"INTEGRATING TECHNOLOGICAL MEANS IN SMALL MUSEUMS: THE CASE OF THE HISTORICAL & FOLKLORE MUSEUM OF KALAMATA, GREECE"

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ABSTRACT

This research aims to address the needs of small and local museums when it comes to the attraction of tourists, both foreign and domestic, through the use of new technological means. As a case study, the Historical & Folklore Museum of Kalamata that is located in the Messenian Prefecture, Greece has been chosen. This museum attracts more than 2000 visitors per year, and this can be considered a great number, taking into consideration its size and complicated layout. In order to make the right suggestions that would fit exactly the needs of the museum, intensive observation sessions took place. Two different sets of questionnaires were prepared and distributed via social media, and after the visitor tours. Moreover, interviews were carried out with all the employees, and also a complete space syntax analysis was conducted so as to outline the interaction between visitor and museum space. The proposals were based on the identified requirements and the space utilization. Some of the technologies proposed are: the creation of a user friendly website, mobile and tablet auto guides (mobile storytelling application), the creation of a computer “corner” on the ground floor for the needs of disabled people, TV screens showing stories and documentaries based on each thematic area of the museum, and VR and AR applications. Moreover, taking into consideration that there are 22 Folklore Museums in the

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Messenian Prefecture, 6 indoor and outdoor museums in the city of Kalamata, and since the building itself is considered an important architectural element of the city, the creation of an application that would embed the Historical and Folklore Museum of Kalamata in cultural routes of folklore and architectural interest was suggested. The majority of the proposals is low cost and can be easily adapted by small museums.

**Keywords:** tourism, museums, applications, case study, space syntax

1. **INTRODUCTION**

A principal role in the increase on the numbers of visitors in a museum has the so called term the museum experience that begins with a series of thoughts even before visiting the museum, and remains even after the end of the actual visit, when the museum experience remains only in the person’s memory (Falk & Dierking, 2012). Though this experience is something very personal, nowadays there are several means, especially technological that have been well established in modern museological approaches enhancing a museum’s character making it more fun, interactive and memorable. This is accomplished by facilitating the visitor engagement, while providing opportunities for education, socialization and entertainment to all visitors. For a clearer comprehension of how a rural museum can be further developed by addressing its visitors needs via the integration and use of technological means, a thorough research on the Historical and Folklore Museum of Kalamata has been conducted.

2. **HISTORICAL CONTEXT**

The Historical and Folklore Museum of Kalamata (Fig.1) is one of the 22 folklore museums of the Messenian Prefecture and can be found in the historical center of the city, in the neoclassical residence of the Kyriakou family. The building was donated in 1938 to the city of Kalamata by its owner G. Kyriakou, on condition that the city would preserve it as a cultural and educational institution. The building, after the decision of the mayor became a property of the Association for the Dissemination of Knowledge in 1954. The museum began operating in 1973, but the destructive earthquake of 1986 interrupted its function. However, under the cooperation of local institutions and the Directorate of Protection and Restoration of modern monuments, the building was restored and on 2002 was reopened.

Despite the Greek financial crisis, the museum attracts approximately 2000 visitors per year. This is an astonishing number when taking into consideration the small size of the museum and its limited opening hours.
The museum’s artefacts are organized according to subject. On the ground floor, the folklore section is located containing objects related to agriculture, looming, pottery and other aspects of the daily life of the middle class. The historic section, which can be found on the first floor is further subdivided into five sections which are related to the daily life of the upper class, the Greek Revolution of 1821, ecclesiastical relics and printings (Doulaveras, 2012).

3. METHODOLOGY

In order to be able to propose the right technological solutions that would fit the needs of the Historical & Folklore Museum of Kalamata a specific methodology had to be developed. The methodology consisted of three steps. The first step was to identify what kind of visitors the museum attracts and describe their needs, then the second step was to fully comprehend how these visitors perceive the museum space and by identifying the various problems and behavioral patterns understand how the design and layout shape their overall experience in the museum. The third step was to interpret the data obtained and propose the most suitable technological solutions.

3.1 Observations

In order to be able to understand in a better way how visitors interact with the exhibits and how they perceive the museum space, many visits to the museum were arranged, so as to feel the visitor experience by first hand and make more objective observations. Each time two members of the research team visited the museum, and were responsible for observing a specific group of
visitors. During the time of observations, the members of the team did not interact with the visitors or with each other.

