

**Visible storage at Egyptian Museums Case Study:
Grand Egyptian Museum**

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Abstract:

Visible storage as a model of museum practice started in Canada and then expanded to the rest of the world, according to this idea the public is a real owner of the museum collections and therefore should have the right to have full access to them.

The research contains an introduction that contains an explanation of the idea of the topic and the reasons for choosing, research methodology, and research structure, research survey, analysis results, conclusion and recommendations, pictures showing the ways of storing antiquities inside the Grand Egyptian Museum and the tools used in the storage process and antiquities stores inside the Museum's Restoration center and models of visible storage in international museums and finally pictures showing the area of antiquities stores in the Museum's restoration center after submitting a proposal to implement the idea of visible storage.

The research also reviews storage operation and how to benefit from storage artefacts to researcher and how to make access to stores at Grand Egyptian Museum by physically and online programs.

Keywords: visible storage, looking through glass, museum stores, storage artefacts, open museum storage, storage operation, storage unites, museum from home, risk management, public access, physical access, online access, Ethic policy of Grand Egyptian Museum stores.

Introduction:

Museums storages are the hidden treasures of the museum, have you ever consider how many treasures of the museum collections are hidden into their storages for the exclusive view of the few lucky ones (staff and scholars).

Many international museums have a goal to change this situation, the *open storage practice*. It means display part of museums area and their collection which in stores or would normally not be on view to the public while making tens of thousands of objects available to visitors represents a great leap forward in accessibility. Museums have a huge amount of objects behind the scenes in their stores. They are getting better at opening up collections stores as the sector comes to realize that improving access is necessary if they are to make the most of their “hidden” objects and attract new audiences. It is also useful to show the public just how many things museums have to look after and how expensive it can be to store everything.

The open storage as a model of museum practice started in Canada and then expanded to the rest of the world, according to this idea the public is a real owner of the museum collections and therefore should have the right to have full access to them.

There is another name for this technique used in museums visible storage it is the placement of the artifacts stored inside glass storage units to be visible to visitors, visible storage cases tend to be densely packed and with less explanatory material than in conventional displays. In addition, they may exceed head height making smaller objects difficult to see. The cases are often located in spaces that were previously unused or unsuitable for conventional display cases. The cases may be curving, cylindrical, packed closely together or positioned down the centre of existing galleries. These cabinets consider as cabinets of curiosity or wonder room to entertain visitors.

But unfortunately, this goal not apply in Egyptian museums, ten percent of objects are display in a permanent exhibition and the rest of collections stored in a store of museums as it says exclusive view of the few lucky ones (staff and scholars) That is the reason why it wants to discuss this goal and how to apply at Grand Egyptian Museum in order to achieve the idea of the museum for everyone.

This paper first discusses store objects how to deal with, then goes on to Grand Egyptian Museum stores at conservation center, finally discusses the ways to make the storage collection visible to all community.

Research significance

This research redounds to the benefit of the museum stores, the role of museum in using the store pieces to serve the researchers.

It also demonstrates a new form of stores equipped on modern, sophisticated foundations to preserve the integrity of antiquities, which are the stores of the Grand Egyptian Museum.

It will be benefit to the museum sector in Egypt. Therefore, the research represents a visible storage or open museum storage at international museums and how to apply this idea at Egyptian museums in order to provide safety for antiquities and easy access for the visitor to all the artefacts in the museum, which increase the connection between the community, the museum and achieves the idea of an open museum without any restrictions.

Research objectives

This study aims to:

1. Shed light on a museum's stores, storage process, storage unities, and storage environment.
2. Shed light on grand Egyptian Museum stores and design criteria of storage unites at GEM.
3. Discuss storage process at GEM, and storage environment.
4. Definition of visible storage.

5. Use different examples of visible storage at international museums and explain how they apply visible storage.
6. Create a new exhibition to the storage area at Grand Egyptian Museum by using all elements such as narrative, design, recent technology such as Audio- Video.

Research questions

Main research question

- How can visible storage be applied in the Grand Egyptian Museum and Egyptian museums in general?

