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X-HAUSTIVE: AN INNOVATION OF STORAGE SYSTEM FOR PRESERVATION OF TEXTILE COLLECTIONS

Muhammad Affzan Mohammad, *Shamzani Affendy Mohd Din and Rajabi Abdul Razak
Department of Applied Arts and Design, Kulliyah of Architecture and Environmental Design, IIUM

ABSTRACT

This study focuses on the designing of a storage system for a full set of Malay traditional costume consisting of headgear, clothes, *samping*, and accessories. Malay traditional costume has a historical value that need to be preserved well for the future generations. The aim of the study is to innovate an existing storage system to a new design that will save space in the storage room. Data is collected via internet research and other reliable sources to gain as much information about the storage system. Face-to-face interview session with Department of Museums Malaysia was conducted with experienced staff member in managing the storage system for the textile collections. At the same time, visual analysis was conducted by making observations on the existing storage system available in museum and in the market. The data obtained was analyzed to be included in the stage of designing a product. The selection of materials and shape were also considered in order to avoid the collection being damage and deteriorate. Enamel metal was proposed to be used as a material for structure of the storage system. Other than that, polyethene foam, acid-free paper and metal rod also used for this new design of storage system.

Keyword:

Storage system, Preservation, Innovation, New design, Materials
*Corresponding author: shamzani@iium.edu.my

INTRODUCTION

A new product - 'X-haustive' is the innovation of storage system for textile collection. In this project, the designer focuses on the improvement of preservation methods for textile collections.

The aim for the research is producing an invention of storage system for textile collection for a complete set of Malay traditional costume. The invention of storage system for Malay traditional costume is intended to be a good storage system that can protect the collection from agents of deterioration in an efficient way. The improvement in the new storage system in term of characteristics, materials, and mechanism also will be considered while designing a new storage system. Hence, storing of the Malay traditional costume will be more systematic and organized.

The long-term goal of the research is to preserve the textile collections that have historical and significance values for future generations. According to Templeton (2012), textiles made of natural fibers are organic in nature and they deteriorate fast. Techniques of display are very important while displaying any textile.

There are many factors that need to be considered when deciding where and how a collection should be stored. Thus, the objectives of the research are:

1. To study on the existing storage box for textile collections.
2. To explore the materials and techniques used in the production of textile storage box.
3. To propose a new concept of storage box for textile collections

LITERATURE REVIEW

TEXTILE

Textile production is a very old craft, dating back practically to the dawn of time. Textiles have long been essential to man, as evidenced by poetry, old stories, and myths. Thus, textile is such an important thing for mankind as it provides protection for our body from elements. It has undergone many manufacturing processes from raw materials to become the end-product. Today, textile is widely used by all people as their daily attire or accessories such as costumes, hats, bags, and wallet.

There are several manufacturing processes involved in the production of textile to become the end-product. According to Wilson (2011), "Fibres are manufactured or processed into yarns, and yarns are made into fabrics. Fabrics may be manufactured by a variety of processes including knitting, weaving, lacemaking, felt-making, knotting, and stitch bonding". The finished fabrics are made into end-use products including apparel, home furnishings and various industrial applications. These products are then merchandise and sold to the market.

Zakaria et al. (2019) explained a Malay costume when they wrote:

"... (the Malay costume) is anything that are worn on the body, such as shirts and pants... Meanwhile, the word traditional means something figured or patterned with the element of tradition and society, inclusive of Muslims, groups of people, communities, nations, tribes, clans, ethnic groups, races, people, and residents" (p.2).

Malay traditional costume has their own identity and characteristics that need to be preserved well in order to maintain their historic for future generations.

Ancient Malay community prefers to wear *Baju Melayu* and *Baju Kurung* as their ordinary clothing because Malay traditional costume represents a cultural symbol of a Malay society. The traditional dress is different for males and females and is usually in bright and loud colours as illustrated in Figure 1.