3.2 Quantitative Analysis - Questionnaires

For the quantitative analysis, two questionnaires were created. The first was created by means of Google docs form, and was provided to the public via social media, during the course of two weeks. The main purpose of the questionnaire was to ask people if they knew and if they had ever visited the museum before, what was their general opinion about it, and what type of exhibits and technological means they would expect to find in this museum. In total 115 people contributed to the research. The other questionnaire, in paper form, was handed to museum visitors after the end of their visit and was created in order to spot the key exhibits of the museum and find out what according to visitors would contribute to their overall experience. In total 89 people answered the second questionnaire.

In total, out of the 115 people who answered the electronic questionnaire 72.3% of them had not visited the museum before, while only 27.7% had visited it once or more than once. More than half percent of those who had not visited the museum did not know where it is located and how to get there. The results of the main two questions concerning technology from the people who had been to the museum revealed that they would like to have found in the museum a combination of educational games, with a virtual tour of the museum and a digital representation of the collections (fig. 2). The same answer was given by those who had not visited the museum before but with a +10% of difference (fig.3). It is also important to mention that a small amount (8%) of the people of who had visited the museum thought that it needs none of the technological additions that were proposed in the questionnaire.
Figure 2 & 3. Pie chart no. 1 answered by people who had visited the museum & pie chart no. 2 answered by those who had not visited it before, depicting the answers given by the participants.
The majority of the participants who had visited the museum thought that the exhibits and the fact that the museum is housed in a neoclassical building are the key assets of the museum. Moreover, almost 10% of them considered the way thematic sections are organized to be the best element of their visit at the museum (fig. 4). Almost 39% of the participants voted that new technologies are missing from the museum and that more space is also needed. 16.1% of those who voted also thought that guidance from the museum personnel is a prerequisite that was lacking (fig. 5).

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The second questionnaire that was created included simpler questions concerning what object made the greatest impression on the visitor, what they liked most about their visit and if they would like to find at the museum a corner dedicated to technological means such as computers/tablets with educational games, and videos with images of the objects. The majority of those who answered stated that though they enjoyed the visit to the museum, they would like to find more technological means.

3.3 Qualitative Analysis

In an effort to understand the needs of the museum in a better way, a series of interviews took place and all the employees and the director of the museum answered several questions concerning its operation, the visit rates, the visitors’ impressions, any problems that may have arisen and how it copes with the financial crisis. Though the museum personnel were positive towards the integration of technological means, it was stated that under its current financial status it could not afford to install any at all.

3.4 SWOT Analysis

A tool that was also used in order to help in the identification of internal and external factors which affect or potentially can affect the museum was SWOT analysis. This tool is also helpful in order to counteract the weaknesses and threats with the strengths and opportunities (Pahl & Richter, 2007). As shown in the figure below (Fig.2) a cooperation with the local institutions, such as the local Department of the University of the Peloponnese could temporarily solve the problem of inadequate museum personnel. The SWOT analysis also showed that the museum building itself can be perceived as a main attraction and central to the museum experience. The interviews though revealed problems with the museum building in regards to accessibility, since it is an old historical building not designed to allow easy access. The current financial crisis also emerged in the analysis since it was identified as one of the main threats that the museum has to face. A possible participation in the European Funding Scheme could be make up for the unstable financial environment that has affected a great deal the function of the museum in the past few years.
3.5 Identification of users

The users are identified in 4 main groups (students, individual visitors such as tourists or local people, researchers, museum personnel) and presented in Table 1. The first three groups are characterized as primary users, while the museum personnel as secondary. The main requirements for each group are education, entertainment and socialization. For each group different ways to achieve the optimum requirements (specifications) are proposed and each specification is separated in three categories, high, medium and low in regards of priority for meeting their needs.

Figure 6. The SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Wide range of exhibits</td>
<td>· Lack of museum personnel</td>
</tr>
<tr>
<td>· The neoclassical building that houses the museum</td>
<td>· Lack of technological means</td>
</tr>
<tr>
<td></td>
<td>· Unsuitable design for disabled people</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>· The Departement of Archaeology &amp; Cultural Resources Management of the University of the Peloponnese that is located in the same city</td>
<td>· Lack of funding</td>
</tr>
<tr>
<td></td>
<td>· European Funding Scheme</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
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Table 1. Main potential technology user groups and their requirements.