Sub- research questions

- What are the uses of stored artifacts?
- Who are the target visitors to visit the antiquities store area?
- What are the security measures that can be implemented to implement the idea of visible storage?
- What is the necessary equipment of storage units and explanations inside the stores that serve the idea of visible storage?

Research Methodology:

On electing the implementation of the visible storage, open museum storage. I choose Grand Egyptian Museum conservation center to be the place to implement an idea of visible storage, categories of artifacts, storage unites, size of stores at GEM-CC and the provenance of artifacts to use a same collection in a showcase.

Primary data are the theoretical data collected from several books, articles, Journals and websites.....etc

In order to identify the idea, I used the museum's database and photos from department of photo at museum which helped me in gathering information.

Regarding the plan of the new way for storage, I took different examples from international museums such as Glen bow museum, Metropolitan museum....etc

I used their websites, blogs and articles and in some cases contacted them in order to have a clear vision about the way of storage. I faced some problems in collecting data because museums website sometimes did not provide sufficient data. My previous experience in working in museums such as the Egyptian Museum and Grand Egyptian Museum also helped me to know visitors needs and satisfy them.

Methods of storing artefacts inside stores at international museums inspired me to make a vision on how the visible storage in GEM will be.

International museums website inspires me to know the programs it provides to explain and display the artefacts in the museum. I apply those programs to display the artefacts stored inside the museum's antiquities stores.

Interview: interview with a member of museum renovation committee. Open questions will be conducted with him to know more about the renovation process of stores at GEM-CC.

Questionnaire: A questionnaire will be designed and distributed to the visitors and the curators, the aim of questionnaire to evaluate visitor's feedback and opinion about visiting storage area, the questionnaire will include fourteen questions.

I will add asks a set of questions related to the implementation of the idea of visible storage, the answers will be at conclusion and I put some recommendation in order to implement a visible storage at all Museums in Egypt not only Grand Egyptian Museum.

1.1 Definition of storage space, storage objects and storage operation

It is a dedicated space used for storing museum objects, natural history specimens and archival materials. This space is designed or upgraded to meet standards and requirements for the preservation, protection, and accessibility of the collection. Museum collection storage is both a physical space and an ongoing process.

This space is designed or upgraded to meet standards and requirements for the preservation, protection, and accessibility of the collection. Collection while it is in storage. The process involved when creating a collections storage area usually involves determining the available resources, the needs of the specific collection, how the collection will be used, and the necessary space required based on the current collection and potential future acquisitions.

(Robert 2012, 102)

The accessibility of objects in storage, as well as the need to retrieve them, will have an effect on the type of storage space desired. If only a small portion of the collection is regularly utilized, then a separate more easily accessible storage space may be chosen for these objects, while less utilized objects may be held in a less accessible area of the building, or an offsite facility.

In either case, collections storage spaces are typically separate from all other activity in order to decrease the potential for damage to the collection from theft, tracked in soil, excessive light exposure. (Laura 2007, 34)

1.2 Museum stores, purpose & mission statement

Museum collections represent a unique resource. The collection represents the people and their ideas because the objects are manifest stations of the attitudes and beliefs of society. (Mahmoud 2004, 60).

1.3 Access to collection:

Museum should ensure that the museum and its collections are available to all during responsible hours and for regular periods. (Geoffrey 2006, 6)

Museum must give the public reasonable access to collections in this section; the museum usually explains who has access to what and why and denotes how those collections will be used, museums have a practical responsibility for making collections and all relevant information available as freely as possible.

Having regard to restraints arising for reasons of confidentiality and security. (Geoffrey 2006, 19)

Museum stores design standers

Museum professionals recommended that museum stores function as a part of the museum, storage facilities require special design consideration for a number of reasons, most notably that the value of the building's contents often exceeds the value of the building itself.