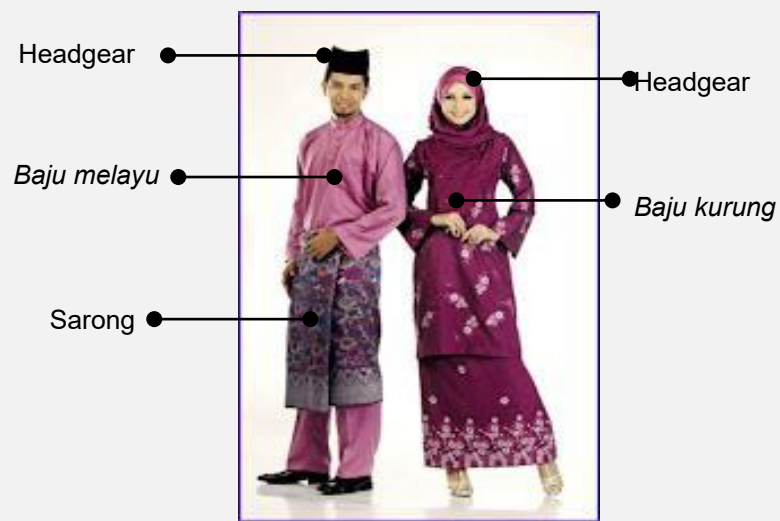


Figure 1: Parts in men and women Malay traditional costume.
(sites.google.com, 2021)

STORAGE SYSTEM

Storage system is one of the ways to preserve and protect the collection against the agents of deterioration. By having an appropriate storage system for the collection, it may maintain and prolong the life of the collection. Textile collection should be properly cared and stored because they are exposed to heat, cold, humidity, fungus, and insect attack. Textile storage means the techniques of caring for specific materials by maintaining their originality and preserving it for the future. Hence, it is important to have proper packing and storing for textile collections as it will elongate its life and protect it from deterioration.

It is important that the storage system for the textile collection receives the same amount of care and attention as the other environments in the museum. According to Ahmed et al. (2018), the main objective of the textile storage system should be to protect the objects from the agents of deterioration. The method chosen for storing any textile should be based on the textile's condition and size, and all materials that come in direct contact with the object should be of archival quality. Thus, it is essential to identify the suitable storage for the collection to reduce the deterioration on the textile itself.

The selection of exact materials to be used for storing the textile collection is essential as it will help to reduce the risk of deteriorate on the objects soon. Basically, all museums will use the same materials in order to store their collections. Firstly, museum will use acid-free blue-grey board for the storage box. It is good for buffering humidity changes and can used to make a whole range of boxes to store the collections. Besides, the archival quality boxes also can be used for storage box. It is made of polypropylene and waterproof. Thus, it was a good choice of materials that can be used for making the storage box for textile collections. Secondly, the museum will used Tyvek to wrap some collection before storing it. Tyvek is kind of synthetic cloth and good for making cushion and cover the objects and shelves. Other than that, curators also may use acid-free tissue to wrap the objects. Acid-free tissue also can be used for padding out the folds of soft textiles and it help to prevent condensation. Lastly, foam can be used to support the objects and maintain the shape of the objects. The foam is made of polyethylene foam and as a main type of materials used in conservation works.

RESEARCH METHODOLOGY

Several methods of collecting data are used to support the research and design idea. The methods are literature review, semi-structured interview, observation, photo documentation, and product-making. These methods were used in conducting the research to make sure the aim and objectives of the research will be achieved successfully.

Firstly, literature review is a process of searching the information through reading materials. Doing a literature review from the existing case study to gather the information about storage system for textile collections. The information obtained from primary, secondary and online sources.

Next, semi-structured interview were conducted with curator at Division of Collection Management, Department of Museums Malaysia. This semi-structured interview is to gather the information about the existing storage system for textile collection. It will be a face-to-face interview session

Other than that, the visual observation has been done while conduct this research. Observe and analyze the existing storage system in the market and enhance it to become a better product. The information contributes to the designing of the new product.

Moreover, photo documentation on the existing storage system in the market were conducted. The researcher was listing out the product line-up from the existing storage system to analyze the mechanism, colour and materials.

Lastly, product-making was involved in this research to see the functionality and durability of the storage system. Produce a new concept and innovation of storage system for textile collections as well as improvement from the existing storage system.

CONCEPT

The concept of this project is 'exhaustive' which means it covers all elements or fully comprehensive. The concept is applied to the storage system that will covers all types of Malay traditional costume either for men or women. Besides, the storage system is capable of storing a full set of Malay traditional costume for men and women such as headgear, sarong, clothes and accessories as shown in Figure 2. Thus, it will save some spaces in the storage room as well as help the curator to store the costume perfectly. The storage system also can benefit those who love to collect textiles.



