

TOY MUSEUM

VORAPAT AMPHAN

A THESIS SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF



BACHELOR OF ARCHITECTURE

DEPARTMENT OF INTERIOR ARCHITECTURE, SCHOOL OF ARCHITECTURE
ASSUMPTION UNIVERSITY

2004

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Thesis Approval:

Date Pisit Viriyavadhana, DEAN

Date Vatchara Samakkamai, Chair person

Date Chananya Atiwatphong, Thesis Supervisor

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68

March 2005

From the past, toy always relate with our childhood. Most kids seems to have their own toys such as wind-up toy, transform metal robot, plastic and rubber figure and doll like Barbies, etc. Looking back to the early generation; there began with many kind of toys such as tin toy, jukebox, much type of vehicle toy and doll. Each toy's period always connected with people life. Moreover, toy always shows people taste, culture and technology of that period by its material or production process of them.

Now a day, our world has various types of toys that produced by toy manufacture from many countries all around the world that consumer play and collect. Toy collection setting popular among collector from all around the world as well us in Thailand.

In Thailand, toys made its popularity among many people from adults to kids. As we know, a lot of toy dealers and toyshops are more available that make consumer easier and more comfortable to buy toys. But there're still many more people who still cannot afford to have their awn toys. Even most collectors, they hardly have all toys in their collections as well. By these reasons, Toy museum is to be purpose in order to collect and exhibit toys that pay their popularities from the beginning until now. In addition, this museum will also provides spaces for activities or events of toys that will attract outsiders attention then became toy lovers.

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Acknowledgement

The author wished to thanks

- Dad, Mom, Fon my sister
- Ha-noi
- My third hand & second heart: Op-Kate, Ja, Nummon, Nack, Pork, Mong
- Entertainers: Loan, Billy, Harit(Powerpoint), Ar-ku, Ling, Champ
- A. Na, A. A, A. Nart and all Ajarn of School of Architecture
- P' Jean, P' Jeab'
- Phokaew,Kai-ob, Busaba pub
- Children Discovery Museum
- My luck!

... Thanks! ...



Acknowledgement.....I

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CHAPTER 1: INTRODUCTION

PROJECT: Toy Museum

HISTORY AND BACKGROUND

From the past, toy always relate with our childhood. Most kids seems to have their own toys such as wind-up toy, transform metal robot, plastic and rubber figure and doll like Barbies, etc. Looking back to the early generation; there began with many kind of toys such as tin toy, jukebox, much type of vehicle toy and doll. Each toy's period always connected with people life. Moreover, toy always shows people taste, culture and technology of that period by its material or production process of them.

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In Thailand, toys made its popularity among many people from adults to kids. As we know, a lot of toy dealers and toyshops are more available that make consumer easier and more comfortable to buy toys. But there're still many more people who still cannot afford to have their awn toys. Even most collectors, they hardly have all toys in their collections as well. By these reasons, Toy museum is to be purpose in order to collect and exhibit toys that pay their popularities from the beginning until now. In addition, this museum will also provides spaces for activities or events of toys that will attract outsiders attention then became toy lovers.

REASON TO STUDY THIS PROJECT

- Because of this toy has a large quantity from a lot of company, so we should have a place to collect them for both people who interested in toy and collectors in Thailand to come to visit.
- This museum will make people realize the value, beauty, and the interesting of toy in term of production process which has a lot of detail and very essential.
- This museum will presents toy by their period from past to present and show an evolution of toy in term of material, type and technical of production process.
- This museum being a forum for toy collectors and general people.
- This museum is located in a very convenience area that people can easily access to get knowledge and research about toys.
- Family can spend their time to enjoy as well as recreation in toys museum.

PROBLEM AND SOLVING

Today Thai people have a lot of choice to choose toys from many toy manufactures from Japan, Europe, China and USA. So we should have a place that collect and exhibit toys that is set by standard exhibition system.

Moreover, people should have a place where they can join together and have an event which include an interesting activity about toy

Therefore, this museum will be a place that gathers toy lovers and collectors. The museum can provide spaces to meet talk and exchange their idea, information or their toys.

OBJECTIVE OF STUDY

Objective of project

- Being a place for recreation that suitable for people lifestyle.
- People can gain knowledge about history and evolution of toy such as material, type, technical of production process.
- Being a museum to gather and display many kind of toy.
- Being a forum and meeting place for toy collectors and other people.
- Any toy event, toy fair and activity of toy can be arranged in this toy museum.

Objective of study

- To gain deeply understanding of toy that include their period and their evolution from past to present.
- To learn and study about museum organization system
- To learn and understand collector and user behavior

SCOPE OF RESEARCH

- History and evolution of toys
- International toys
- New style of museum
- Museum organization system
- Needs and behavior of user

SCOPE OF PROJECT

Entrance Hall

- Reception counter
- Toyshop
- Restaurant
- Coffee shop

Permanent Exhibition

- History and Evolution of toys
 - Simulated production process of toys
 - Toy display
1. Figures
 2. Dolls
 3. Folk and Nostalgic Toys
 4. Die-cast Toy
 5. Mechanical Toys
 6. Plastic Kits

Temporary Exhibition and Multi purpose area

- Toy show
- Toy event
- Toy workshop

Collector's area

DEFINITION OF TERMS

Toy:

Tin Toy: Toy made from galvanize, can move by battery or wind-up

Wind-up Toy: Non-battery toy moves by wind-up it before playing

Die-cast Toy: Toy made from metal or mixed metal

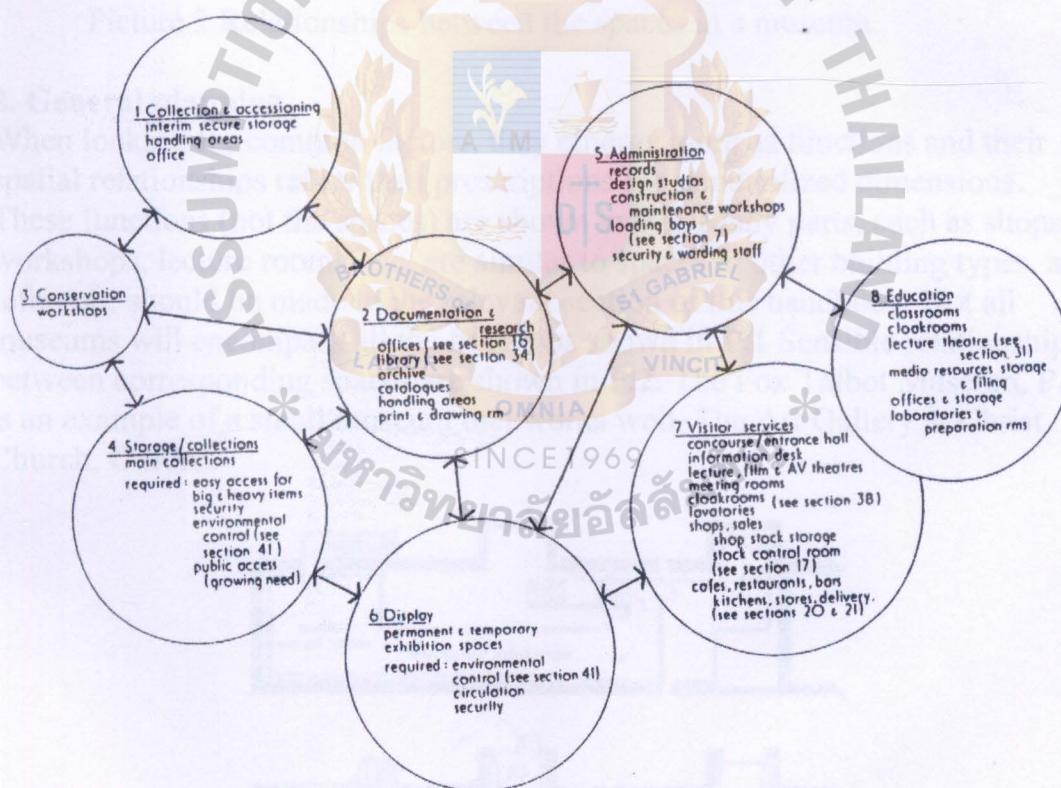
CHAPTER 2: RESEARCH

2.1 LITERATURE REVIEW

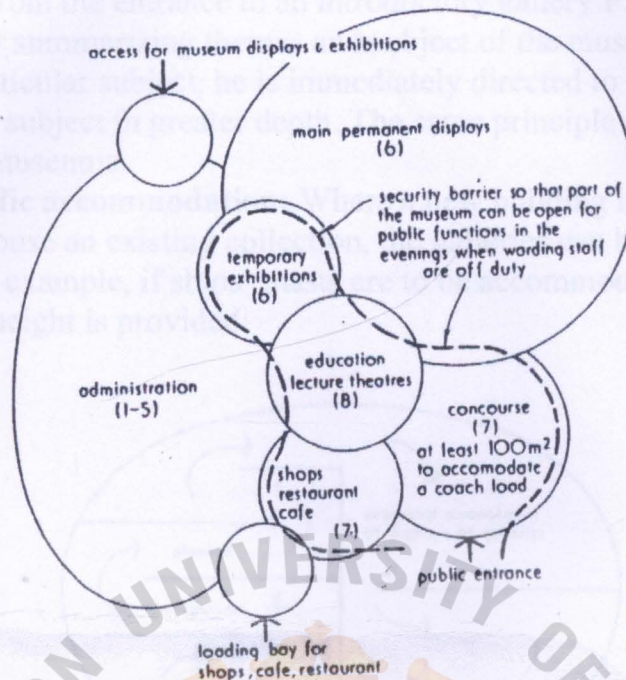
Museum and art galleries by Robin Wade Design Associates, specialist museum designers

1. Introduction

It is almost impossible to generalize or particularize about museums. Almost the only thing they have in common is that all the objects on display were never designed to be there. They can range in size from large general collections like the British Museum to a small local authority museum with a few hundred square meters, an entrance lobby and a postcard rack. They can contain artifacts, or specialize in steam engines, blast furnaces, coins and fabrics.



