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DIGITILAZATION IN THE FIELD OF MUSEUM- IN GENERAL

Introduction

Many authors argue that digital technologies, and particularly the World Wide Web, have great potential to serve the challenges faced by museums in relation to access and audience development, which involves reaching and nurturing both existing and new audiences. The contemporary museum cannot be imagined without many technical and technological achievements. The use of information and communication technologies at the beginning of the second decade of the 21st century became necessary not only for large museums, but also for the small ones. Information technologies helps to solve many, if not all, issues that are traditional for museums. Digital databases facilitate museum registration, storage, and help in systemizing every museum objects, its history of acquisition, use, and its circulation within the museum and outside for its exhibitions, publications and restoration work which it undergoes. Information technologies can also help museums in the presentation of their collections. The forms of presentation can be from producing high-quality digital copies of fragile works (e.g., documents or graphic works, which can be displayed as part of permanent exhibitions) to creating virtual exhibitions showing online which can provide access to remote users as well as people visiting the museum venue.

Many museums nowadays cannot imagine their exhibitions without integrated multimedia elements. These Integrated multimedia elements have numerous functions, from being explanations to bringing the spectator into a certain emotional state involving him/her in the interaction with the museum space and objects.

In the last decade, the world of museums has placed renewed emphasis on education and access to make museums more relevant, inclusive and valuable to society developing it as a platform for learning. In this context, Information and Communication technologies (ICT), and especially the internet, plays a vital role in learning and understanding from the past to the preset development of mankind. Many authors stress the power of ICT to attract new audiences among many the young audiences and the children who have a high appeal to the interactive media. The internet allows global audiences or museums lovers to access museums from even their homes. This would certainly increase the number of visitors in the museum either at the venue or by gaining access from the remote location through the internet.

Aim

The aim of my presentation is to highlight briefly about the digitalization in the field of museum.

Why digitalization is necessary in the field of museum?

In this 21stcentury, the world is changing very rapidly. People wish to have quick and easy access to the knowledge. Despite the eagerness to learn from museums, people find it hard to manage time to visit the museum. This is due to the busy time schedule that all of us our undergoing in our everyday life. The best solution to it is the Internet. The digitalization of museum helps people to gain access to the museums artifacts from their mobile phones or the computers. This is the best and only solution it we wish to keep museum sustainable and deliver knowledge to the learners. We have seen museums using social networks and websites for their promotion but more digitalization and wider access to it is a must to keep up with the changing world.

The need for digitalization in the field of museum can be highlighted as follows;

➢ The Museums exist within an "ecosystem" of Galleries, Libraries, Archives and museums (GLAMs), museums no longer exist as standalone entities.
➢ The role of the museum is changing, in the past visit to a museum used to be a "nice experience" for the students, now it is seen as a necessity to increase test scores.

- Before, there was a "build it and they will come" attitude about museums, just build a museum and it will be the corner stone of the downtown redevelopment, now with online reviews of everything, museums are event based communities that reach beyond their physical location.
- The visit to the museum starts on the internet and returns to the internet after the "in-person" experience either at the venue or through the digital media.
- At a click of a mouse, some of the greatest galleries in the world can come to life in a way that has hitherto been near-impossible when seen with the naked eye.
- The world's great museums are increasingly using the Internet and social networking sites to pique the interest of people who might never think of setting foot in an art exhibition.
- Engaging with relevant content online it actually can be a driver to encourage people to go and see the real thing.
- Many people may never be able to visit museum physically (disabled people, senior citizens, users from other and remote cities or countries, etc.) but they can have a meaningful virtual experience.
- It can also create additional opportunities for marketing research and the development of museum visitor strategy.

Digitalization in the field of museum

There has been a rapid digitalization in the field of museum and much more is yet to be done on it. Primitive museum management involved a limited use of computer and much were depend on the manual log or paper entries. These days museums use computers not only in the museum management but also to facilitate museum visitor so that a visit to the museum can be interactive and informative.

Present day staffs at the museum are expected to be computer literate and have knowledge in variety of computer applications. Administration works, communications and various other works as a part of museum management is done through the computers. The digitalization is being rapid and now the challenge is to go beyond this. The time has come to broaden the horizons and not limit museums to the social media or web presence only.

