved this by interviewing Ruth as well as two additional OSV expert interpreters: Tom Kelleher, Curator and Historian; and Derek Heidemann, Coordinator of Historic Trades. In all three interviews, we asked the interpreters to categorize the different

Mechanical Crafts	Homesteading	Arts and Collections
Blacksmithing	Gardening	Visual Arts
Pottery	Cooking	Artwork and Paintings
Tinsmithing	Textiles	Artifacts and Collections
Woodworking	Farming and Agriculture	Historical Research
Text Printing		Music
Shoemaking		

Table 1: Specific Types of Content Available at OSV

activities performed at the village as well as give their opinion on which were the most popular. Table 1 shows a complete list of the different categories identified in our interviews.

Average Interest in Activities Offered by Old Sturbridge Village

Figure 7: Average Interest in Types of OSV Content Based on Survey Responses

Average Preparedness for Activities Offered by Old Sturbridge Village

Figure 8: Average Preparedness of Survey Respondents to Participate in Each Activity

When asked which activities were most popular, Ruth and Tom agreed that homesteading always attracted large crowds at the village. Additionally, both Tom and Derek cited blacksmithing and pottery as popular activities due to their uniqueness and relatively instant gratification. Using the content categories gathered from the interviews, we created several survey questions to determine the most popular types of content at the village.

The survey responses reinforced the popularity of homesteading and specifically cooking and gardening. The data reveals that these two categories are the leading topics of interest that visitors would like to see in an online format. Figure 7 shows the popularity of all categories based on the survey responses. This question also has an open-ended text box that allowed respondents to add activities (in addition to the ones listed) that they would like to see in the Virtual Village online content. Figure 9 shows a word cloud displaying the most popular topics. Of the written-in responses, some common topics were a virtual tour and videos about animals and farming.

The trend of homesteading as the most popular option followed by mechanical crafts is apparent. Using this model as a guide would be a good strategy to benefit most from online content. Another important factor to consider is how many materials for each craft the visitor has at home, and this was also considered in our survey. The data is laid out in Figure 8 regarding the preparedness of visitors to begin each category of content.

Figure 9: Word Cloud Showing Other Activity Responses

Figure 10: General Interest in Potential Online Lecture

In addition to gathering information about topics that could potentially lead to DIY project videos and supplemental learning videos for children, our team also identified which of the villages more abstract form of content would have the highest demand in an online form. The three general topics we surveyed were: Historical Research, Artifacts and Collections, and Visual Arts. Out of these three topics, the most popular seemed to be historical research followed closely by the other two as shown in Figure 10.

Combining both interest and preparedness show that cooking and gardening are not only the most popular options for online tutorials and projects but would also be easiest for viewers to follow along with at home due to their less expensive equipment requirements and lack of specialized tools. For an online lecture series, all three general topics surveyed seemed to have interest among members. Additionally, cooking, gardening and lectures all require comparatively minimal tools and equipment to some of the other activities, making them easier for the audience to implement at home and for OSV to create and disseminate.

4.4 Distribution of Content

After determining the content categories and styles of content that could be offered in an online format, we needed to investigate how this content could be distributed to the audiences. We first needed to find out if people had a desire for online content from OSV. As shown in Figure 11, 74.6% of respondents answered "yes," they would like to see online content from OSV.

Would you like to see information from Old Sturbridge Village (for children or adults) transferred into an online format to be accessible at home?

No
2.0%
Maybe
23.4%

Yes
74.6%
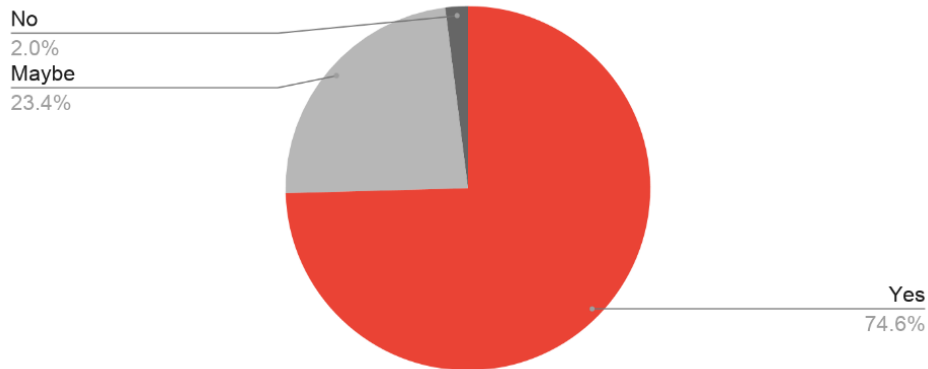
Figure 11: Survey Response to Potential Online Content from

This data confirms that there is a demand for content delivered in an online medium. However, we also needed to know how comfortable people are with accessing content, such as videos or live streams, online. From the survey, we found that that 75.3% of respondents are at least comfortable with online content. With this we can conclude that delivering the content online is a viable format.