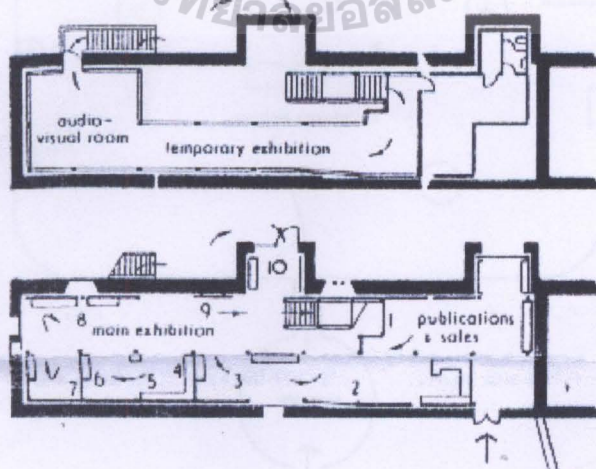
Picture 1 Functions of a typical museum



Picture 2 Relationships between the spaces in a museum.

2. General planning

When looking for common factors, they emerge more as functions and their spatial relationships rather than prescriptions for standardized dimensions. These functions (not the spaces) are shown in P.1. Many parts, such as shops, workshops, lecture rooms, etc. are similar to spaces in other building types, and reference should be made to the relevant section of this handbook. Not all museums will encompass all the functions shown in P.1. Sensible relationships between corresponding spaces are shown in P.2. The Fox Talbot Museum, P.3, is an example of a small museum that works well. The Art Gallery at Christ Church, Oxford.

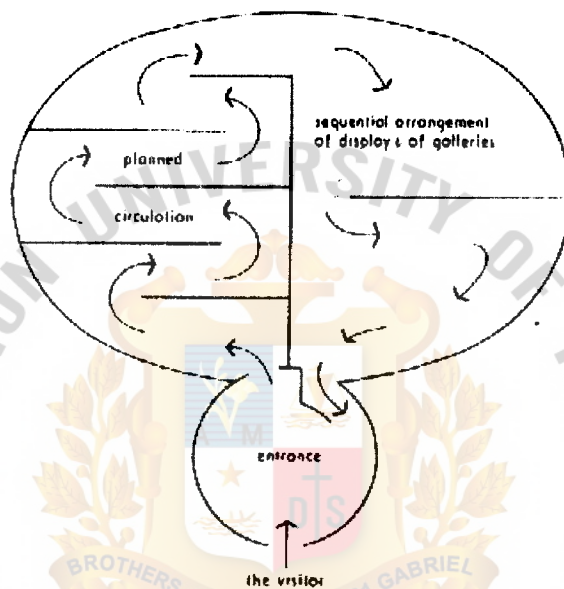


Ground floor

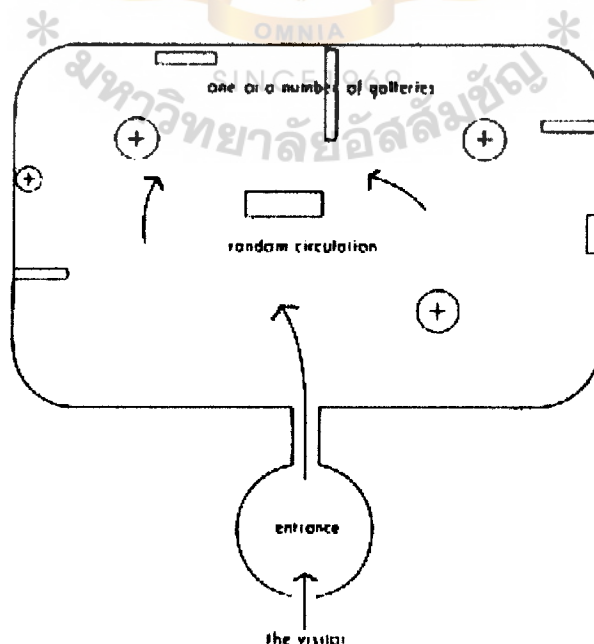
Picture 3

3.2 Layout with introductory gallery: An alternative arrangement is to lead the visitor from the entrance to an introductory gallery P.6, which may contain a display summarizing themes and subject of the museum. If his eye is taken by one particular subject, he is immediately directed to a side gallery which treats this subject in greater depth. The same principle can be extended further in large museums.

3.3 Specific accommodation: Where a new building is being constructed to house an existing collection, the galleries can be designed around the exhibits. For example, if ships' masts are to be accommodated, the necessary clear height is provided.



Picture 7 Sequential circulation



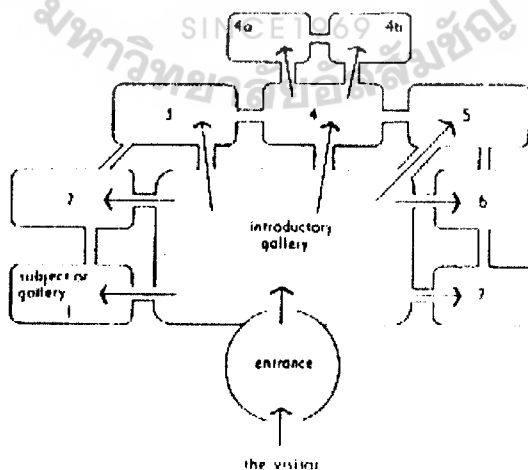
Picture 8 Random circulation

3. Layout of display areas

3.1 Random layout: Display is an important function of a museum, and can be designed in a variety of ways. In a traditional museum, display is often in a series of rooms, arranged in a random sequence, **P.5**. The objects and pictures may be acquired in a piecemeal way and accommodated wherever space was available. In particular, large exhibits had to go where they would fit. The display ends up showing what the museum possesses, rather than what is suitable or needed. In addition, the visitor can become confused on entering if there is a plethora of signposts and notices which have been put up at different times. A unified system of guidance should be considered at the planning stage.



Picture 5 Typical large traditional museum with random arrangement.



Picture 6 Large museums with an introductory gallery, different sections and galleries leading off.

3.4 Arrangement within galleries: Of the two main circulation patterns, sequential circulation, P.7, is appropriate for a chronological arrangement or where there is a storyline that needs to be followed from start to finish. The other, random, pattern, P.8, is suitable for subjects where browsing at random is called for.

3.5 Disabled access: Where the display route involves changes of level by step, or other difficulties for wheelchair users, lifts or ramps should be provided as in other public buildings. Provided these are adequately signposted, they need exactly parallel the ambulant route. In general, one wheelchair access to each level is sufficient.

4. Display details

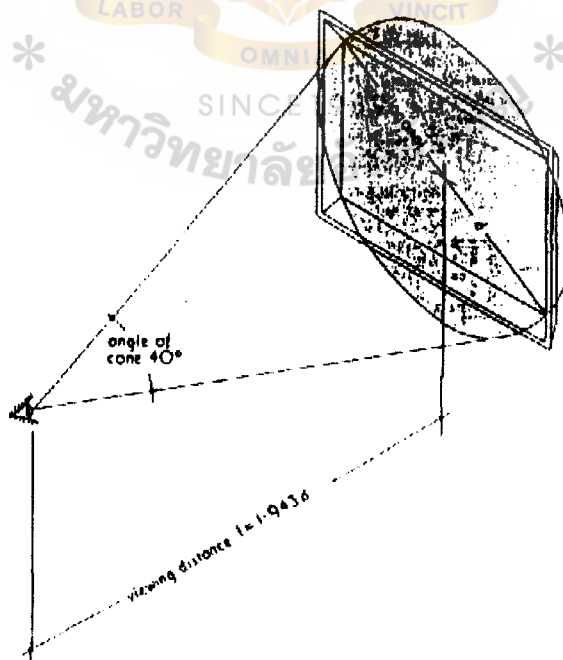
4.1 Exhibition: In museums, objects can be displayed

- In showcases
- Freestanding on the floor, on plinths or supports
- On walls
- On panels.