<table>
<thead>
<tr>
<th>User Group</th>
<th>Type of User</th>
<th>Requirement</th>
<th>Specification</th>
<th>Priority</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>Primary</td>
<td>Education (to learn)</td>
<td>-Website</td>
<td>High</td>
<td>The educational games could be available in the museum as well as online.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Entertainment</td>
<td>-TV screens</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Educational games</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Tablet applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual visitors</td>
<td>Primary</td>
<td>Education (Information)</td>
<td>-Website</td>
<td>High</td>
<td>For more applications, check the solutions below.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Entertainment</td>
<td>-Auto guide</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Socialize</td>
<td>-Map / story teller</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Researchers</td>
<td>Primary</td>
<td>Education (Research, practice etc.)</td>
<td>Documentation-</td>
<td>High</td>
<td>Some applications could provide specialized and in-depth information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Entertainment</td>
<td>Digitized objects</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Auto guide</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Virtual Museum</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-website</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Museum Personnel</td>
<td>Secondary</td>
<td>Knowledge of the application</td>
<td>-To be able to</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>explain the use</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(if needed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.6 Identification of problems

Through the observation series and the statistical analysis of the answers that were gathered from the questionnaires different types of problems and deficits were noted and a careful documentation of all the problems was conducted together with the identification of users.

a) Architectural problems

Being housed in a former residence the space of the museum is very limited. No more than 40 visitors can enter the museum per visit, while in the upper floor only 17 persons are allowed. There is a steep staircase connecting the two floors that makes the access to the 1st floor difficult for the general public and impossible for the disabled. Some 600 objects are displayed while the museum has about 5000 items in storage. Additionally, there is no space for the basic amenities. A lack of assembly areas, safety exits, cafeteria or resting spots was also noted. This way children are usually seated on the floor, on the hallway or at the entrance outside of the building because of the nonexistent resting spots (chairs, benches etc.). In a building so old, the window shutters are nearly collapsed and therefore kept shut all the time making the artificial
light inside necessary. In addition, the wooden floor is creaking. Finally, the information of the artefacts is written only in Greek, and labels are positioned on a fixed height, which is very low.

b) Visitor and Artefact safety

Several problems regarding the safety of the objects and the visitors can be also noted. The museum operates with the voluntary work of only one person. When this volunteer is located on the upper floor the main door of the museum stays locked to avert thievery. Another problem is the exposure of the artefacts since some of them are fragile but not placed in showcases. Moreover, no ropes or signs exist so as to keep the visitors in a reasonable, safe distance. The probability of an accident that may injure a visitor and compromise the preservation of an object is very high. In conclusion, the showcases do not seal perishable artefacts safely from the environment. Air particles, dust, humidity and biological factors endanger the sensitive materials.

c) Technological problems

The museum is lacking even the basic technological benefits. It does not have its own website or social media accounts providing at least the basic contact information or operating hours, let alone other technological implementations such as interactive games, while on the website of the Municipality of Kalamata the information that concerns the opening hours of the museum is false.

3.7 Space Syntax Analysis

Before the suggestion of possible technological solutions, a complete space syntax analysis had to be conducted in order to understand how the visitors interact with the museum space. Space syntax is a term that was introduced in the 1970s and aims to investigate the relationships between spatial layout and a range of social, economic and environmental phenomena (Hillier, Leaman, Stansall, & Bedford, 1976). The use of space syntax analysis in museums has been thoroughly discussed during the past few years and has been a valuable tool in museum studies (Hillier & Tzortzi, 2006).

a) Description of the museum layout

The first step of the analysis was to understand how the museum building and its design affect the way visitors circulate in the museum. The museum consists of the ground floor with an entresol, the stairs and the first floor. At the ground floor, which has only one exhibition room all the exhibits that are related to folklore can be found, while at the first floor, which has five different exhibition rooms all these that are related to the history of the region are exhibited. These two thematic sections, coexist in space in an independent manner since there are not interconnected spatially in any way.
b) Ground Floor

The exhibition room located at the ground floor contains all the exhibits that are related to folklore and can be entered through the entresol via only one entrance with one step. The visibility graph (fig.3) of the exhibition room that is located on the ground floor shows that there is high visibility especially when someone is located in the middle of the room (areas with red color). There are also a few spots though that show poor visibility (areas with blue color) and this can be attributed to the exhibition layout, because various exhibits play the role of physical barriers as depicted in Figure 3 in dark circles.