During our interviews we discussed the feasibility for the staff at OSV to produce online content in a manner that did not greatly impact their current workload. The intention of the online content is to be an extension of their current job and not be overbearing or require new hires. In our interview with Ruth diBuono, she mentioned that how-to style videos would be the easiest to make, but that there needs to be a village wide guideline to keep content quality consistent. During our interview with Derek Heidemann, he explained that livestreaming the trade shops may work well, since there would be less planning involved, but there may still be difficulties with the learning curve to video production.

Survey respondents offered their suggestions for format and content delivery as additional comments. A common thread that was suggested by several respondents was to offer kits to go along with any DIY or how-to style videos; that way the viewer can follow along using the exact materials needed. One respondent was concerned with the use of live streamed content due to needing to fit the stream into their schedule. This could be remedied by offering the stream as a video after the fact for users to watch at any time. The comments also illuminated the great love that respondents have for OSV. Several comments mentioned their appreciation for

the interaction between interpreter and visitor, and how important that experience is in creating a successful online experience.

Two of the most important suggestions were two of the simplest conceptually. First, keep the content easy to access and the platform easy to use. Second, offer quality content over quantity. Both are critical in creating a successful online content distribution platform. If the content is not worth watching, then people will not pay for it. If the content is frustrating to access, nobody will want to put up with the difficulties to view it.

4.5 Monetization Strategy for Content

A key objective for this project was to determine how we would make an online content program profitable for OSV. Our team collected secondary data from literature and primary data through the survey to determine the optimal monetization method that would be profitable for the village and convenient for OSV members and visitors. Upon analyzing the data, we determined that using a hybrid of a subscription and one-time payment system would be an optimal way to market the Virtual Village's online content.

4.5.1 Monetization Research Findings

In our initial research, we investigated several methods for monetizing online content including advertising, subscription (academy), and one-time payment (night school) (Johnson, 2018). We found that with an advertising model, revenue is generated based on how many times online content is viewed, with it only becoming profitable with a very substantial viewing number well into the millions. Ruling out advertising left us with the "academy" and "night school" models, both of which were found to be viable options.

4.5.2 Monetization Findings from Survey

To determine if monetizing the Virtual Village would be profitable and which method(s) found in our research would work best, we surveyed OSV members and visitors. We asked them two questions related to monetization: firstly, would they be willing to pay for a service such as a Virtual Village, and secondly, if they would pay, which payment model they would prefer.