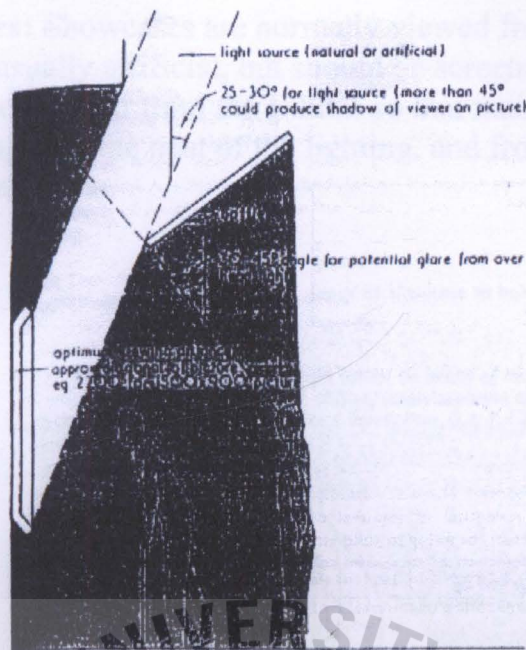
In art galleries, pictures are displayed on walls and panels, but can also be shown on easels.

The two major aspects of display are the ease of viewing, and the lighting.

4.2 Vision and viewing: The normal limit of vision without moving the head is a cone of 40 degree, P.9. A picture, therefore, can only be comfortably viewed as a whole from a distance of about double the diagonal. It is generally accepted, though, that a distance equal to the diagonal will enable the viewer to appreciate the details of the picture, but he will need to move his head to compass it all, P.10.



Picture 9 Cone of vision with head stationary

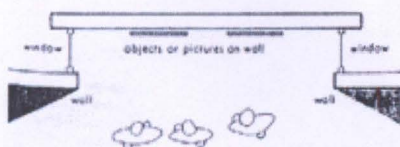


Picture 10 Factors for satisfactory viewing, distance and lighting. With suitable design of top light, baffle may not be needed.

4.3 Lighting: Lighting for pictures should not come from an angle less than 45 degree, P.10, but the source should be screened against glare. Normal windows, P.11, tend to leave adjoining walls, and any displays on them, in shadow. Where top light is not used, side lights, P.12, can substitute.

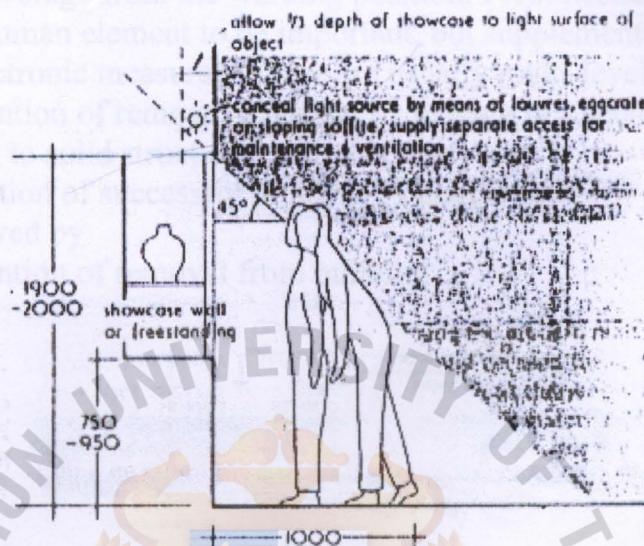


Picture 11 Wall in shadow adjacent to normal window



Picture 12 Side lighting as an alternative to top light

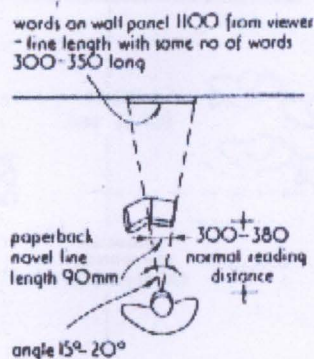
4.4 Showcases: Showcases are normally viewed from close up, **P.13**. Here the lighting is usually artificial, but should be screened from direct view. The source should be isolated from the exhibit so that maintenance can be carried out without against the heat of the lighting, and from the danger of damage during maintenance.



Picture 13 Viewing and lighting a showcase

4.5 Labels and descriptive panels: Text and captions should be of a type size relation to the distance from the viewer, **P.14**.

4.6 Circulation: Adequate space should be provided for people to view the exhibition, and also to pass between groups of viewers, **P.15** and **P.16**. If objects are placed too near corners, **P.17**, congestion will tend to occur. Where there is a designed sequence, there may be queuing at peak periods for the more popular items, and space must be allowed for this. Star exhibits should have extra viewing space, and should not be placed too near to one another.

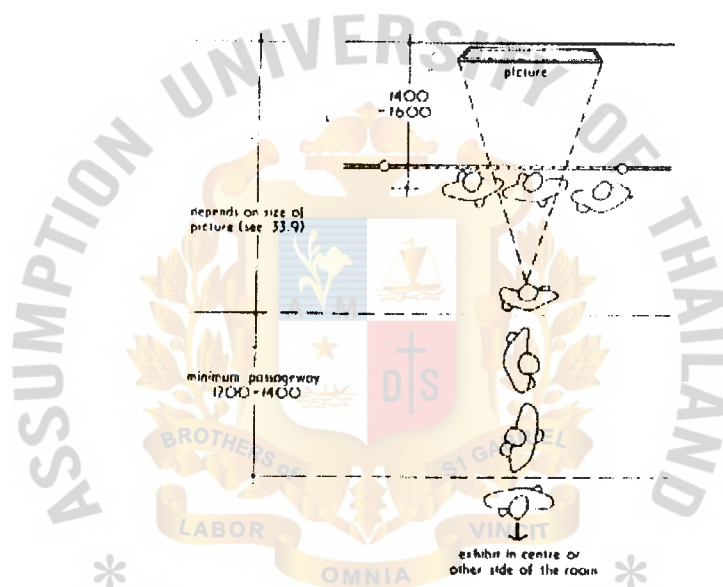


Picture 14 Method of sizing type for descriptive material, labels, etc

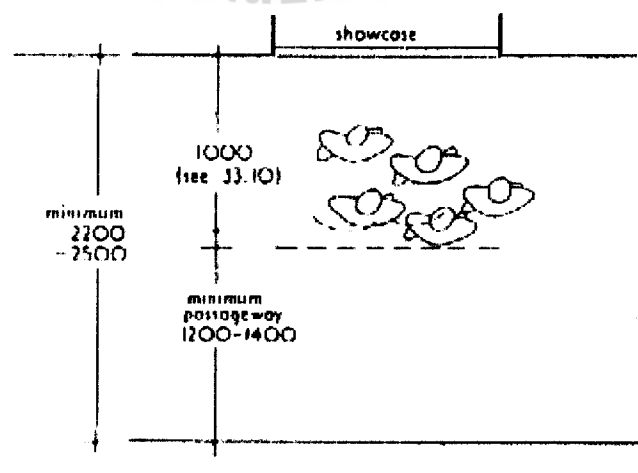
5. Security

5.1 Methods: Museum and art galleries contain objects of value. Some have priceless articles, and must maintain the highest level of security. Even those with relatively mundane contents, however, should be provided with good security systems. Traditionally, reliance has been mainly on attendants or wardens; in these cases it may be important to design each gallery for maximum visual coverage from the warding position, **P.18**. Modern practice still considers the human element to be important, but supplements it by mechanical and electronic measures. These are usually multi-level:

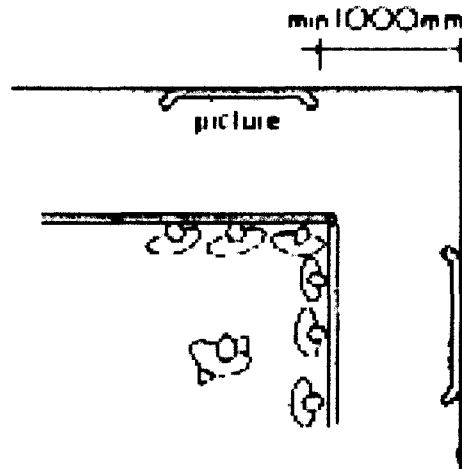
1. Prevention of removal of object by placing in a secure cabinet, or fixing to solid structure, then
2. Detection of successful removal by alarm, visual or audile, followed by
3. Prevention of removal from building.