Figure 2: Malay men and women traditional costume.
(iiumeducare.edu.my, 2021)

CASE STUDY

STORAGE SYSTEM REFERENCES



Figure 3: Existing storage system.



Figure 4: Storage system in Department of Museums Malaysia.



Figure 5: Existing storage system.

The existing storage system can securely store large, medium and small items, with a modular system that can easily be adjusted and expanded as refer to Figure 3 to 5. It also providing a locking doors for the protection of priceless collections. In addition, the storage system will keep inventory safe, well organized and out of the way. Lastly, the storage promotes airflow and cleanliness.

ELEMENTS FOR STORAGE SYSTEM

There are 5 elements that need to be added on the X-Haustive storage system which are coated metal shelves, metal rod, tagging, door and castor. These elements is important for the storage system as they will help to facilitate the daily work of curators in the storage room.

PROJECT FINDINGS

INITIAL PROPOSAL

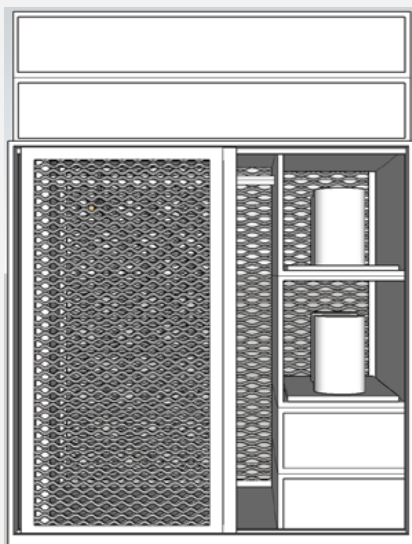


Figure 6: Design 1
(Source: Author)

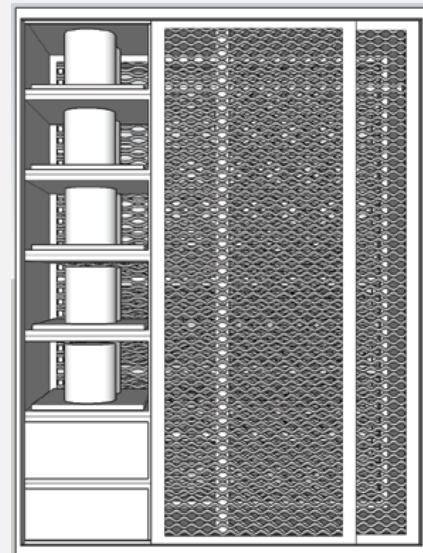


Figure 7: Design 2
(Source: Author)

Figure 6 and 7 show the initial design for the storage system for textile collections. The design will have 4 parts of storage which are hanging, rolling, headgear, and accessories storage. The designer had chosen the design 2 to be developed further.