From our 476 members and visitors that we surveyed, we found that nearly half (45.6%) would be willing to pay for the Virtual Village. To further investigate this data, our team broke down this question to isolate each of the four OSV audience segmentations mentioned previously. Once broken down, the question revealed that Hands-on explorers were more likely to pay for the Virtual Village than any of the other categories. Surprisingly, the results also showed that Family Focusers were by far the least likely to pay for this content. The complete breakdown of the data can be seen in Figure 13.
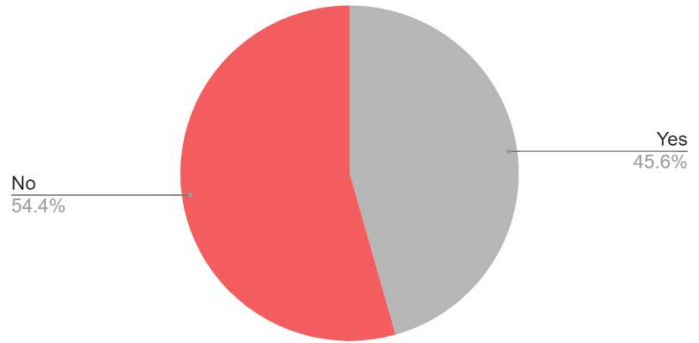
Figure 12: Willingness to Pay for Online Content
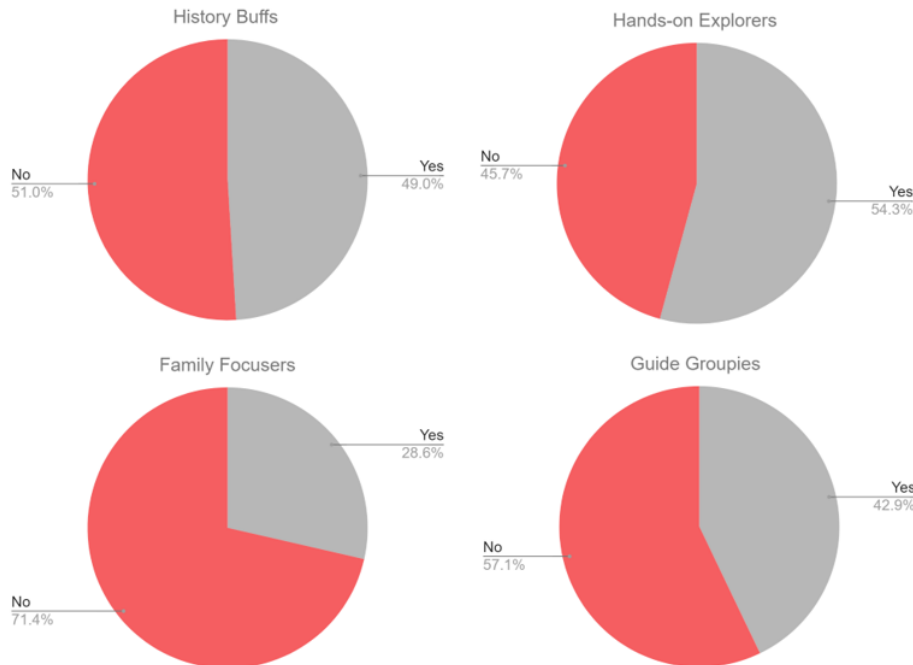
Figure 13: Willingness to Pay for Content from OSV Based on Audience Segmentation

Once we had identified and determined what percentage of respondents would pay for the Virtual Village, our team identified which payment structure was most appealing to those respondents. Among those who were willing to pay, 61.2% said they would prefer to pay for the service through the individual purchase of a video or a topic series, while 20.8% of respondents

said they would rather have it as a membership add-on. This data reinforces the data we collected from our research and supports our finding for the Virtual Village's monetization structure.

If this online content from Old Sturbridge Village was a paid service, how would you like to pay for it?
(Gathered from 183 respondents who would pay for the service)

Per Topic Series
24.6%

Monthly Subscription
9.8%

Yearly Subscription
8.2%

Membership Add-On
20.8%

Per Video or Lesson
36.6%
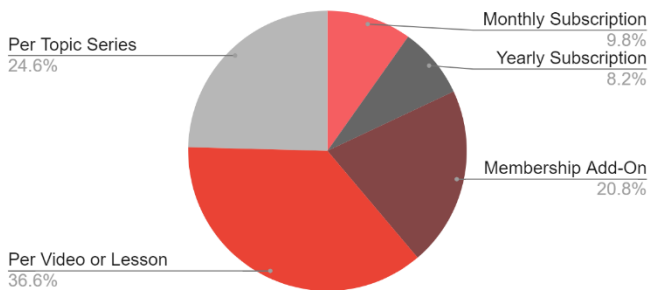
Figure 14: Preferred Monetization Structure

From our survey data, we were able to extract valuable information on how many would be willing to pay for monetized content as well as what payment method members and visitors would prefer. However, this data may also present some limitations to our work. Most prominently, the audience surveyed subscribed to OSV's V.I.P. mailing list.

This indicates a higher level of commitment to the village which correlates to a higher likelihood of monetarily supporting the village. Therefore, the percentage of general village visitors who would pay for the Virtual Village might be lower than the survey indicated.

4.6 Summary of Key Findings

Overall, a majority of our findings have supported our project initiative in creating a "Virtual Village" for Old Sturbridge Village. Through our interviews with various OSV staff we were able to determine what type of content Old Sturbridge Village was capable and willing to create for online use. This consisted of a variety of hands-on topics that viewers can either watch or follow along with at home. Additionally, some interview participants were interested in digitizing some of the varied collections that Old Sturbridge Village has to offer its visitors.