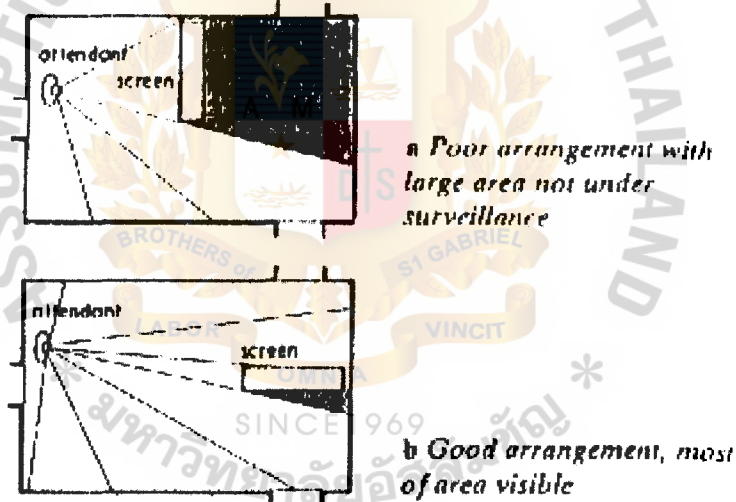
Picture 15 Viewing and circulation for objects or pictures on walls



Picture 16 Viewing and circulation for showcases



Picture 17 Method of avoiding congestion in corners



Picture 18 Ensuring maximum vision for attendants

5.2 Damage: Occasionally the aim of the criminal is not theft but iconoclasm. The Portland Vase and Rembrandt's *The Night Watch* are two examples of such vandalism. Only protecting the object behind glass, Perspex or polycarbonate is fully effective, and this detracts from the enjoyment of the innocent majority, it is normal to prohibit the carrying of obviously harmful objects such as umbrellas into museums and art galleries, so cloakrooms need to be provided when planning these buildings. In the display areas there should be no ledges, nooks or crannies where parcel bombs could be hidden.

5.3 Entry and exit: The checking of entry into a museum or art gallery by turnstiles or electronic detection helps to maintain security even if no admission charge is made. If similar arrangements are made at the exit, the clearing time can be assured. This should also be facilitated by ensuring that there are no hiding places, such as cleaner's cupboards, opening directly off the public areas, and the accesses between the public areas and administrative section are fully secure. All external doors and windows should of course be protected from illegal entry. It is particularly important to ensure control of egress during a fire alarm, as a false alarm, or even a small real fire, can be used as a diversionary tactic a theft.

6. Fire

Damage to objects in museums and galleries is caused not only by the fire itself but even more by the use of water to fight fire. Emphasis should therefore be on prevention rather than cure. The structure and finishes of new buildings should be as incombustible as practicable. Since smoking is never permitted in these buildings, the chief cause of fire starting will be faulty electrical wiring or accessories. Leakage detectors are available that will almost completely eliminate this possibility. Smoke and heat detectors should be installed, but sprinkler systems only rarely (such as for some industrial archaeological museum). Fire extinguishers should be of types that minimize damage.

7. Environmental controls and conservation

7.1 Decay: Everything in the world tends to decay. Museums try to exclude the agencies of decay, and to slow up the inherent processes. The most vulnerable categories of exhibits are fabrics, metal, wood, water color paintings and photographs. The Museums Association publishes useful information sheets on aspects of conservation, including fuller details of the following.

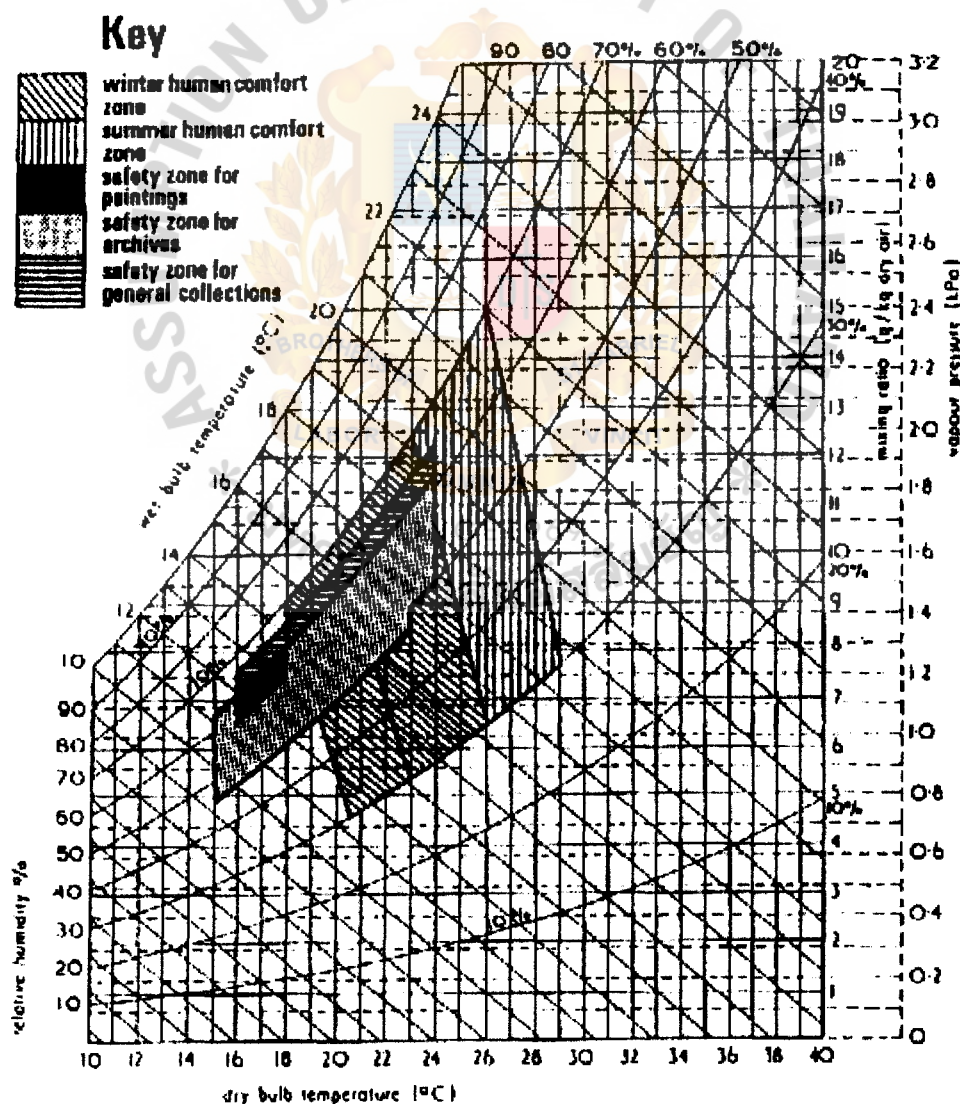
7.2 Temperature and humidity: Too damp or too dry an atmosphere can be very harmful. Humidity is closely linked to temperature. People working in or visiting the museum also need comfortable conditions. Comfort zones for these, and safety zones for different uses are plotted on the psychometric chart, P.19; and these must be used also in all areas used for storage and conservation work. Some exhibits may also need protection from the produced by the lighting.

7.3 Deleterious elements in the air: There are various harmful chemicals that can be present in the atmosphere. Crop spraying, for example, does more damage than the carbon monoxide from cars. There also grit and dust. When eliminating these, electrostatic fillers should not be used. Malfunctioning of this type of equipment can generate ozone, which is very harmful.

7.4 Light: Both natural and artificial light fades fabrics, and deteriorates water color paintings and photographs. It also can have a harmful effect on natural history specimens such as stuffed birds and animals, which are a whole field of conservation on their own. While ultra-violet filters can be beneficial, expert advice should be sought for most objects of value.

7.5 Insects etc: Woodworm have more often than not invaded old agricultural implements, furniture, etc, all of which should be treated. Obviously, fabrics should be protected from the ravage of moths. Natural history specimens and their infestation are another particular problem.

7.6 Material used in display: Care must always be taken when selecting the modern materials used in display. Certain felts that could be used for lining showcases contain acid. Some plastics, such as thermoplastic tiles and their adhesive, can affect photographic material. This should always be mounted on an acid-free base, such a rag board, not a mechanical wood-pulp board; and the special adhesive used.