FINALISED DESIGN

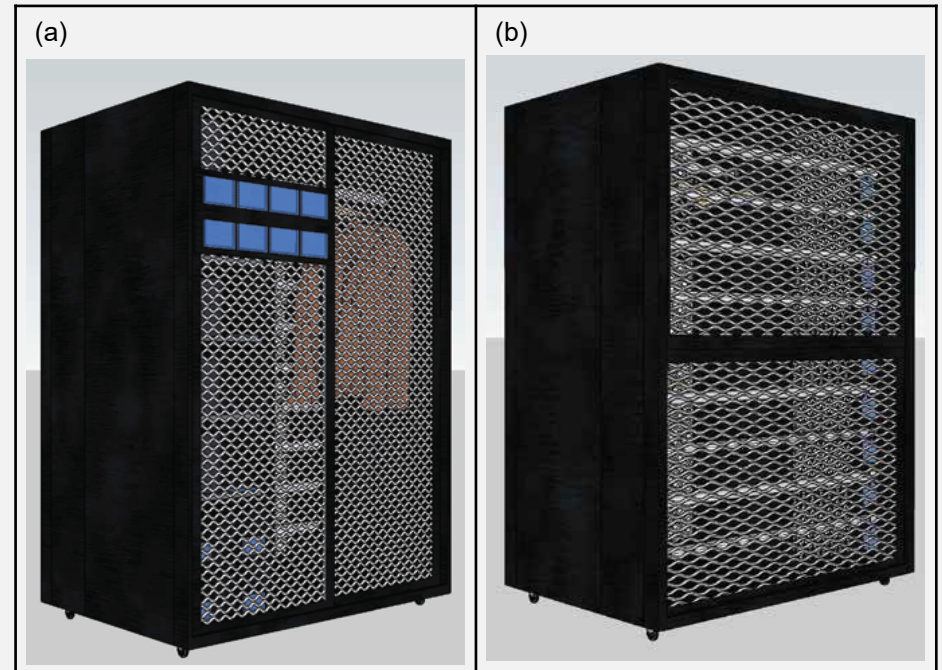


Figure 8: (a) Front perspective view of final design & (b) Rear perspective view of final design
(Source: Author)



Figure 9: Accessories storage
(Source: Author)



Figure 10: Headgear storage
(Source: Author)



Figure 11: Rolling storage
(Source: Author)



Figure 12: Hanging storage
(Source: Author)

The finalised design have some development refinement from design 2 with some alteration on the design. The chosen colour for the storage system is in black colour and the storage system can be fit up to 8 full set of Malay traditional costumes in one cabinet as indicated in Figure 8 to 12.

TECHNIQUES IN PRODUCTION MAKING



Figure 13: Measuring.



Figure 14: Cutting.



Figure 15: Sanding.



Figure 16: Screwing.



Figure 17: Painting.

The techniques used in the production making process of the X-Haustive storage as shown in Figure 13 to 17. For this project, the materials used in production making is a substitute materials which is plywood due to some limitations while the actual material for storage system is enamel metal.

TECHNICAL DRAWING

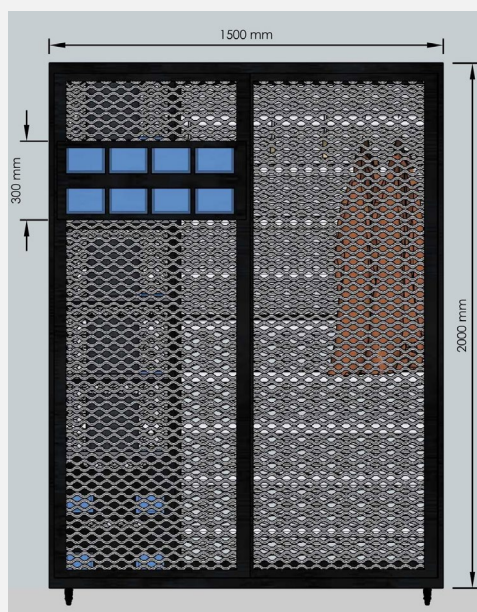


Figure 18: Front view.
(Source: Author)

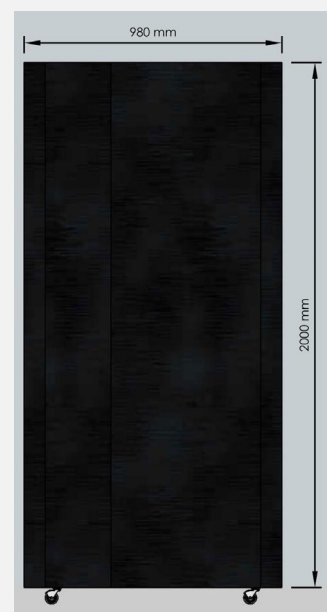


Figure 19: Side view.
(Source: Author)