![Visibility graph of the ground floor](image)

Figure 7. Visibility graph of the ground floor

Usually, the various groups followed the tour guide and thus the predetermined path that is demonstrated in Figure 4. However, it was also observed that the few individual visitors that wanted to wander alone in the museum, followed the exact same path. Inside the exhibition room, the approximate time of each visit ranged from 20’ – 45’. The exhibits that were located in the middle of the room, as represented above in circles where treated more like barriers rather than exhibits since they acted as separators that divided one large room into two smaller ones. To demonstrate the degree of indifference towards those exhibits it must be mentioned that
especially young visitors, leaned against them, and touched them so as to rest. This specific pattern can also be attributed to the lack of resting areas inside or near the exhibition room and to the long duration of the tour.

![Figure 8. Circulation flow of the ground floor](image)

In Figure 9, the isovist path (represented in green color) from a certain location of the ground floor shows that the exhibits that are displayed in the middle of the room indeed block the view of other exhibits.
c) The stairs

The stairs are an indispensable part of the museum since they are the only means of connecting the ground floor with the first floor, and also play an important role in the visitors’ overall experience and the way they tour is conducted. While they interconnect the ground floor with the first floor, they divide the tour into two, since they do not help in the smooth transition from the one thematic section to the other. It was observed that especially children seemed disoriented and their attention got distracted easily by taking the stairs. It was also noticed that the very nature of the staircase, which is steep with a width of 10 cm can barely fit a child’s foot, let alone an adult’s. People with mobility limitations are immediately excluded from entering the first floor.

d) 1st Floor

The 1st floor is accessible via the stairs through the entresol of the ground floor and it consists of five different exhibition rooms that all contain different themes, as shown on Figure 6. The different colors represent the degree of integration. The lighter the color the less integrated a space is, while the entrance of the floor which is the most integrated amongst all other rooms is depicted with black color.

Figure 9. A photo taken during the time of observations from a specific point together with the isovist graph of this specific point

Figure 10. Top view of the 1st floor that shows the degree of integration.
Three different types of rooms can be found in the 1st floor. Type a, is the entrance to the first floor and is directly accessible through the stairs. Type b, as depicted in medium grey tone are the rooms that are directly connected to the main entrance of the floor and only have one entrance to enter the room. Type c, as shown in lighter grey represents a room that though it has only one entrance, it is not directly connected to the main entrance of the floor but one has to go through another exhibition room so as to visit it.

The most frequent circulation flow of the 1st floor is depicted on the figure below. The red point represents the entrance to the floor and the arrows represent the course of the visitors in the space. Once visitors entered a room they had to take the exact same path so as to go back to their previous location. Though this specific path was preferred by most visitors it was observed that it tired them, especially children, since they had to enter and exit every single room instead of following one path that would go through all the rooms.

![Figure 11. The circulation flow at the 1st floor.](image)

This specific layout does not allow the visitor to understand what may be exhibited in the next room since there is minimum visibility. The following visibility graph shows (Fig. 8), which spots have the best and worst visibility in the 1st floor space. The red spot represents a standing point where many locations are visible from it, while the blue hues represent the opposite. The yellow tone areas have medium visibility. That means that when visitors are inside a room they
do not have a clear visibility of the residual spaces and thus no clue of what will come next. This in some cases triggered the imagination of the visitors and contributed in their whole experience.

Figure 12. The visibility graph of the 1st floor
Figure 13. The isovist graph from certain locations of the 1st floor with photos taken during observation sessions from these specific points.
The isovist graph (fig. 13a) shows the potential field view from a certain point. In the graph the visibility from three different points was taken and it matches exactly with what the real time photographs that were taken. Figure 13b matches with the isovist in green color and figure 9c matches with the isovist of blue color.