Even a minor shortfall in building performance with respect to heat, air, and moisture control can compromise the collections. Collection storage area protects objects against harmful factors in the environment, accidents, disasters, theft, and preserves them for the future. So that there are many standards must have in every museum such as easy access to storage, it should be well lit and well ventilated, apply the causes of fire prevention. Isolate it well from moisture and atmospheric factors. (Sandra 2001, 102)

The environmental conditions of the museum storage areas have been shown to be the most crucial factor, concerning the preservation of collections and artefacts. (Pavlogeorgates 2003, 6) For these reasons collection storage is not dead space where nothing happens, but is space where preservation of collection actively occurs.

Collection storage areas should be located internally within the building, it is accessible through secure corridors, and antiquities stores are often in a secluded part of the museum the storage space is wide and suitable for the antiques stored inside it. It is designed with insulating walls and floors so that the antiques are not affected by temperature, humidity and lighting. (Ladkin 2004, 23) Passive climate control has mostly been used for archives and museum stores in both historic and modern buildings; the fundamental requirement for natural climatic stability in a building is a large thermal inertia, usually provided by heavy walls. A second requirement is moisture absorbent surfaces able to stabilize the relative humidity (RH) against the variable water content of the ventilation air. A third requirement is that the building must provide natural temperature uniformity, with no cold corners. (Ryhl-Svendsen, Jensen, Larsen and Tim 2007, 280-282)

2.1 Definition of visible storage (open museum storage)

Visible storage is one method of maximizing public access to museum and art collections held in repositories and store rooms. Visible storage referred to an open storage is a method of making collection museums without borders, is a method of displaying storage artefacts to develop museum's stores core value by turning museum in -out side with beautiful visible storage. Visible storage might more correctly be termed compact or dense display (FERNYHOUGH 2017, 433) Many museums display only a small fraction of their collection to the public while collections in storage may be available for research the need to increase access and promote relevance of collections has made visible storage of a larger portion of collections available alternative to traditional storage. (John 2001, 80)

Visible storage believes that it is important to show as many artefacts as possible to gain all categories' visitor' satisfaction. There are two types of visible storage:

Display artefacts in an area of museum and doing public access to collection with visible storage using a glass showcases. That invite public visitation must design to accommodate the need and satisfactions of visitors, Visitors are welcome in tours, or during surprise programs and events. Artefacts storage space should have a control environment as we mention at chapter one to store and display the museum's artefacts. When, the artefacts are securely stores usually in secure glass cases to provide visual access. (FERNYHOUGH 2017, 434) The open museum-visible storage as a model of museum practice started in Canada at *Glen bow museum* and then expanded to the rest of the world.

Advantage of visible storage facilities (Glasses showcases):

Allows the public and communities to view artifacts, create an atmosphere that makes artifacts feel like treasure lacks the interactivity of exhibitions.

Disadvantage of visible storage facilities:

Additional security measures must be taken; secure, visually accessible (usually glass) shelving. (FERNYHOUGH 2017, 435)

The American alliances of museums'(2010) “museums are *to provide public access to its collections while ensuring their securing*” actually suggest ways to provide access including “temporary exhibition, digital online tours, educational programs, publication, electronic media and research”. The concepts of visible storage build upon the democratization of museum collections. (Dawes 2016, 15-18)

Visible storage increase public engagement helps the community to connect with the museum, whether it is implementing from website of the museum or physical visible storage at museums which allow visitors to visit without limits, as well as interacting with the open museum display through the museum's websites.

All museums add online programs that allow the average person to interact and add such as educational programs, historical, culture lectures which increases the ordinary person's association with museums. (Wiedemann, Schmitt and patzschke 2019, 199) Museums are using visibility and media presence achieving marketing goals. (Wiedemann, Schmitt and patzschke 2019, 202) The museum curator is responsible for developing the stored collections by interacting with public through museum's website by interpretation methods. (Suzanne and Stevenson 2008, 65-67)

2.1 Visible storage at Glen bow museum in Canada

Glen bow is located in Calgary, Canada, respect the history, language, traditions and culture of the nations on whose traditional land.