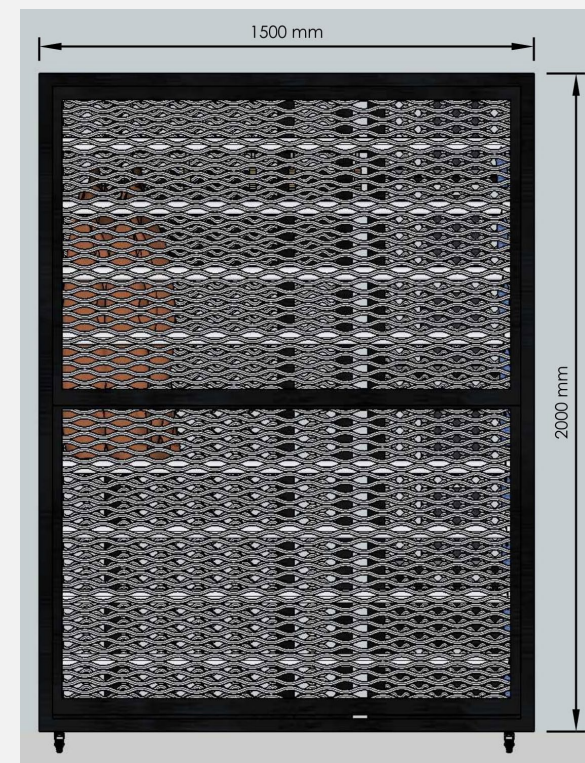


Figure 20: Rear view.
(Source: Author)

SUPERIMPOSED MODEL



Figure 21: Superimposed model
(Source: Author)

The storage system was place in a storage room. The storage system can be placed side by side to save spaces in the storage room as illustrated in Figure 21.

COLOUR OPTION

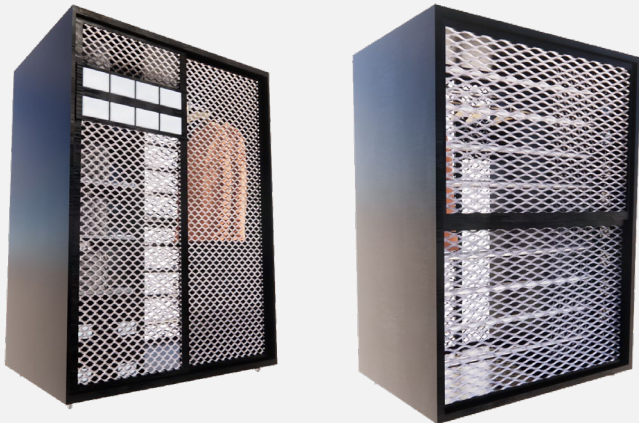


Figure 22: Black colour
(Source: Author)

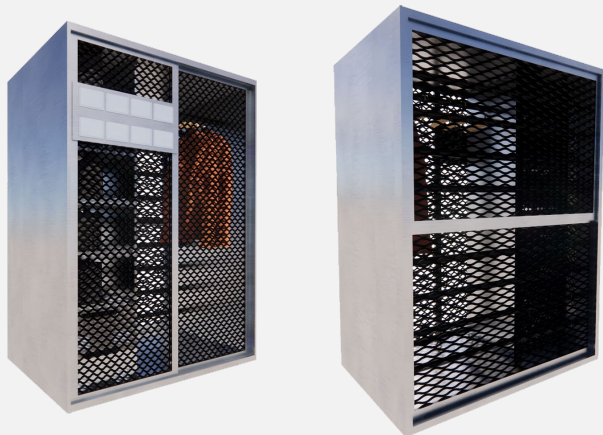


Figure 23: White colour
(Source: Author)



Figure 24: Brown colour
(Source: Author)



Figure 25: Grey colour
(Source: Author)

CONCLUSION

Malay traditional costume has their characteristics and historical value that need to be preserved well. The new design of the storage system has solved the problem faced by the museum while keeping the collections which is limited space in the storage room. All aspects have been taken to consider the design, mechanism and materials on the new storage system. Thus, the new design of storage system consist of 4 parts of storage which are hanging, rolling, headgear and accessories storage. This project is useful to the museum which has limited space to store their textile collections. The materials used in this project are enamel metal for the structure which is durable and safe as well as preventing the collection from deterioration. All in all, X-Haustive is a product that will give benefit to the museum for storing their textile collections in a convenient method which provide resilience to the textile collections.

By doing this project, the researcher succeeded to achieve all the objectives successfully. The researcher had gathered the information on the existing storage system in terms of materials, mechanism, colours, and elements. Other than that, the researcher also has obtained the data about the suitable materials for a storage system as well as the correct techniques in production-making process. It is important to know the correct materials and techniques in production-making process in order to minimize the damage and harm on the collections. Last but not least, the new concept design of storage system may help the curator to store the collections in more orderly manner as well as can save space in the storage room.

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