Additionally, our team surveyed 1764 people in OSV's VIP group, consisting of regular visitors and annual members. Of those surveyed, 476 responded giving us a response rate of 27%. From this survey most respondents, 74.6%, wanted to see some form of online content from Old Sturbridge Village, with the most popular content style being DIY projects and at home activities. For the topics of these projects we were also able to determine cooking and gardening as the most popular. Cooking and gardening were also the two topics that survey respondents were most prepared for to follow along with at home. This overlap shows that these two topics are the most likely to be viewed and followed along with at home by viewers.

Additionally, our survey offered an insight into how respondents felt about monetizing the content. A majority of respondents (54.4%) said they would not be willing to pay for the content, but only by a small margin, as 45.6% said they would pay. Of that percentage that said they would pay, we asked how they would like to pay for it. The most popular response was an individual purchase per video or lesson at 36.6% of responses. The second most popular response was an individual purchase per topic series at 24.6% of responses followed by 20.8% preferring the content as a membership add-on.

All these findings combined allow us to make distinct recommendations to our sponsor on how to distribute online content, what topics the content should cover, and how to price the content.

Chapter 5: Recommendations and Conclusions

Through interviews with village staff and volunteers, a survey of OSV members and visitors, and extensive background research, our team has compiled a list of recommendations for the creation, distribution, monetization, and evaluation of the Virtual Village at OSV. This chapter showcases our recommendations for OSV to improve their online presence with the Virtual Village. Our first recommendation is for creation of three types of tiered online content. Secondly, we recommend a method for distribution of the online content. The third recommendation details an optimal monetization structure for village members and visitors while maintaining potential profitability for OSV. Our final recommendation provides an evaluation plan for OSV to determine the effectiveness of the Virtual Village and identify possible areas for improvement.

5.1 Recommendation for Creation of Digital Content

Our recommendation for the creation of online digital content is broken down into three parts; format of the content, what type of content should be made, and the topics the content should cover. These three parts come together to show our sponsor how effective digital content can be produced for viewers to enjoy and come back to.

First, the format of the content should follow a pre-recorded video format. We considered live streaming as an alternative format, but, due to several limitations such as internet reliability at OSV and lack of time flexibility inherent in a livestream, we eliminated that option. Additionally, OSV has experience with producing prerecorded videos. A pre-recorded video format allows for a more polished final product with none of the limitations of a livestream. The video can be edited off-site and posted whenever is convenient for OSV. Based on our background research pre-recorded videos for entertainment purposes gain the most viewership when their length is in the range of 10 minutes. For instructional and lecture style videos, the length can be in the 30-minute range as viewers are generally more invested timewise when they are following along.

The type of content we are recommending to our sponsor is a combination of "DIY" videos and lecture videos. From our survey we were able to determine that these types of videos are the most popular among respondents. Additionally, many of the staff from Old Sturbridge Village that we interviewed expressed their opinion that this was the type of content that viewers

would expect from Old Sturbridge Village. These DIY videos and lectures can cover a wide range of topics that encompass all the activities OSV offers in person for both children and adults.

Finally, the topics of the content we are recommending starting out with are cooking and gardening. Cooking and gardening were the highest rated topics from our survey. Additionally, they are the topics that most viewers are prepared to follow along with at home. These topics require a low entry barrier for tools and materials required to both produce and to follow along with. In the future, the number of topics the videos cover can be expanded as we have provided a full ranking of the popularity of the topics above (see section 4.3).

5.2 Recommendation for Distribution of Content

In order to provide an easy to access and use content service we have split the distribution into three major segments, i.e., platform, site format, and interactivity.

The platform for the virtual village should become a branch of the OSV website. The OSV website is where visitors can get more information about the museum, plan their visits, shop, and purchase tickets for events. By using this website as the platform for virtual village content, users will have an easier time accessing the content they are paying for.

The site should be split by content topic, similar to a library, to allow for ease of navigation through the content available. By formatting the site based on topic, users will be able to quickly find the content that suits their needs. This will significantly reduce frustration when trying to find specific videos and will allow users to see exactly what OSV has to offer through the virtual village. Separating the content by topic will also keep the virtual village true to the village mindset of self-exploration based around a visitor's interest.