Collection of the museum spans the human experience from the stories and cultures of Canada's first peoples to the lives of newcomers to Canada, to the modern era of rapid change and the insights of contemporary artists in the 21st century. (Glen bow ET al.2021) Between 1978 and 1981, Glen bow museum, prepared and constructed a strong exhibit system called visible storage. This system is to allow the public total visual access to museum collections. This formula assumes that the public has the right to complete access to its cultural heritage.

Glen bow's design and final product were built on these assumptions, but as a prototype, it featured only on area of the collections. They target ethnographic material, especially Cree artefacts. The museum was composed of an interpretative programs space, a large crescent- shaped didactic area, and an adjacent series of drawer units. The interpretive programs' area featured storage cupboards for school programs and audio-visual facilities. The didactic area was a long crescent shaped display case composed of a wooden base and frame faced with large sheets of heavy glass. Objects were arranged according to type and culture; labels were minimal, placed beside or below the artefacts. (Dennis 1995, 13-15)



visible storage at Glenbow museum in Canada

After: (*glenbow, 2021*)

Visible storage at Brooklyn Museum

The Brooklyn Museum is one of the oldest and largest art museums in the United States. Brooklyn museum's open storage that opened in 2005, museum is one of the dynamic constituents of New York's museum life. In this open storage the visitors have the opportunity to see about 2000 objects of the museum's collection in terms of design, this open storage uses different storage systems, depending on the material and size of the item.



Visible storage at Victoria and Albert Museum at London

Another European example is the visible storage of Victoria and Albert Museum in London. It was created in 1994 for the collections of ceramics and glass it was redesigned in 2010. It is one of the first European museums to implement open storage practice. Its design is simple and retains the feeling of the museum's backstage, and it is characterized as one of the most successful examples of open storage. The objects are very densely placed on top of each other on shelves covered by a glass divider. This is a technique that is called open storage 'walks-in' where there is a corridor between the showcases. In this case, the dense placement of objects gives prestige to the collection and aims to impress visitor through the presentation of its range and Variety.

The V&A has a strong reputation as an innovator in the conservation, display and interpretation of objects, but there are many good reasons to experiment and innovate in this area. Researching and trialing new modes, methods and meanings for access to collections will mean thinking about experiencing both collections and our knowledge of them in ways that go beyond the age-old museum tightrope of 'access versus preservation.

Supporting our visitors to be participatory 'research curators' will mean finding new ways of enabling the access we can give to our objects, making our own knowledge more visible, and intersecting analogue and digital in much more meaningful ways.

Next to the open storage there is a study center, allowing researchers to require an object they would like to study from the open storage. Taking a fresh look at traditional forms of museum display and interpretation, this project will help design experimental strategies to increase interactivity and engage the senses of the visitor. Experiencing V&A collections goes far beyond close quarters with individual objects, and we plan to experiment with radical new options for large-scale visible and accessible storage. We will develop sustainable exhibition models designed to be implemented in the Museum and exportable to a wide variety of different institutional and social contexts (including pop-up shows and mobile displays). As we plan new storage facilities and new galleries in London and elsewhere, we can create active and visitor-driven contact with collections and design experiences that take place in a range of contexts – both physical and virtual. (Martha 2019, 100-102)



visible storage at Victoria & Albert Museum

After: (Victoria&Albert, 2021)

Visible storage at Everhart museum- natural history science of art

Founded in 1908, the Everhart Museum is one of the oldest museums in North-eastern Pennsylvania and part of the early 20th-century regional museum movement. Monies and initial natural history collections were provided by Dr. Isaiah Fawkes Everhart, a Scranton physician and Civil War veteran. Everhart conceived that the Museum would serve not only the immediate City of Scranton but the whole of Northeast Pennsylvania. The Everhart Museum has approximately 18,000 objects in its collection. Of that, the Museum displays up to 1,000 objects, which means that a little less than 6% of the entire collection can be seen by the public on any given day. While this low percentage may be the norm for many modern museums around the globe today, this was not always the case.