The space syntax analysis confirmed that the museum shows poor interconnection between the different floors and different rooms, something that can be attributed to the fact that it had been originally designed for housing purposes and not for museum use. The lack of resting areas also plays an important role in the visitor experience, since the need to rest for groups of children and older people cannot be satisfied. Moreover, the structure of the space and the lack of assembly areas does not act in favor of social interactions, thus the museum aims more to educate rather than encouraging socialization and entertainment.

4. PROPOSED TECHNOLOGICAL SOLUTIONS

The purpose of this research is to propose and discuss technological solutions based on the conclusions of the observation sessions that took place in the museum, and by taking into consideration the needs of the visitors, the space limitations, the current condition of the museum and its financial status. Since the Historical & Folklore Museum of Kalamata can be characterized as a small-size museum, all the suggested applications that will be used on a computer or tablet must be highly adaptable to each user and his preferences (Antoniou & Lepouras, 2010).

Website

A website nowadays is the main tool in terms of information and advertisement of an institution such as a museum, because it addresses to a broad audience on the World Wide Web. As it was observed, the Historical & Folklore Museum of Kalamata does not have a website of its own, and as a result there is numerous misleading information found in various touristic websites.

It is vital especially for a cultural institution, to have a user friendly website, which will contain all the basic information concerning it function such as: the location, the visiting hours, the ticket prices, the news, and a brief history of the museum and its exhibits. Additional information that can be added may concern the architecture of the building with its history, a glossary containing words from folklore and also traditional dialects. More interactive options, such as a virtual tour, a view of the rooms in 360° and educational online games could also be offered. An also useful feature could be the addition of a link “support us”, for the financial support of the museum that could also include donations of various objects so as to enrich the museum’s collections. Information about the city and the different museums could be included in form of hyperlinks that would direct the visitor to other information websites such as the one of the Municipality of Kalamata and the local press. Moreover, valuable tools in today’s era of
social media the Museum should have a Facebook, Twitter and Instagram account. The main language of the website would be Greek together with other language options such as English, French, German and Spanish.

**Audio guide & interactive maps**

As it was observed, the layout of the specific museum set a number of problems for the touring of its visitors. The exhibits in different rooms seemed unconnected and its was difficult to follow the exhibition rationale. For these reasons, the presence of interactive maps and audio guides could provide guiding with an immediate solution and could also offer an interactive educative environment to the visitors. Information on such museum applications can be easily updated. Audio guides might be also suitable for people with different needs, since their content can be adapted to one’s needs accordingly. For example, there can be appropriate content the visually or hearing impaired, etc.

Audio information can be available in multiple devices (like users’ mobiles and tablets), something that would minimize the cost for the museum. In addition, information can be provided in multiple languages, thus solving the problem of the interpretation signs that exist only in Greek. Information on personal devices would further allow individuals who do not wish to follow the guided visit to enjoy the experience at their own pace.

**Mobile Storytelling Applications**

During observation sessions it was noted that both domestic and foreign visitors got confused about the way the objects related to folklore were used in previous centuries. Moreover, especially for foreign visitors it was also hard to follow the historical context of the thematic scheme of the “Revolution of 1821”. In order to overcome this issue, a mobile/tablet application that would narrate how the exhibits related to folklore were used, and the events of the thematic scheme of the “Revolution of 1821” would contribute greatly to the understanding of the purpose of the museum, especially for visitors from other countries. Mobile storytelling applications could further use audiovisual means to show the way of life in the past and the methods people used to cultivate the land and maintain a domestic life. An application like this could cover the needs of primary users for education and entertainment.

The second type of storytelling tools could be supported both by indoor and outdoor tours. Indoor for when the tour is conducted inside the museum and outdoor for when it is conducted on the premises of the museum and its surroundings. In every tour one to five stories about each point of interest (humorous & historical content with an average duration of 1 minute) could be presented including material and stories unknown to the public. The users could choose which stories to read or hear, according to their preferences. This specific number of stories is suggested in order not to cause to the visitor an overload of information or decision making processes that have been identified as phenomena associated with museum fatigue (Bitgood, 2009).
Disabled people

People with disabilities must be able to participate in cultural life and have equal opportunities. Due to the architectural design of the museum not all the people have access to the 1st floor. A possible solution could be a stand with a computer next to the entrance (due to limited space of the museum) and on this computer all the technological solutions could be included (videos, virtual tour, virtual museum with photos of digitized objects) (Petrick, 2015). Blind people could also enjoy these apps, by listening stories about the objects and the history of the museum (in combination with possible workshops like “touching” the museum).