The site should have interactivity built in through the use of comment sections and polls to allow users to interact with the interpreters behind the content. The visitor and interpreter relationship is key to the physical village experience. By allowing users to interact and ask questions, the content can become more valuable than just the video. Additionally, by **having a dedicated staff member to respond to viewers and keeping interaction interesting and ongoing**, deeper connections can be built between users and the village which will allow viewers to understand the bigger picture beyond the face value of the content.

This content distribution model will allow users to access the virtual village through a familiar platform and search it easily for the content that fits their interests, while still maintaining a certain level of interactivity that is important to OSV visitors. In order to help OSV visual this model, our team has created a sample webpage showcasing our recommendations. The webpage can be viewed at: https://wp.wpi.edu/wcpc/projects/projects-by-sponsor/old-sturbridge-village-enhancing-the-virtual-visitor-experience/virtual-village-sample-content/cooking/.

5.3 Recommendation for Monetization Structure for Online Content

For the Virtual Village to be sustainable for OSV, it must have some sort of monetization structure to generate revenue. In our initial research we narrowed down the possible structures that could work for OSV into two broad categories: individual purchase per video or series (night school model) and subscription (academy model).

Our survey results indicated that most members and visitors would prefer the content of the Virtual Village to be either a membership add-on or be available for individual purchase. These results support one of our researched models – night school model. OSV audiences were not highly interested in a subscription model. **We recommend that OSV adopt a hybrid monetization model with both an option to add the Virtual Village to a membership as well as allowing for the individual purchase of a single video or series of videos from the Virtual Village.**

By adopting this monetization model, OSV will be able to maximize their potential for profit while adhering to the feedback received from its village members and visitors.

5.4 Recommendations for Follow-up Evaluation of Virtual Village Implementation

Following the implementation of these recommendations, the optimal strategy to evaluate the effectiveness is through user reviews. The most important thing is keeping the audience engaged and satisfied, so setting up a way to quickly collect user feedback is significant. **We recommend the use of a real time feedback system on videos as well as a follow up survey to gain specific feedback on how to improve the Virtual Village.** Possible instant feedback options are to have a rating and comment section on every post similar to social media. The rating system could be five stars, thumbs up or down, or a spinoff of these ideas to evaluate

whether the viewers enjoyed the content. Comment sections allow users to expand their thoughts on each piece of content released. Google analytics could be another useful method to track the success of the Virtual Village by monitoring website traffic, session duration, bounce rate, etc. Additionally, the use of a survey to gain more specific feedback will allow OSV to further improve their Virtual Village. An example survey with general question categories can be seen in Appendix E.

5.5 Conclusion

Following our evaluation of the data collected through interviews and survey responses a solid recommendation can be formulated regarding the approach to implementing online content. The objectives of the paper focus on determining the best topics of interest, distribution of content, monetization strategies, and payment models. Visitor interests indicate cooking and gardening as the primary topics, and DIY projects as the best form of execution. The form of topic delivery could vary on the topic, for example history would be easier in a lecture format, but if the option presents itself for a DIY project this approach should be taken. To monetize the Virtual Village, an optimal method would be to allow for the purchase on an individual video or an individual series of videos as well as having an option for members to add the Virtual Village to their memberships. This will give visitors flexibility and allow them to try out the village before committing to a large purchase. Keeping the content easy to access and of high quality will result in the best visitor participation.

Future Research

This report lays the groundwork for the creation, distribution, monetization and evaluation of the Virtual Village at OSV. However, to make the Virtual Village a success, additional objectives need to be considered. Our team has compiled a list of areas for future investigation. First, OSV can research methods for securing the Virtual Village and its content so that only audiences that have paid for content can access it. To start, investigate successful monetized content platforms like Patreon and Netflix to begin to learn about currently employed techniques. Secondly, determine the audio and video equipment needed to create high quality videos. WPI's ATC has an extensive collection of audio and visual recording equipment and has recommend equipment that would work best for video creation. A complete list of recommended equipment

can be seen in Appendix F. Finally, OSV can review possible editing software applications (e.g., Adobe Premiere Pro, Reaper, OpenShot) for the Virtual Village.

These objectives give the Virtual Village the potential for success. To achieve them, OSV could potentially partner with another WPI Interactive Qualifying Project (IQP) or a Major Qualifying Project (MQP).