The first museums started in private homes that often only had a small cabinet or room used to display treasures and oddities collected by the home owner. These “Cabinets of Curiosities,” also known as wunderkammer or “wonder rooms,” began appearing during the Renaissance and were essentially the precursors to the modern museum. The types of collections exhibited were often encyclopedic in nature and ranged from small statues to natural history specimen to works of art and even religious relics. Collectors would use these “wonder rooms” to entertain visitors with tales of their travels, especially during a time when international travel was not common. As “Cabinets of Curiosities” continued to develop, they became more than just a random assortment of objects and oddities; collectors began to give an order, or hierarchy, to the objects they owned – organizing things by shape, color, size, or likeness. The collector’s selection of objects told a particular story of their explorations and how they viewed the world. (Barbara 1993, 200) .

Many of the first “wonder rooms” focused on showcasing 3D objects. The style could be described as crowded or cramped. Two-dimensional works of art like paintings were displayed in a very similar fashion.

Since the main goal of collectors was to showcase as many objects as possible, paintings were hung in densely arranged groupings that would fill up entire walls with little space in between. This type of display technique is known as “salon style.” As time progressed and public museums emerged, this type of overly saturated display transitioned to the display of only a small selection of works at one time. This also likely had something to do with the fact that many institutions now had sufficiently more space to store collections not on view.

3.1 Grand Egyptian Museum stores

The Grand Egyptian Museum (GEM) is currently one of the largest cultural projects in the world, and the world's largest celebration of paranoiac history.

The museum is designed to be a platform of dialogue for the cultural wealth of Egypt and its contribution to the world. In February 2002, the foundation stone of GEM was laid; thus announcing to the world that Egypt is committed to build a significant cultural monumental building, and sending a global message that the Egyptian civilization will always be a source of enlightenment to the whole world.

In 2002, it was announced the launching of an international architectural competition to design the largest museum of Egyptology in the world, on a site neighboring the timeless pyramids of Giza.

3.2 Design criteria of storage unites at GEM-CC stores

The role of stores preserves culture heritage, of the criteria and methods to install spaces that will assure the fulfillment of their main functions.

The type, quality, and durability of the storage systems, as well as the good utilization of the space allocated for storage, provide an opportunity to implement the idea of open display.

Each museum has a unique role in the storage process through which it can develop the collection, as each museum must estimate the storage area and use it in the development of high-quality units commensurate with the nature of the stored pieces. (Johnson and Hargan 1979, 11-12)

Many museums work to estimate storage areas and develop the storage area itself by exploiting the high ceilings of the warehouse and building the mezzanine as a second floor in which units are placed to store antiquities that can be accessed by stairs. (Lambert and Mattus 2014, 4)

Policy of shelving:

Avoid causing new wrinkles or creases on materials, use appropriate stuffing for materials vulnerable to deformation, use appropriate supporting device for materials to stay upright as needed, use storage boxes and underlay sheets to save labor, use space efficiently, stay alert for early discovery of past damage.

As for GEM stores, as a case study, which residence on an area of 12 thousand square meters, General storage are 6 rooms, storage capacity are 100000 objects it includes (inorganic, organic storage and human remains).

As I mentioned before, is characterized by high ceilings, which allows the establishment of budgets later as a kind of refinement of the archaeological collections stored inside the stores in case of increasing the artifacts.

Because of the shelving in order of receipt, materials of different shapes, sizes, heights and weights are mixed together.

The storage units inside the stores are varied in shape and characteristics, including the movable metal shelving on a rod which painted with MINA, which is divided into an exposed shelf from the top for storing medium-weight antiques and equipped with barriers to prevent the piece from moving inside the unit while it is being moved.

The unit from the bottom is divided into eight drawers for storing small-sized pieces such as coins, shabties (small statue), papyrus...

There is another type of unit consisting of several exposed shelves used to store heavy artifacts; it's a mechanical stability; load capacity, unit sizes and materials, shelving with containing edges, proper sliding of moving unit or drawers.

-Upper shelves for light medium-sized materials.

Material can be handling by one person.