Picture 19 Psychrometric chart

8. Bibliography

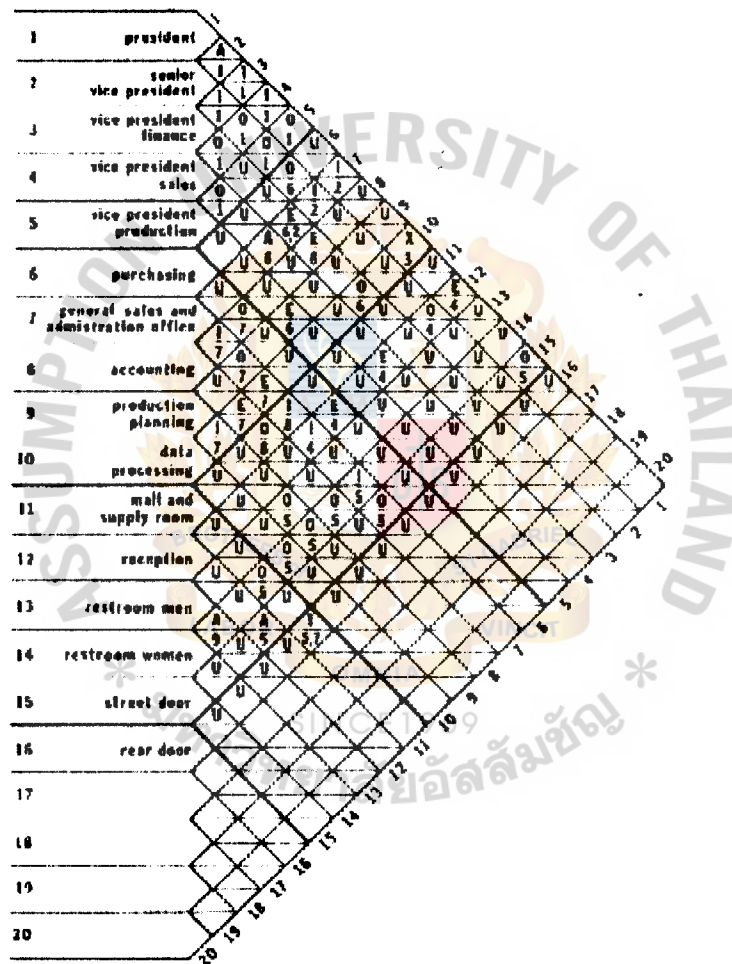
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Office: by Hugh Ellwood

Different elements of the building have different lifespan:

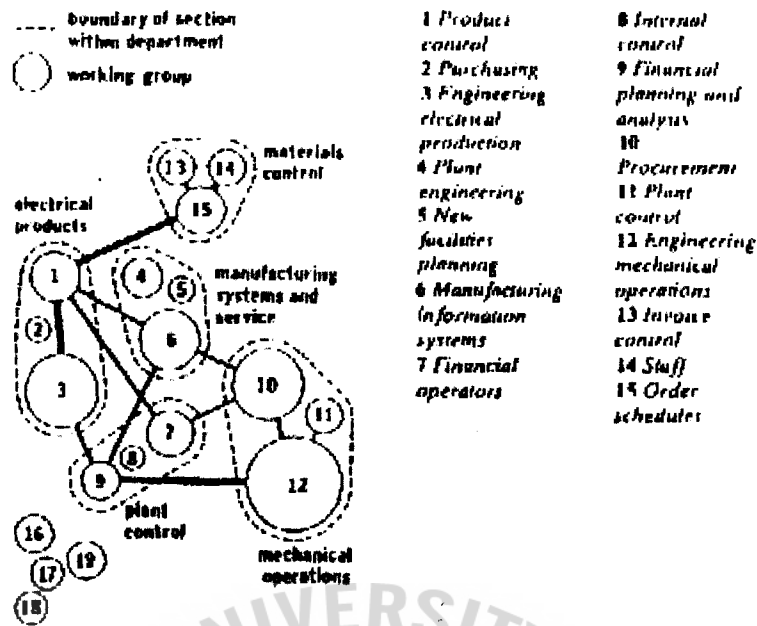
- The shell
- The scenery
- The set
- The services

Relationship chart for a small firm

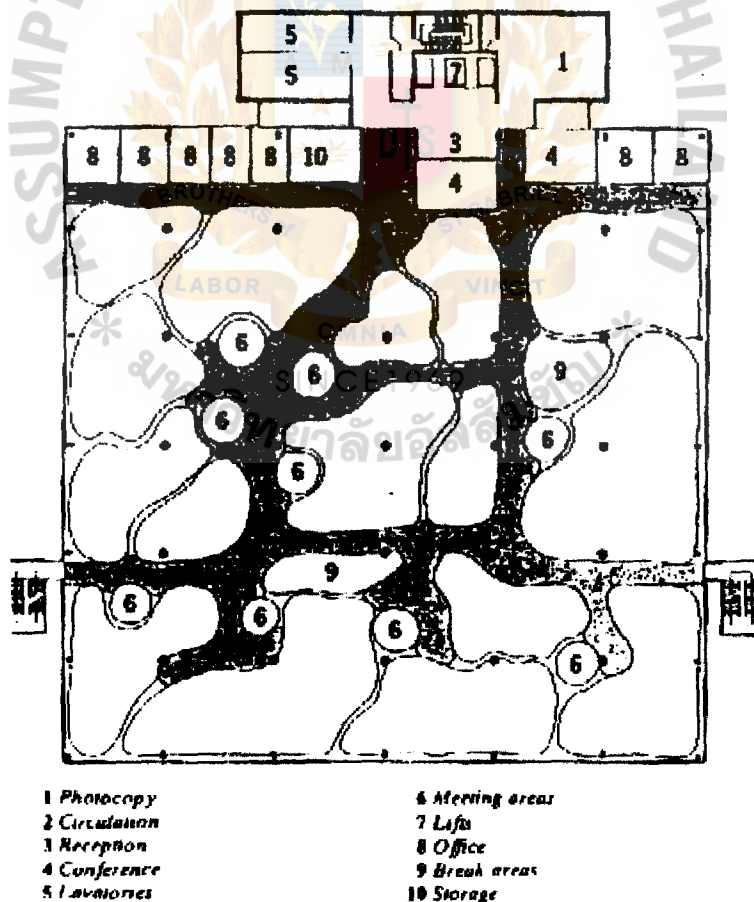


reason	
code	reason
1	personal contacts
2	use of steam pool
3	noise
4	number of visitors
5	convenience
6	supervisory control
7	movement of paper
8	use of supplies
9	share same utilities

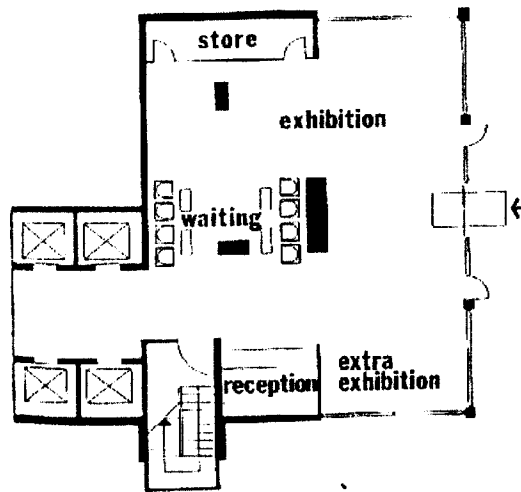
importance	
value	closeness
A	absolutely necessary
E	especially important
I	important
O	average satisfies
U	unimportant
X	undesirable



Adjacency Diagram: depicting interaction between workgroups within a department



Layout of working groups



Reception area in a government building provides good access for the disabled but little or no draught or dirt control. Extensive area provides a variety of arrangements of exhibition and waiting areas. Reception point, however, is partitioned off for security and to minimize the effect of draughts. This means that from the normal seated position the receptionist has no visual control of part of the exhibition area, the lifts and one entrance door. There is no easily accessible lavatory- because of the occupancy pattern of the building, the closest we is tenth floor.



The expensively furnished reception area of an insurance company in London. Although at one side there is a commissionaire's desk and at the other a receptionist's, these two points cannot supervise at least two of the six entrances. At the main entrance the relationship between the receptionist, doors and waiting area is good. No exhibition space is provided. The floor finish is durable but inadequate matting was provided in the first instance, and had be increased later.

Color

Color and Vision Matters

The human eye can see 7,000,000 colors. Some of these are eyesores. Certain colors and color relationships can be eye irritants, cause headaches, and wreak havoc with human vision. Other colors and color combinations are soothing. Consequently, the appropriate use of color can maximize productivity, minimize visual fatigue, and relax the whole body.

The Meaning of Color for Gender: by Natalia Khouw

What we see and interact with is in color, includes both natural and built environments. About 80% of the information which we assimilate through the sense, is visual. However, color does more than just give us objective information about our world-it affects how we feel. The presence of color become more important in interior environment, since most people spend more time inside than outside.

Is there a gender difference in response to color? Although findings are ambiguous, many investigations have indicated that there are differences between genders in preferences for colors. Early investigations done by Guilford (1934) on the harmony of color combinations found that a person is likely to see balance in colors that are closely related or the opposite. Guilford also found some evidence that more pleasing results were obtained from either very small or very large differences in hue rather than medium differences, with this tendency more frequent in women than men.