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Appendices

Appendix A: Protocol for Interview with OSV Staff

OSV Interview Protocol for OSV Staff/Volunteers

Every expert interview will be conducted with at least two team members present.

Dress Code: Business Casual

Part 1: Introduction and Consent

Greeting

- Introduce yourself and your team to the interviewee

Obtain consent to record the interview

- Ask if it is alright if the interview is recorded. Be sure to explain that the recording will be kept confidential and that if any part of the interview is to be quoted in our report, we will ask for consent prior to including a quote.

Learn their background

- Ask each staff member and volunteer about their role at the village and their experience
- Ask questions to help create a background for the interviewee and to identify any possible bias

Explain our project

- Relay the main goals of our projects
- Give some background on the work done so far and the status of the project

Layout the format of the Interview

- Tell the interviewee what you hope to get from the interview

Part 2: Questions

- Each staff interview included unique questions related to their particular area of expertise

Part 3: Ending

- Thank them for their time and help
- Ask them if they know of anyone with more information that we could talk to
- Ask them if we can contact them if we have any further questions

Old Sturbridge Village Member Survey

- Are you currently a member of Old Sturbridge Village?
    - Yes
    - No
- Have you ever used online resources for at-home activities or projects? (E.g. DIY Projects, Cooking Videos, etc.)
    - Never
    - Sometimes
    - Often
    - Very Often
    - Always
- Have you ever paid for any of those online resources for at-home activities of projects?
    - Never
    - Sometimes
    - Often
    - Very Often
    - Always
- How comfortable do you feel using online resources such as videos and live streams to get content from museums?
    - (Uncomfortable) 1   2   3   4   5 (Very Comfortable)
- If you have any children, have you used any books or paper material from Old Sturbridge Village as supplemental learning material for them?
    - I don't have children
    - I'm not sure
    - Never
    - Sometimes
    - Often
    - Very Often
- If you have any children, have you used any online material from Old Sturbridge Village as supplemental learning material for them?

- o I don't have children
- o I'm not sure
- o Never
- o Sometimes
- o Often
- o Very Often

- If you have any children, have you used any online material from Old Sturbridge Village as supplemental learning material for them?
  - o I don't have children
  - o I'm not sure
  - o Never
  - o Sometimes
  - o Often
  - o Very Often

- Have you used any material (both online and offline) from Old Sturbridge Village as supplemental learning material yourself?
  - o I'm not sure
  - o Never
  - o Sometimes
  - o Often
  - o Very Often

- Would you like to see information from Old Sturbridge Village (for children and adults) transferred into an online format to eb accessible at home?
  - o Yes
  - o Maybe
  - o No

- How interested would you be in the following material from Old Sturbridge Village covering historical topics from the 19th century? (With 1 being not interested and 5 being extremely interested)

  Educational Material for Children   1   2   3   4   5
  DIY Projects and Activities   1   2   3   4   5

Lecture Series   1   2   3   4   5

- On a Scale from 1-5, (With 1 being not interested and 5 being extremely interested) how would you rate your interest in the following activities?

    - Blacksmithing   1   2   3   4   5
    - Woodworking   1   2   3   4   5
    - Pottery   1   2   3   4   5
    - Gardening   1   2   3   4   5
    - Textiles   1   2   3   4   5
    - Cooking   1   2   3   4   5
    - Shoemaking   1   2   3   4   5
    - Tinsmithing   1   2   3   4   5
    - Music   1   2   3   4   5
    - Artwork   1   2   3   4   5
    - Farming and Agriculture   1   2   3   4   5

- If you are interested in any of the following activities, do you have any materials or tools already to practice any of the activities listed above?

    0 = No Tools   1 = Some Tools   2 = A lot of Tools

    - Blacksmithing   0   1   2
    - Woodworking   0   1   2
    - Pottery   0   1   2
    - Gardening   0   1   2
    - Textiles   0   1   2
    - Cooking   0   1   2
    - Shoemaking   0   1   2
    - Tinsmithing   0   1   2
    - Music   0   1   2
    - Artwork   0   1   2
    - Farming and Agriculture   0   1   2

- On a Scale of 1-5 how would you rate your interest in the following topics? (With 1 being not interested and 5 being extremely interested).