Map connecting the local Museums and the folklore collections/Collaboration with larger cultural organizations

In the review of the literature a large amount of folklore museums around the Messenian Prefecture was recorded. A centralized content system (CMS) could connect all these folklore museums together, or alternatively all the museums of the city of Kalamata, or all the folklore museums located at the Peloponnesian Peninsula could be connected. This CMS would enable one to easily add and modify data, tours and games and the sharing of stories with the audience in an efficient and creative way. It is a product for museums with which they can independently create interactive indoor and outdoor tours for smartphones. In the case of the Historical & Folklore Museum of Kalamata, two programs could be created. The first one, would include information about the museums of the city of Kalamata and especially the ones close to the historical center (giving details about the location, the opening hours, a description of each museum). While the second program could connect all the Folklore Museums of Messenia, or the Peloponnesian Peninsula). In this way the visitors would have the chance to visit all of the museums that are located close to each other, and they would also be given the chance to enjoy and compare the collections of other museums that though they are located far from each other they have similar themes.

The “all museums in one map” application would interconnect all the museums of the city, or the neoclassical buildings, or all the folklore museums located in the Messinian Prefecture (accessibility information, visiting hours, brief history of the space and main exhibits) so that everyone visiting the city would be given the chance to explore it and get to know it better. By stating one’s position in the city the application will suggest the best route so as to explore all the museums and the city’s landmarks. An application like this would be very useful to tourist by saving them a lot of time and effort.

A small museum like the one in this present case study could greatly benefit from a digital connection to other larger cultural organizations. For example, larger museums in the wider area of Peloponnese can host in their webpage a link to this museum and vice versa. In this way, the
rich cultural material on the larger museums’ pages can be shared, especially with museum of similar topic.

For example, the “V. Papantoniou” Peloponnesian Folklore Foundation (PFF) is a privately supported foundation, based in the city of Nafplion. It was founded in 1974, and its aim is the research, preservation, study and presentation of the material culture of the Peloponnese, as well as of the whole of Greece. It is housed in the residence of V. Papantoniou, and was converted into a museum in 1981. The website of the museum contains a lot of information that can be helpful for visitors of different ages. The museum gives the opportunity to web visitors to have a virtual tour through their computer screens, and see parts of the exhibits and collections. Through this application, the web visitor can perceive the Foundation's style and its cultural wealth, while it can be an attraction for future visitors. One can visit each floor and have a 360° tour with the choice of zooming in and out being also included. The PFF's collections number over 45,000 artifacts, covering all branches of studies relating to modern Greek culture, with emphasis on ethnography, fashion, and children. Moreover, there are also educational online games for visitors of each age. There is a game called “Dressing up”, where users are introduced to costumes from all over Greece, and can test their knowledge about them. The game features three levels of difficulties and one can play it either alone or with a competitor. This application can be downloaded to an android or windows. These two museums could be linked via their websites, and share information about similar objects and historical periods, as well as organizing combined workshops, seminars and activities.

**VR and AR applications**

The development of Augmented and Virtual Reality Applications for Tourism and Education, and the commercialization of these apps through different market channels, focusing on the design, 3D modeling, and implementation of Real Time Reconstruction Applications for Archaeological sites (VR and AR) has been enormous in the past few years. The creation of such an application can be accomplished by a team of 3D specialists and experienced professionals (3D and 2D artists, painters, Augmented and Virtual Reality Specialists, Programmers etc.) and their role is to develop, integrate and implement turn-key Mobile Application projects. An AR application could be used in special tablets and can be for a real time visualization of the exhibit or the monument on how it used to be or what was its main function. This way tourists during their visit in archaeological sites or museums, do not only hear the history of the monuments or object, but also see how it was used in a real time 3D App, and can compare it with its current preservation state. Augmented Reality (AR) goes one step further by augmenting a camera’s content with a virtual one, thus creating a mixture of the real-time camera’s video or image together with many different virtual elements or information (sound, video, graphics or GPS data) (Craig, 2013). A Virtual Reality (VR) application on the other hand is a simulation of the real world, but needs special means such booths and glasses in order to be experienced by the visitor.
(Sherman & Craig, 2003). These kind of Apps and particularly Augmented Reality that does require much space and technical skills by the user would contribute a great deal in the overall experience of young visitors and tourists by combing learning elements with entertainment.