A review of color studies done by Eysenck in early 1940's notes the following results to the relationship between gender and color. Dorcus (1926) found yellow had a higher affective value for the men than women and St. George (1938) maintained that blue for men stands out far more than for women. An even earlier study by Jastrow (1897) found men preferred blue to red and women red to blue. Eysenck's study, however, found only one gender difference with yellow being preferred to orange by women and orange to yellow by men. This finding was reinforced later by Birren (1952) who found men preferred orange to yellow; while women placed orange at the bottom of the list.

Guilford and Smith (1959) found men were generally more tolerant toward achromatic colors than women. Thus, Guilford and Smith proposed that women might be more color-conscious and their color tastes more flexible and diverse.

Likewise, McInnis and Shearer (1964) found that blue green was more favored among women than men, and women preferred tints more than shades. They also found 56% of men and 76% of women preferred cool colors, and 51% men and 45% women chose bright colors. In a similar study, Plater (1967) found men had a tendency to prefer stronger chromas than women.

Rikard Kuller (1976) conducted a study on the effects of color in two opposite environments. Six men and six women were asked to stay in two rooms, one room was colorful and complex; while the other was gray and sterile. Electroencephalogram (EEG) and pulse rates were recorded throughout the period, as well as the individuals' subjective emotional feelings. The results showed heart rates were faster in the gray room than in the colorful room. Moreover, men were found to have stress reactions more than women. Men also became more bored than did the women in the gray room. Kuller also postulated that men could not achieve the same degree of mental relaxation as women.

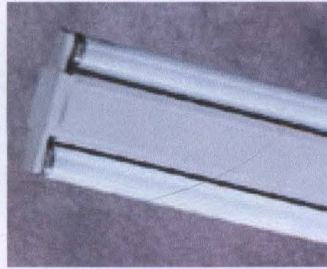
Thomas, Curtis, and Bolton (1978) interviewed 72 Nepalese and asked them to list the names all the colors they could think of. There was a significant difference between men and women. Although, the women consistently listed more color names than men did, the cultural context of this study must be noted since Nepalese women traditionally wear more colorful clothing than men do. A similar study by Greene (1995) examined the color identification and vocabulary skills of college students. They were asked to identify the colors of 21 color chips. The results showed that women recognized significantly more elaborate colors than did the men. Findings also indicated that gender different responses in color identification may be attributed to a difference in the socialization of men and women.

Another study examined the appropriateness of colors used on the walls of a simulated domestic interior furnished in one of three styles; Georgian, Art Nouveau and Modern. Whitfield (1984) reported that internal consistency among women is higher than for men. When the study was broadened to include marital status, married women achieve significantly more internal consistency in each condition of the three styles than did the men.

More recently, Radeloff (1990) has found that women were more likely than men to have a favorite color. In expressing the preferences for light versus dark colors, there was no significant difference between men and women; however, in expressing the preference for bright and soft colors, there was a difference, with women preferring soft colors and men preferring bright ones.

Lighting: Museum Lighting

Backlighting



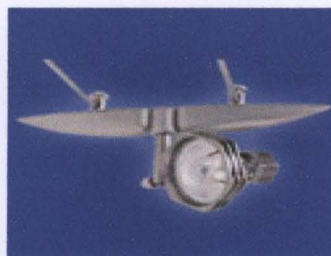
Low profile – perfect for backlighting
Several different lengths of T4 fluorescent fixtures
Several different lengths of T5 fluorescent fixtures
Several different lengths of T12 fluorescent fixtures

Cabinet Lighting



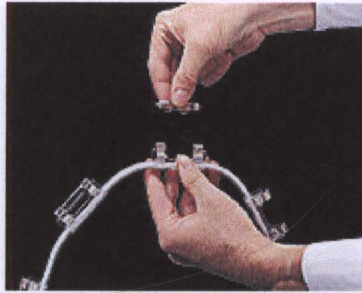
Several xenon low voltage fixtures
Several fluorescent fixtures
Xenon fixtures are dimmable
*Most fluorescent fixtures are "linkable"
Fluorescent fixtures are instant on with NO flickering
All fixtures have low profiles

Cable Lighting



Dozens of low voltage cable lighting kits,
complete with cable, cable fixtures,
halogen lamps, a transformer,
and mounting hardware.

Cove Lighting



Low profile – perfect for cove lighting
Xenon Low Voltage Light Strip
Linkable fluorescent T4 light fixtures
Linkable fluorescent T5 light fixtures

Display Lighting



Low voltage MR16 halogen fixtures
Line voltage PAR halogen fixtures
Line voltage quartz halogen fixtures
Most with adjustable *or* flexible arms

Exit Signs & Emergency Lighting



Several models to choose from LED EXIT signs
Red *or* green letters
One-sided *or* two-sided
With *or* without emergency lighting
With *or* without battery backup
Emergency lighting

Halogen Lamps



MR11 low voltage halogen lamps
MR16 low voltage halogen lamps
PAR halogen lamps
Double-ended quartz halogen lamps
JC low voltage halogen lamps

Monorail Lighting



Several low voltage monorail lighting systems complete with monorail track, monorail fixtures, MR16 halogen lamps, a transformer, and mounting hardware.

Picture Lights



Several types of low voltage xenon picture lights and low voltage halogen picture lights

Recessed Lighting



3in and 4in low voltage recessed lights
4in and 5in line voltage recessed lights

Sconces

Alabaster, ceramic, glass, *or* metal
Variety of shapes
Variety of styles

Incandescent, halogen, *or* fluorescent light sources
Some are ADA compliant
Some are wet-location rated

Shelf Lights



Very low profile
Xenon low voltage shelf lights
Linkable fluorescent T4 light fixtures
Linkable fluorescent T5 light fixtures

Showcase Lighting



Fluorescent T4 low profile light fixtures
Fluorescent T5 low profile light fixtures
Xenon low voltage puck lights
Xenon low voltage light strip

Step Lights



Xenon low voltage light source
3 Cover designs
Die cast aluminum
4 Color options

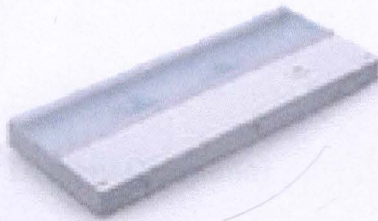
UL Listed for wet locations

Track Lighting



Low voltage halogen track fixtures
Line voltage halogen track fixtures
Fluorescent track fixtures
Track lighting kits
Flexible track lighting systems

Under Cabinet Lighting



Several xenon low voltage fixtures

Several fluorescent fixtures

Xenon fixtures are dimmable

Most fixtures are "linkable"

All fixtures have low profiles

Fluorescent fixtures are instant on with no flickering

UV Filters



Retards photochemical degradation

Eliminates virtually all UV radiation

Optivex® UV glass filters

UV filtering tube guards for fluorescent lamps

Display

4 Type of Display

1. Board
2. Object Display
3. Object and background Display (Diorama)
4. Display with multi-media Display

How to creating a Museum Display?

You are going to plan something very exciting—a museum display! You have the chance to make this display colorful, fun, and educational. If it's really good, you might want to invite your family, friends, and community to see it. Here are some ideas to get you started.

Visit a museum to see how museum displays look. As you go through the museum, answer the questions below. Jot down your ideas. If you cannot visit a real museum, visit an on-line museum.

- What kinds of displays did I see?
- Which materials were used in the displays?
- Was there any written material with the displays? How was it presented?
- Did anything move or make a sound? Was anything on audiotape or videotape? How can I create sound and movement in my own display?
- What part of the museum display did I enjoy the most? How can I use this idea with my own display?
- Here are ideas for my display showing a plant, an invertebrate, and a vertebrate.