-middle shelves for small materials and flat materials. (Shape of store unit)

-lower shelves for large, tall or heavy materials

light ↑ ↓ heavy	Medium -sized
	small
	small
	small
	Medium -sized
	large

One of storage system is never leave objects on the floor; wooden bases made of treated wood are also used to place coffins, heavy statues, and huge jars such as amphora.

As for the controls and procedures for opening and closing antiquities stores:

The Antiquities Store shall be opened with the approval of the Executive Director of the conservation Center or whoever is authorized by him through a committee headed by the Director of the Antiquities Covenant and the membership of at least two of the curators holding the antiquities preserved in the store and the head of the store and the supervisor of the museum's security.

In the store and this is recorded in the book of conditions of the antiquities stores.

It is forbidden for all keepers; officials of the antiquity era and heads of antiquities stores to open antiquities stores permanently in the following cases:

The committees formed by the competent authority that are assigned to have specific tasks inside the stores.

Deposit of antiquities received from museums, archaeological areas, and various museum stores.

Handing over the antiquities to the officials of the restoration laboratories to carry out the maintenance and restoration work on them.

Store the antiquities inside the storage units of the antiquities store.

Secure stored antiquities at GEM-CC stores

The first of the security aspects that must be addressed is theft; the museum's antiquities store at GEM are fully equipped with three-dimensional surveillance cameras that are monitored through the control room by the security personnel in the place.

As for entering the stores, entry is not permitted except for the museum's work team. Visitors are not allowed to enter, and only researchers are allowed to enter, as the student leaves his personal data at the entrance gate and his personal items are examined through electrical testing devices. (Figure 8) And the opening of the stores has done with access cards.

As for the second factor that must be addressed in terms of security, it is fire. Most museums in which fires occur are caused by damaged and unsafe heating plants and dealing with flammable and smoking liquids. (Johnson and Horgan 1979, 22-24).

Public access to collection storage

The content of this part explains how to allow entry into the museum's stores area

Physical access to collection storage, in the first it must consider physical space; visible storage might more correctly be termed compact or dense display. Generally visible storage takes up more room than true storage.

Due to the need for wider aisles for public access, and because boxes can't be stacked, or full storage height utilized if small items are to be seen.

Must consider how much square footage is available, how much vertical space is available, how do people work on the space.

Oversize collections; they already require lots of space around them. (John 2001, 25)

In case study Grand Egyptian Museum, we can make physical access to the storage area, as most of the visible storage conditions are available in terms of the ease and breadth of the corridors leading to the stores, as well as the spacious warehouse areas and the ceiling height that is commensurate with the placement of the high width and the breadth of space that allows movement in the place between the units.

Proposal of future visible storage (open museum storage) and develop museum's stores core value

The proposal here contains the implementation of the idea of an open store display in the stores of the Grand Egyptian Museum in order to develop museum's stores core value, turning museum inside- out with beautiful visible storage. The proposal is submitted to be implemented in the antiquities stores area of the restoration center, and given the distance between the restoration center area and the museum halls, this renewal in the store display will benefit the repetitive visitor to visit the museum more than once because every time he wants to see what's new inside the museum.

As we mentioned in the previous point that the museum's antiquities stores were not available to the public, but in realization of the idea of displaying the open store in order to develop the store area and increase the communication between the public and the museum, I will present this proposal through the use of visible storage methods and interesting methods of explanation for the visitor while preserving the security measures to preserve the secure of the artifacts.

With regard to the longitudinal corridor leading to the six antiquities stores in the museum, it has two entrances, which are iron doors, but it is better for those doors to be made of glass to allow the visitor to see the pieces exhibited in that area and the doors are secured to maintain the safety of the antique.

This space target, the coffins from Saqqara will be displayed; They are the product of a new archaeological discovery in Saqqara that was unveiled in January 2021 wooden coffins in excellent condition inside them were mummies of priests dating back to the late Pharaonic era three thousand years BC, the coffins are decorated with funerary inscriptions, which are amulets to protect the dead and for the other world to cross peacefully in the other world. Some coffins have a gilded face, and the mummies are covered with decorative car tonnage covers It was transferred to the Grand Egyptian Museum in March 2021. (BBC et al .2021)

As for the storage units used inside the store, exposed units are used to store heavy antiquities such as pottery, coffins and wall inscriptions.