Considering the large amount of tourists visiting the city of Kalamata, especially during spring and summer months, the main thought was to provide people with an app that would be useful while touring the city and its monuments. The app would accompany the tour and would focus on the neo-classical character of the city by setting a specific tour including buildings on the coast line and then through streets with many neoclassical buildings one would arrive to the historical center of the city and the museum. In some public neoclassical buildings, it would be also possible to watch their interior. The present museum could be a part of this city wide scheme and benefit from its connection to a wider network of historical buildings around.

**TV screens and videos**

A TV corner could be created on the first floor where different kind of videos could be presented. For example, elder people could narrate stories about their childhood and the usage of the exhibited objects, combined with photos from the past. The video could have English subtitles. This proposal could also help the people with disabilities.

**Reorganizing a room**

It is necessary to create a room for students, where they will be free to sit down and do activities based on technologies. Interactive Data Tables could be introduced. Using interactive data tables is similar to the way people handle objects in the physical space. The geographical, historical and archaeological data elaborated through GIS spatial analysis, archival material, photographs and plans narrate in a multidimensional way the evolution of man-made environment and present natural phenomena in the area as well. The interactive surfaces using time and historical enrichment and pictorial representations of ancient art, show schematic illustration of major events, such as battles. The interactive surfaces present all information data multidimensional and multifaceted, so that it is easy to be understood by all visitors and covering in parallel different levels of knowledge input.

**Documentation/ Digitization**

The advent of the internet has brought with it a fantastic opportunity for museums to document and photograph their collections and allow them to be seen beyond the actual space of the museum inside people’s homes and offices around the world and also on mobile devices on the move. The museum owns 6000 objects and only 600 of them are on display. By cataloging, documenting and digitizing all the artifacts, the museum can “preserve” its collections and publish them to the public so everyone can have access. The documentation of museum items is a complicated task in ethnographic museums and their classification into categories is a necessary
precondition for the proper organization and administration of collections. The documentation could be based on the owners – donor’s documentation. The criteria of aesthetic and artistic value of the objects were often the dominant. Therefore, their documentation was keeping distant from their society of origin whereupon the objects could serve as information-bearers. The digitization project would serve a lot the primary users and especially the needs of disabled people, so that they can have access to collections which otherwise could not be easily approached and it would also facilitate researchers especially on the early stages of their research. Moreover, the digitization project of the collections is a prerequisite for the production of AR and VR applications and educational games (Lee, Hsu, & Yeh, 2011).

5. DISCUSSION

The Historical & Folklore Museum of Kalamata is a small museum that has a principal role in the preservation of history and folklore of the city, but is in need of major improvements in order to enhance the visitor’s experience. The methodology that was followed, in order to suggest possible technological solutions that will fit the needs of the museum and will attract more foreign and domestic visitors, began with a series of observation sessions during the course of two months (March & April 2016). These sessions had the aim to record the behavioral patterns of the visitors in respect to the architectural design of the building and the exhibition layout and together with the space syntax analysis, the results obtained from the questionnaires, and the interviews that were conducted the identification of the visitors was made possible and their needs were outlined. Possible technological solutions both simple and more sophisticated with a key element their adaptability were suggested in order to enhance the visitor’s experience. Other small size museums that wish to upgrade their technological character can also benefit from these solutions.

In the past few years the needs of large and medium size museums in Greece have well been outlined, but not that much research has been conducted on small size and provincial museums. The research on the Historical & Folklore Museum of Kalamata shed plenty of light in what kind of technological means would be the most suitable for this kind of museums and how they would benefit their users. More research though has to be conducted, and more years have to pass in order to gain a more comprehensive view of the way museums and local tourism will benefit from these technological additions. As far as the present study is concerned, although a large number of data was gathered, it would also be interesting to conduct research during the summer months so as to have more information about the needs and preferences of foreign visitors.
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7. REFERENCES