2.2 CASE STUDY: Primary Information

1. Children's Discovery Museum

Location: Queen Sirikit Park, Kampaengpet 4 Road opposite Chatuchak weekend market, Bangkok

Total area inside building: 7,000 square meters



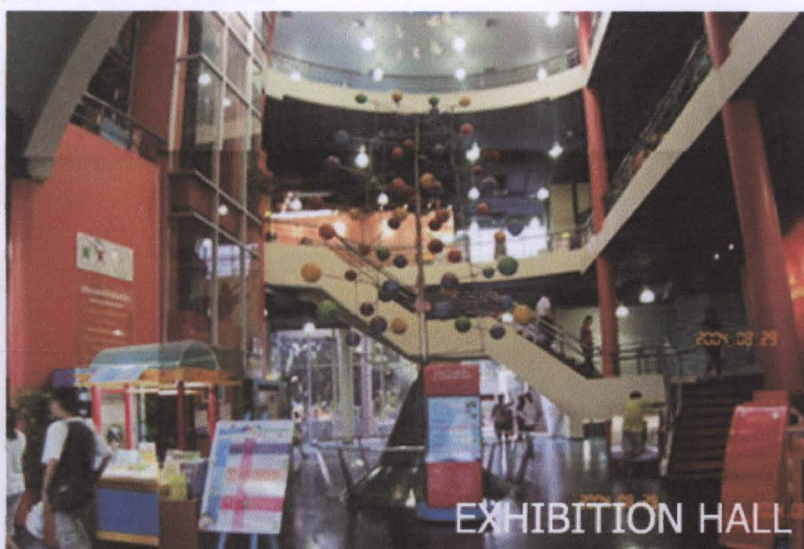
Museum Background

As a result of Her Majesty Queen Sirikit's address proposing the creation of an informal and education initiative in the form of a Bangkok Children's Discovery Museum, Dr. Bhichit Rattakul, former Governor of the Bangkok Metropolitan Administration set up a committee to prepare a plan to fulfill Her Majesty the Queen initiative. The work of building and equipping the museum was completed in June 2001 during the term of Mr. Samak Sundaravej, the new Governor of the Bangkok Metropolitan Administration.

Her Majesty the Queen has kindly consented that the creation of the museum should be one of the projects commemorating Her Majesty the Queen's 60th Birthday and that the museum be located in the 5-rai Queen Sirikit Park.

The Children's Discovery Museum has three exhibition buildings together with a conference room and amenity areas. The total area inside the building is 7,000 square meters and the total area outside the buildings, to be used for education activities to provide amenities, is more than 3,000 square meters.

The Bangkok Metropolitan Administration handed the responsibility for the museum to the Bangkok Children's discovery Museum Foundation, which will undertake the task of providing an affective and high-quality learning experience for children.



When entered inside the museum, first impression of this museum is large Exhibition Hall (or Reception Hall). The large open space of the main hall creates great impact to visitors.

Open Space

- Exhibition Hall look interesting for visitor who enter inside
- Visitor can see each floor's continuous
- Made second and third too small and had not space enough for exhibition and activity

Museum Advantage

From the interview of museum staff

- Good organization (because compact size of museum)

From the interview of visitor

- Good activity for children
- Children can spend a lot of time in museum

Museum Problem

From the interview of museum staff

- Sometime staff not enough to manage activities inside museum
- A lot of equipment always broke or still in progress
- Type of museum's user not clear

From the interview of visitor

- Museum activities arrangements are not enough for visitor
- A lot of equipment always broke or still in progress

Museum Equipment and Activity

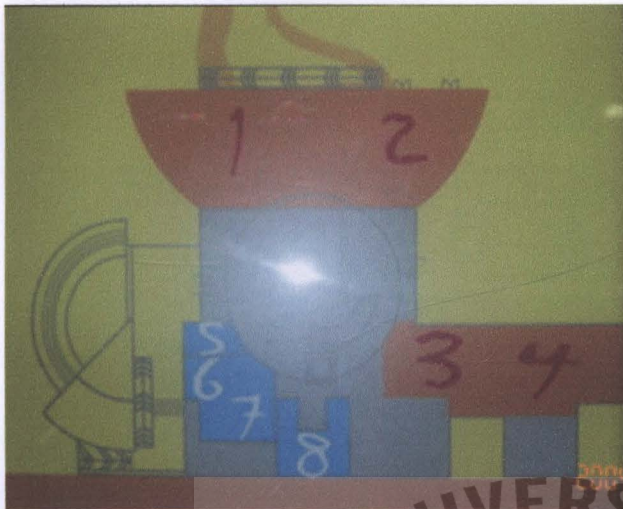


Most of Museum equipment, children learn learning by interactive activity:-

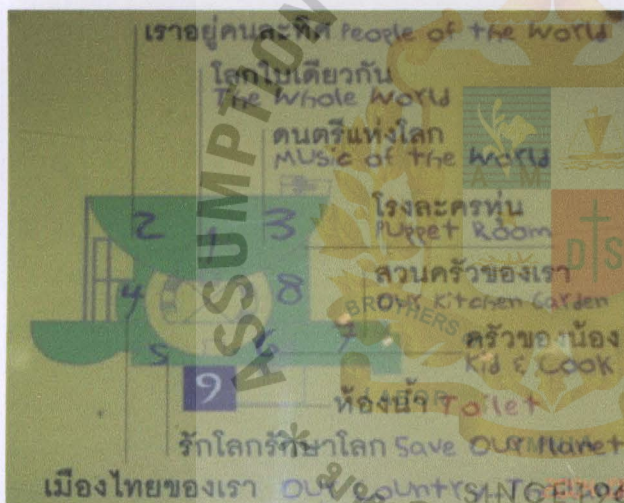
- Playing
- Touching
- Watching
- Listening

Museum provides good activities such as ART and cooking class. Puppet show for 3-4 rounds a day.

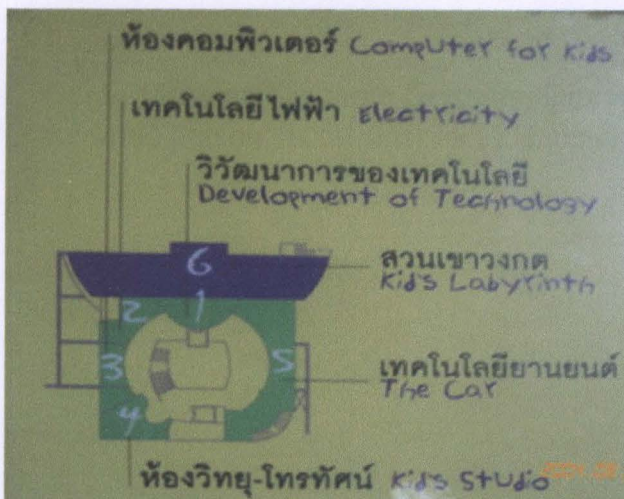
Museum Planning



1. Body and mind gallery
2. Science gallery
3. First aid room
4. Office
5. Reception
6. Ticket counter
7. Souvenir shop
8. Toilet

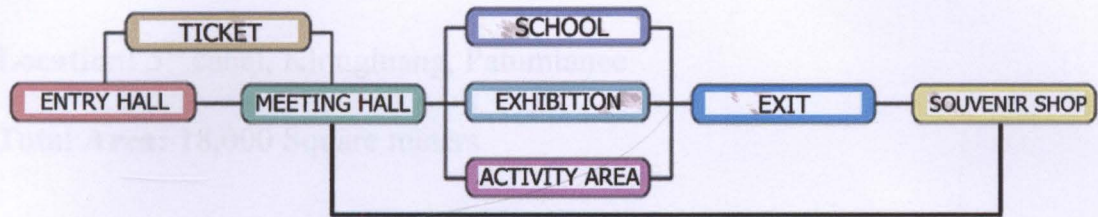


1. The Whole World
2. People of the world
3. Music of the world
4. Our country
5. Save our planet
6. Kids and Cook
7. Our kitchen garden
8. Puppet room
9. Toilet

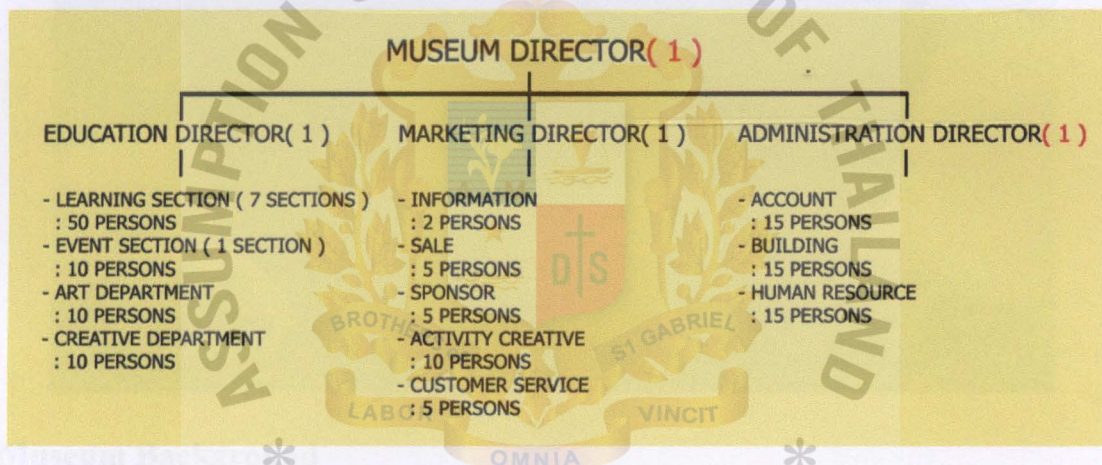


1. Technology
2. Electricity
3. Computer for kids
4. Kid's studio
5. The car
6. Kid's labyrinth

User Behavior



Museum Organization



SINCE 1969 Total staff museum: 155 persons

Children Museum organization Chart

Children Museum has three directors. Director of museum and Administration is the same person. Total staff include general museum staff and volunteer staff.