The museums' systematic work on promoting their activities by means of social networks is also just beginning. Moreover, museum websites are not always seen as an important part of the museum's brand. Many museums having their own websites do not use their potential for anything except informing about the events that take place at the museums. The best examples of museum websites show that the website becomes an alternative opportunity to get acquainted with the museum and its collections for the users.

Only a few museums, mainly large national ones, have special information departments for information technologies. The information technology for the museum should be such that it enables visitors to have access to all museum artifacts and provide details on it. The feeling should be such that the visitor is actually visiting the museum venue even though it is a virtual one. It should also provide a 3D image of the artifacts and have a platform for communicating with the museum staffs. This certainly helps in the expansion of the museum audience and their understanding about the artifacts in the museum wherever they may in the any parts of the world.

Thus technology has allowed museums to express their missions to a wider audience, and to fulfill these missions in a variety of new ways. Technologies have also been adopted and modified to meet particular functions of the museum. The use of new technologies in the field of museum have three main functions, namely, **Administration**, **Collections** and **Collection Management**, and **Audience Services** are mentioned on subsequent paragraphs.

Administration

New technologies have helped to support many museum administration functions which are mentioned below:

- **Facilities management, events planning, and ticketing** Over the last few years various software packages have been designed to support functions related to planning and managing events, as well as ticket sales and registering event goers.
- **Fundraising, membership and donor relations.** The management of donor relations is one of the most important museum activities because, the survival of the museum depends on the institution's ability to cultivate relationships with donors and to attract potential supporters. Most event management or ticket

sales software gathers information about members and visitors, and some of these packages have begun to integrate these functions with support for donor relationship and fundraising.

- ➢ **Advertising and Promotion** There are several reasons for any museum to develop and maintain a website: to establish a presence; to network; to present information to the public. Many also stressed the importance of websites for advertising and promoting their institutions.
- ➢ **Publishing** In addition to online tools, many museums continue to publish materials in print format for sale or promotional purposes. Larger institutions that publish in-house rely on specific software to facilitate the design and layout of publications and to produce print or digitized final products.
- ➢ **Collaboration** Institutions, for example, might introduce project management software or Intranets to facilitate information-sharing and the management of projects, or chat programs to allow for geographically dispersed real-time communication. Social networking tools are also becoming more commonplace within the museum workplace, as more professionals are accepting these technologies as solutions for collaborative project-based work.
- ➢ **Information Technology** Larger institutions tend to have information technology departments with professionals who have expertise in website development, multi-media applications and/or collections management software. Regardless of size, most institutions customarily outsource at least some of their technology needs to third party providers. Website design, for instance, is commonly outsourced to a third party specializing in this activity. Nevertheless, recruiting and retaining IT expertise is a common challenge for most museums. Museum professionals also need to know how to choose appropriate technology for the task at hand. Information technology seems not to be a core function of the museum, and therefore it does not always receive adequate funding. Hence, Information Technology should be the main component of museum.

Collections and Collection Management

- ➢ **Information about Collections**. Collections and information about objects are a fundamental component of all museums; accordingly, the care and documentation of these collections are an integral part of museum work. The collection resides at the core of any museum's work; hence, many museums have committed to building databases, and/or strengthening metadata to facilitate access to their collections amongst researchers, the public, and other museums.
- ➢ **Collection Management Systems** Computers have supported the management of collections since the 1960s, however, these systems have evolved in sophistication since the 1980s and 90s. These systems are often the backbone of any museum. Museum professionals must have a good understanding of how collections are maintained and managed, and how information about these objects is recorded in a collections management system (CMS). A CMS typically records:
  - Administrative information.
  - Transactional information (such as accession, loan and de-accession).
  - Descriptive information.
  - Information regarding provenance.
  - Condition information.
  - Donor and valuation information.
  - Rights information.
  - Location and movement information.