    - Visual Art   1   2   3   4   5

o Artifacts and Collections	1	2	3	4	5
o Historical Research	1	2	3	4	5

- If this online content from Old Sturbridge Village was a paid service, what pricing model would you like to see?
  - o Monthly Subscription
  - o Yearly Subscription
  - o Membership Add-on
  - o Individual purchase per video or lesson
  - o Individual purchase per topic series
- What is your age?
  - o Prefer not to answer
  - o 18-24
  - o 25-34
  - o 35-44
  - o 45-54
  - o 55-64
  - o 65+
- What gender to you identify as?
  - o Prefer not to say
  - o Male
  - o Female
  - o Non-Binary
  - o Other _____
- What is your level of education?
  - o Prefer not to answer
  - o High school degree or equivalent
  - o Associates Degree
  - o Bachelors Degree
  - o Masters Degree
  - o PhD
  - o Other _____

- Which statement sounds most like you? We realize you may identify with more than one statement, but choose the one MOST like you
- Any comments/recommendations for online material pertaining to Old Sturbridge Village or our project?

  - I love history! I enjoy exploring historic sites or buildings to understand all I can about their culture and significance. We can learn a lot about our future by studying our history, and we should be preserving history for future generations.
  - I love hands-on experiences because they are fun and valuable. I like being outside and trying new things. If I had my way, I'd spend my leisure time doing something that I hadn't done before.
  - Spending time with my family is most important to me. Regardless of whether we are visiting a museum, historic site, or outdoor destination, I look for places and activities where we can unplug and everyone in our family will enjoy.
  - I especially appreciate learning about a site through a knowledgeable guide. I enjoy going on a tour that highlights the most important things to notice, providing contextual background that I wouldn't likely know on my own.

Informed Consent Agreement for Participation in a Research Study

Investigators: Patrick Chernjavsky, Matt Scott, Anthony Striano, Spencer Tess
Contact Information:
The Village People, Email: gr-thevillagepeople@wpi.edu

Title of Research Study: Work to provide additional in-depth village experiences and engagement with the audience using a fully online format with monetization as an extended goal.

Sponsor: Old Sturbridge Village

Introduction: You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

Purpose of the study: The purpose of this study is to research the best ways that Old Sturbridge Village can use online content to engage with their audience and how that content can be monetized. This study is meant to provide a recommendation to the sponsor about what improvements can be made to Old Sturbridge Village's online presence.

Procedures to be followed:
1. Interview Old Sturbridge Village Employees regarding past and present online content and the current shortcomings of the online presence
2. Survey Old Sturbridge Village Visitors using email surveys to ascertain their opinions on the creation of online content and the monetization of said content.

Risks to study participants: There is minimal risk involved in this study, however participants may face the following risks:
- Discomfort with being interviewed
- Questions may make people feel uncomfortable
- Answers may cause participant to be identified by an outside party

Benefits to research participants and others: Participants will benefit from any improvements made to Old Sturbridge Village as a result of this research project.

Record keeping and confidentiality: Records will be kept in the form of survey results compiled digitally to form an aggregate data set. Records of interviews will be kept digitally. These records will only be accessed by the investigators and the sponsor. Confidentiality will be maintained for all survey results. Interviewees will be contacted, and consent will be requested if any record of the interview is to be included in the final report. All survey participants will

remain anonymous by name. The information that will be reported includes the results of surveys as well as any feedback given by visitors or employees. Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Compensation or treatment in the event of injury: Due to the minimal risk of injury of harm to participants, this study will not provide any compensation or treatment in the event of injury. You do not give up any of your legal rights by signing this statement.

For more information about this research or about the rights of research participants, or in the case of research-related injury, contact:
Principal Investigator: Sarah Strauss, Email: sstrauss@wpi.edu
Co-Investigator: Purvi Shah, Email: pshah@wpi.edu
IRB Manager: Ruth McKeogh, Tel. 508-831-6699, Email: irb@wpi.edu
Human Protection Administrator: Gabriel Johnson, Tel. 508-831-4989, Email: gjohnson@wpi.edu

Your participation in this research is voluntary. Your refusal to participate will not result in any penalty to you or any loss of benefits to which you may otherwise be entitled. You may decide to stop participating in the research at any time without penalty or loss of other benefits. The project investigators retain the right to cancel or postpone the experimental procedures at any time they see fit.

By signing below, you acknowledge that you have been informed about and consent to be a participant in the study described above. Check the boxes below to indicate consent to being audio and/or video recorded. Make sure that your questions are answered to your satisfaction before signing. You are entitled to retain a copy of this consent agreement.