The small pieces are inside closed inserts and the pieces are not visible.

as for the six stores, it currently has metal doors that are parts from the inside that are not visible, and it is better to realize the idea of the open store display and put an external display screen at the entrance to the store that allows the visitor a detailed explanation of the contents of the store and the artifacts stored inside.

As for the storage units inside the store, they will be made of metal shelves with two glass containers showing the pieces from the inside in all their details, as we have seen in the international museums, they are used to storing pottery and other heavy-weight pieces.

All these units are fully insured against theft and are not permitted to be opened without the accompaniment of the museum curator.

We explained before with regard to visible storage inside international museums they store objects by categories and size, it can be implemented here by placing pottery vessels and canopic jars inside glass units to be visible to visitors.

And store the objects of similar weight together in one unit such as statues inside glass cabinet to achieve the idea of museum display.

As for small size objects which decorated on a both size, such as coins and shabti can use one of customs solution used in visible storage is pull-out drawers, and use blue lighting as a double- sided feathered display, the inscription on the second face of the piece reflects on the floor when the drawers are opened.

Use pull-out racking for papyrus with blue lighting as a double- sided feathered display. Use a one glass showcase for a group it was revealed from one place, such as copper tools from El Nahasen tomb, here we can use closer look interactive multimedia models It gives the visitor the opportunity, through a closer look, to see the drawings and the historical and artistic backgrounds of the antiquities through a magnifying lens equipped with archive photos or the visitors can see the discovery photos of the tomb by digital screens put beside glass showcase. (Emry 1961, 80) This area can use as an education area to researcher with education facilities.

Exhibit storage objects online

As we make a visible storage to exhibit all storage objects, and enable access to the stores to allow the public total visual access to museum collection. We can also make an online visible storage by exhibit same storage objects through many online programs it means museum from home as applied in international museums, which allows the visitor to enjoy the exhibits stored during COVID-19 period.

Virtual tour

A **virtual tour** is a simulation of an existing location, usually composed of a sequence of videos or still images. It may also use other multimedia elements such as sound effects, music, narration, and text. A video tour is a full motion video of a location. Unlike the virtual tour's static wrap-around feel, a video tour is a linear walk-through of a location. Using a video camera, the location is filmed at a walking pace while moving continuously from one point to another throughout the subject location 3D virtual tours can be created using 3D reconstruction. (Calangne and Jeff 2007, 70-71)

Use virtual tours allow public to explore GEM stores by virtual visits and engagement of community with the objects in stores, fun for all the family engaging kids and their families with some of our special storage. For example, we can make a virtual tour inside stores area by videos or still images. Or by make an exhibition online virtual tour; we make a virtual visit to the prehistory storage collection, the name of tour step into the prehistory exhibition.

Its culture and view extraordinary objects up close, with interactive features and interpretive tools using images, elements from this age, the public will enjoy a rich and immersive experience uncovering the incredible story of Neanderthal; the first human to live in earth. The visitor can book from website at nominal prices as a kind of marketing of museum, education program, and online visible storage. To revive the artifacts stored in an interesting educational framework that communicates historical information well. Tour provides with PDF reference support the visitor with more information about the topic of tour.

For example, virtual tour at The Smithsonian National Museum of Natural History virtual tours allows visitors to take self-guided, room-by-room tours of select exhibits and areas within the museum from their desktop or mobile device. Visitors can also access select collections and research areas at our satellite support and research stations as well as past exhibits no longer on display.

Curator's corner

Its online exhibition for explore the stores objects, applied at louver museum. We can apply it at GEM. Curators are marketers of culture it is for the curators of the museum to explain the stored objects or topics related to the pieces to specialists in the fields of antiquities, scholars and school students.