- ➢ **Digital Imaging** The creation of digital surrogates, and the management of digital born museum objects, provides both existing opportunities and challenges for many museums. The advantages of digital information representations include the ability to make a virtually infinite number of perfect copies of digital surrogates, and transmit them great distances with no loss in quality; to offer new levels of interactivity between objects; to take advantage of hypermedia and multimedia to remove objects from the constraints of physical space and present arrangements impossible in physical galleries; to provide remote access to information resources for visitors, scholars, researchers and students; and to target unique information needs by either broadcasting information resources to wide audiences or narrowcasting information resources to individual users. However, to reap these benefits museums require expertise in creating and working with 2D and 3D images. The 3D authoring tools, such as a 3D camera, allow museum professionals to create a three-dimensional image of specimens based on data models.
- ➢ **Digital Art** New media art is one area requiring particular attention, especially with respect to how the cycles of life of ephemeral objects are recorded. While digital surrogates have forced some museums to re-conceptualize ideas about objects, audiences, and their roles in society, digital born material, such as

digital art, has also raised questions about traditional categorizations and the relationship among curators, conservators and creators.

Audience Services

The development of Web 2.0 technology has provided museum professionals with new ways of thinking about connecting with their publics online and involving these publics in the museum environment. The interactive web and new levels of connectivity, museum visitors access the museum before they physically visit it, and continue to visit the museum website after they return home. Following has to consider on audience services;

➢ **Onsite Visitors** Exhibition teams should include members of the IT department so these teams have adequate IT expertise at all stages of the development of new exhibitions. Museum professionals need to know how to work with kiosks and build new applications for their use. The development of kiosks and other interactive components requires multimedia-authoring expertise. Multimedia authoring describes any process adopted to produce multimedia applications, such as interactive online exhibits, tutorials, brochures, videos, walk-through demonstrations, or business presentations. Software that helps curators visualize the three-dimensional space of the gallery and museum artifacts. The main aim should be to attract the onsite visitors.

➢ **Online Visitors** Museum websites can enhance visitor experiences and provide opportunities for visitors to contribute to the museum. Moving exhibitions online and out of the physical museum space has had a transformative impact on cultural heritage institutions. Web 2.0 and social networking are perhaps the most significant and growing set of new technologies in the current landscape. Web 2.0 refers to a second generation of design and development that facilitates communication, and secures information sharing, interoperability, and collaboration between a host and the public. Geographic information systems have also been used in conjunction with online exhibits in a Web 2.0 environment.

Some examples of digitalization in museum

The digitalization in museum provides an opportunity to any person from any parts of the world to gain access to the museum and know more about the artifacts present there. Listed below are some examples which are currently using digitalization in the field of museum.

➢ The LIDO format (Lightweight Information Describing Objects) was designed with the participation of ICOM CIDOC specialists as a response to the demand from museums that had accumulated considerable amounts of digital information to publish descriptions from their internal databases in the Internet. The translation of the LIDO format into the national languages of the CIS countries will make it possible for museums to substantially ease their work on publishing collections on their own websites and to join international projects aimed at the preservation and publication of cultural heritage (EUROPEANA, MINERVA, and others).

➢ The Department of Culture, Media and Sport(DCMS) of UK government requires all government-funded museums, and the national museums in particular, to adopt access and audience development policies and to make the best use of ICT. The UK government is committed to the provision, and funding of digital learning networks, the creation of digital cultural content, and universal ICT access (internet in 2005 and digital TV in 2010 as targets), establishing the necessary conditions for the development of the digital dimensions of museums.

➢ The National Maritime Museum, UK also addresses the specialist audience through e-publishing (*The Journal of maritime Research*, an academic publication available online on subscription) and a subject gateway (PORT, an associated website) offering access to comprehensive online resources on maritime studies selected in terms of their quality by subject specialists at the museum.

➢ At the Natural History Museum, UK, for instance, the website fulfils an important role in providing content for professionals and enthusiasts, an audience that is not well cared for in the galleries (which are more targeted to tourists and families). It includes a portal to a comprehensive index of natural history information resources on the web; and the "Museum Data Locator", a facility that allows for searches of many of the museum's databases.

➢ In UK, the National Gallery, the National Portrait Gallery and the Tate Gallery websites have invested in extensive and exemplary online collection databases. New data, features and search tools are continually being added to improve the service provided. These websites offer a range of tools to aid searching and exploration of collections, accommodating different needs, interests and levels of knowledge. They all

report high levels of usage of collection information, demonstrating a good public response to this approach.