	Audio Recording
	Video Recording (includes audio)
	Do Not Record

_____   **Date: _____**
Study Participant Signature

_____
Study Participant Name (Please print)

_____   **Date: _____**
Signature of Person who explained this study

OSV Project Timeline
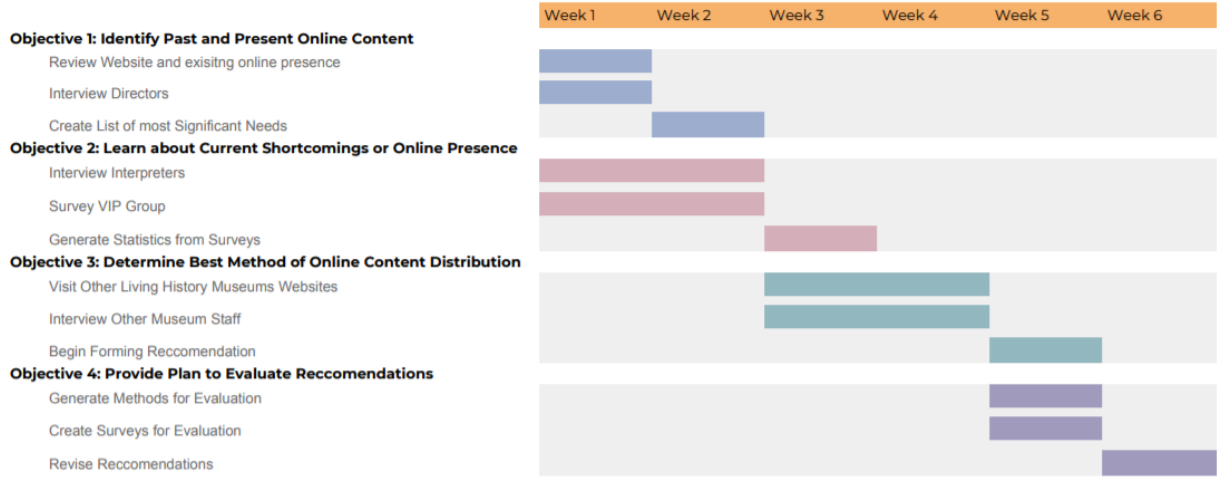
Figure 15: Project Timeline

OSV Virtual Village Evaluation Survey

- Are you currently a member of Old Sturbridge Village?
  - Yes
  - No
- Prior to using the Virtual Village, have you used and online resources to aid in at home activities or projects? (e.g. DIY projects, Cooking tutorials, etc.)?
  - Never
  - Sometimes
  - Often
  - Very Often
  - Always
- How easy was it to navigate through the Virtual Village?
  - (Easy) 1   2   3   (Difficult)
- If you found it somewhat difficult, what did you find challenging?
  - Comment box
- What do you use the Virtual Village for?
  - Comment box
- Are their any features that you did not find helpful?
  - Comment box
- Are there any features you think would be useful to include in the virtual village in the future?
  - Comment box
- Is the virtual village worth the purchase price?
  - Yes
  - No – Comment box
- How likely are you to recommend the Virtual Village to a friend?
  - (Not Likely) 1   2   3   (Very Likely)
- Do you have any additional comment regarding the Virtual Village?
  - Comment box

To create content for the Virtual Village, OSV will need to invest in video and audio recording equipment. To assist OSV in the research and selection of their equipment, our team contacted WPI's Senior Instructional Media Specialist, James Monaco, to give us his input on the best audio and video equipment for the Virtual Village. We have compiled his recommendations in Table 2. Additionally, our team has included several general recommendations for this equipment.

- Focus on the equipment that is critical to the virtual village: A quality video recorder and microphone for audio recording

- Identify all additional equipment necessary for the audio and video equipment to function properly such as lenses, tripod, etc.

Cost	All-purpose Filming	Video Specific Hardware	Field and Video Audio Recorders	Wireless Microphones
Economical	GoPro HERO7 Black		Zoom or Tascam brand audio recorder	Saramonic Wireless Lavalier Microphone
Intermediate	Canon EOS 80D	Sony FDR-X3000		Rode Wireless Microphone
Expensive	Nikon Z6	Sony PXW-Z150		

Table 2: Video and Audio Equipment Comparison