For example, Curator’s Corner at British Museum about the oldest portrait in the museum by Alexandra Fletcher and one of the museum’s most curious objects.

The British Museum has a wonderful YouTube channel filled with amazing videos (which will certainly be making their way to future EWC articles) as well as some other amazing online resources. First, you can take a virtual tour of the museum with Google Maps. This is a great way to see some of the world’s most incredible treasures right from the comfort of your own home .And second, they have a great visualize where they have cataloged pieces from their connection in a 3D model that allows you to see historical and cultural connections between artifacts found all over the world! In addition, each of the objects there is accompanied by an audio-guide that talks about the artifact’s significance. It’s yet another incredible way to engage with one of the most robust historical collections on the planet, and I highly suggest jumping over there to take a look. (British et al 2021)

Online events

Online events are virtual and highly interactive, where people come together to learn and be entertained on the web. Find an online training course to learn new skills and earn certifications. Stay connected through live streams of your favourite music, games, sports, or news.

Register for a webinar to hear from those in your industry or your community. Attend a virtual fitness class with a live instructor. No matter what you're looking for there's a virtual event that's just right for you. Online events are what most people would categorize as webinars, Go to Webinar, WebEx, Zoom, webcasts, web briefings, Face book live , YouTube live, collaboration with Google Hangout that offers the opportunity of a digital visit in the open storage. The basic idea is that you're getting a group of people together for the common purpose of experiencing content in a live virtual format. (Getz, Svensson, Peterssen and Gunnervall 2012, 56-57)

At GEM we can make online event focus on the museum storage collection focus on luck and unlucky days in Ancient Egypt using storage papyrus taking on the days of optimism and misfortune for the ancient Egyptian.

4.1visitors' survey and feedback by the questionnaire

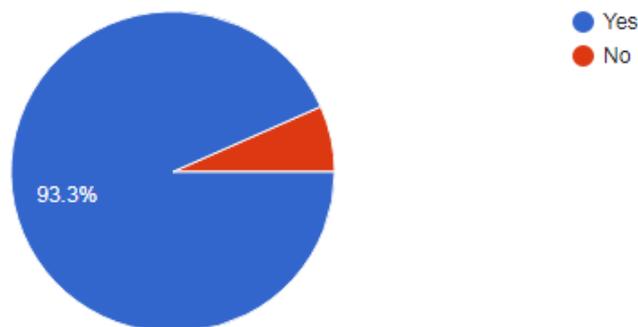
The questionnaire is designed to measure the extent of the visitors' desire to get acquainted with the artifacts store in the museum stores, to know the visitors' desire to participate by attending online programs, and visiting the store's area, and the extent of the benefit from the storage artifacts.

The questionnaire includes fourteen questions the first four questions collect the personal data of the visitors such as gender, nationality, age, and specialization.

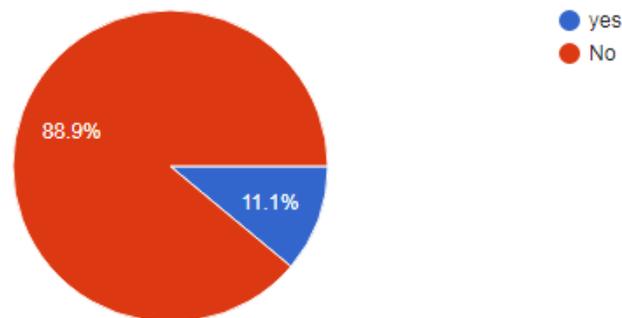
The fifth, the sixth and the seventh questions measure whether the visitor is familiar with the Egyptian museums and international museums, and the time of visits to the museums.

The rest of the questions; from eight to fourteen, measure how do visitors benefit from artefact stores, and visitor's ability to access storage area, visitor's opinion of the methods of display storage artefacts in the museum and by online programs to be connected with the storage artefacts online with COVID-19.

visitor to Egyptian museums percentage of participants



**visitors to antiquities stores at Egyptian museums
percentage of participants**



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