➢ The Tate Gallery, UK is developing a groundbreaking project involving a digital educational resource for a visually impaired audience, to help them to explore some of the ideas, innovations and working methods of Matisse and Picasso.

➢ The adapted Google Street View camera is pictured during the launch of the new "Google Art Project" website, at the Tate Britain gallery in London, on February 1, 2011.

➢ The Louvre in Paris, a true giant of world culture and home to Leonardo da Vinci's Mona Lisa", spurned Google's advances and chose instead to build up its own website, which currently receives 11 million visits a year, compared to 8.5 million visitors in the flesh.

➢ One step in that direction has been the launch and ensuing redesign of the museum's smartphone app, called Explorer. Originally developed in 2010, the museum officially re-launched the app, filled with reimagined content like behind-the-scenes trivia and virtual games.

➢ The National Museum of the American Indian, which provides an English and Spanish mobile tour, and includes slideshows and video in versions for both children and adults.

➢ Another is called Yves Klein: With the Void, Full Powers (produced using the Tour a apps platform) that provides an overview and insights into select art pieces with hi-res images, video, audio and quotes directly from the artist. This app traveled with the exhibition to the Walker Art Center, and they were able to add more content to the app specific to their own installation of the show.

➢ The Set in Style iPad application showcases 65 of the 350 objects on view in an exhibition at the Cooper-Hewitt National Design Museum in New York, including jewels, timepieces, and fashion accessories by Van Cleef & Arpels. The app Artists in Dialogue 2 for the National Museum of African Art provides a mobile tour in English, Brazilian and Portuguese.

➢ The Smithsonian released a crowdsourcing app called Leaf Snap that encourages users on the Eastern Seaboard to take photographs of leaves with their smartphones, identify trees from a vast database and then upload these to a central location, automatically tagged with GPS coordinates. The data helps researchers a better picture of the distribution of species across the region while also honing people's skills and knowledge in identifying trees in a fun way.

➢ VR and AR are the two most interesting and most likely to be fruitful new technologies for museums simply because you're able to enhance what someone is seeing through their phone.

➢ The Powerhouse Museum in Sydney hosted developer hack days where experimental applications have been built using their collection API and when Layar first launched, a Sydney-based AR company called Mob Labs developed an AR layer of historical photography for the museum.

➢ The Powerhouse has been experimenting with the mobile web for a few years now, and recently incorporated QR codes in the Love Lace exhibit. There is also the Love Lace App that can be used in the gallery to add an information layer for visitors without overwhelming the exhibition design with text. The Love Lace website serves as a hub for before and after visiting the museum.

➢ The launch of the Google Art project, taking the cameras used in its Street View site through the doors of 17 museums including MoMA in New York and the National Gallery in London, is the just the latest move into the Internet.

➢ The Royal Ontario Museum and the Art Gallery of Ontario, UK, both have YouTube channels on which they post videos to announce upcoming exhibits, highlight recent acquisitions, and advertise educational programs. The Art Gallery of Ontario distributed a number of short videos to promote its special Valentine's Day events via this channel.

➢ Software such as The Raiser's Edge and eTapestry integrate online ticketing and admission functions with support for membership, retail point of sale and fundraising.

Conclusion

The internet is used by people of almost every level. Students use it as allusion of their course stuff, officers extract information for their presentation, teachers adopt the teaching techniques through it, some people use it for research works and others use it as a source of communication. Information on museum can also be found in the internet. The internet can deliver the methodical, devout, cultural, national, historical, ethnic and assorted aspects that we see in museums. Museums must find new ways to engage and excite visitors.

In order to preserve and pass our past the museums now must think of future in order to attract more visitors to its galleries either onsite and online. For many institutions, the digital revolution has required a complete rethinking of the museum model and a new digital mindset that filters through the entire operation. Technology should be used to serve to enhance the visitor's understanding of a museum's collection.

It is a good sign that museums are exploring digital and mobile technologies to enhance the visitor's experience. Much more needs to be done to preserve the past history of mankind and pass it to the coming generations. Internet and technology can be a vital tool in this process. An interactive access to the artifacts of museum, its 3D presentation, its certification, history and database all are possible with the use of internet either it be online or through remote access. This is the only way for effective delivery of learning and keep museum sustainable and alive.

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