: Primary Information

2. National Science Museum

Owner: Ministry of science, technology, and environment

Location: 5th canal, Klongluang, Patumtanee

Total Area: 18,000 Square meters



Museum Background

On the auspicious of the 60th of Her Majesty The Queen at august, 12, 1992. The government by science, technology, and environment ministry has initiated the national science museum project. The museum is aimed to be lace for commemoration of the Queen's work on the science and technology to increase the quality of people life, to reform the nature and environment, including arts and culture of Thailand. The project started in 1992 and in 1995 the government established national science museum (NSM) in the control of science, technology and environment ministry, it purpose for manage the museum.

Duty and role of national science museum under the control of science technology and environment ministry is the equipment of the government and to providing and increase the understanding in science and technology which related with economic, social, and environmental. To be the direction of development the country in the way of information technology.

Activity inside museum



Section of Management

The management in **National Science Museum** divides in to 4 parts

1. Information and object collection including research, experimental of science which is ~~concern to~~ ^{provide} exhibition for the public
2. Exhibition and presentation in the temporary and permanent exhibition for example: graphic, document, CD-ROM, seminar and presenter.
3. Financial supports for building, facility and exhibition maintenance, including marketing and business development.
4. Management and business administration system to define the organization image, to improve and promote to be a part of the social. Opened for the private individual.

User and activity of museum

1. Target of user

- Children
- Worker
- Expert and experimentalist
- Tourist
- General people

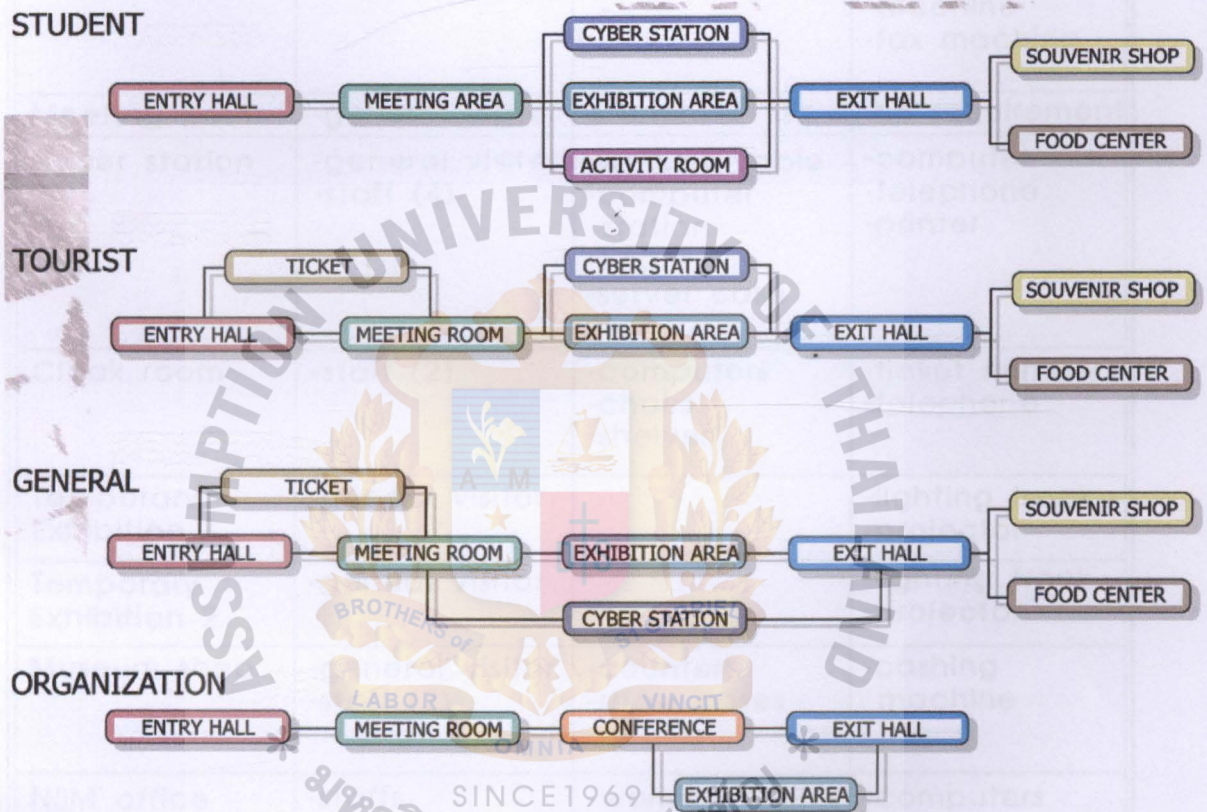
2. Technique target to be the center of knowledge in science and technology. Be the center of continental exhibition for science and technology

3. ⁺to motivating and encouraging to Thai people to interest in science which is important to develop the country, and promote the new vision of science and technology to the children.

User Behavior

National Science Museum separated visitor into four sections:

- Student
- Tourist
- General visitor
- Organization



Facility and narrative study

National science museum introduces the knowledge of science and technology for example, theory, innovation and the progressing from the past to present and trend to the future. The exhibition area is including 40 stories and divided into 6 parts by:

1. Information, reception and introduction to the science and technology.
2. History and progressing of science and technology.
3. Fundamental of science and energy.
4. Science and technology in Thailand.
5. Science and technology in daily life
6. Vernacular science and technology.

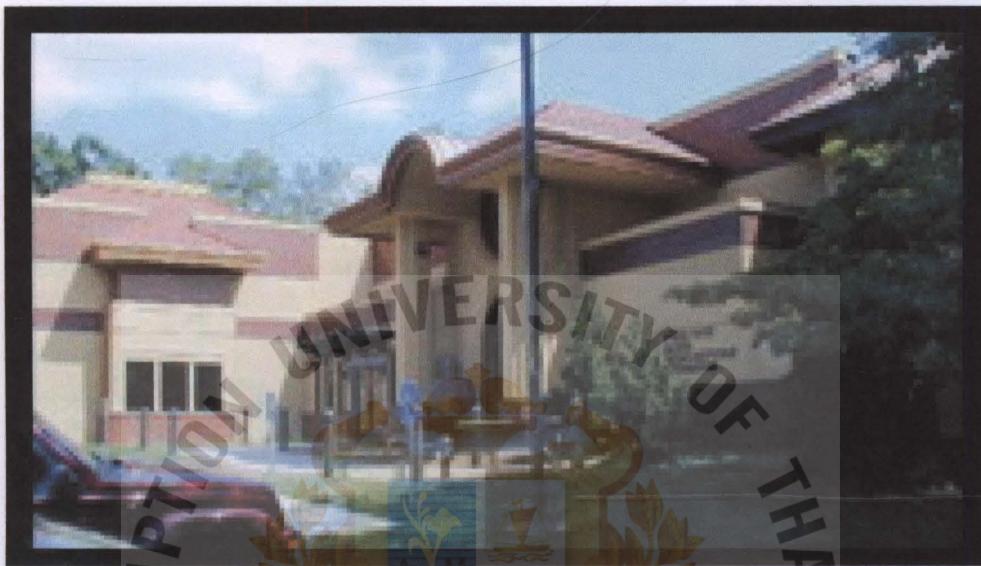
Facility and area listing requirement

Area	User	Furniture Requirement	Equipment Requirement
Ticketing Check-in and information	-general visiter -staff (4)	-ticket counter -chairs -cabinets	-computer -telephone -ticket check machine -fax machine
Meeting point	-general visiter	-bench	-no requirement
Cyber station	-general visiter -staff (4)	-working table -computer station -chairs -server case	-computer -telephone -printer
Cloak room	-staff (2)	-computers -chairs -shelves	-ticket number -telephone
Temporary Exhibition 1	-geneal visitor		-lighting track -projector
Temporary Exhibition 2	-geneal visitor		-lighting track -projector
Museum shop	-general visitor -staff (2)	-counters -show cases -chairs	-cashing machine
NSM office	-staffs	-working tables -chairs -cabinets -file drawers -computer station	-computers -telephones -fax machine -tasking lights -computer station
Exhibition area	-staffs		
Total area	18,000 SQM		

: Secondary Information

1. Toy and Miniature Museum of Kansas City

Location: 5235 Oak Street in Kansas City, Missouri, 64112 USA



Museum Background

The Toy and Miniature Museum of Kansas City was founded in 1982 by two Kansas Citians - Mary Harris Francis and Barbara Marshall. Located on the campus of the **University of Missouri-Kansas City**, the museum contains **twenty-four rooms** filled with antique dolls, dolls' houses, cast iron toys, trains, and scale miniatures.

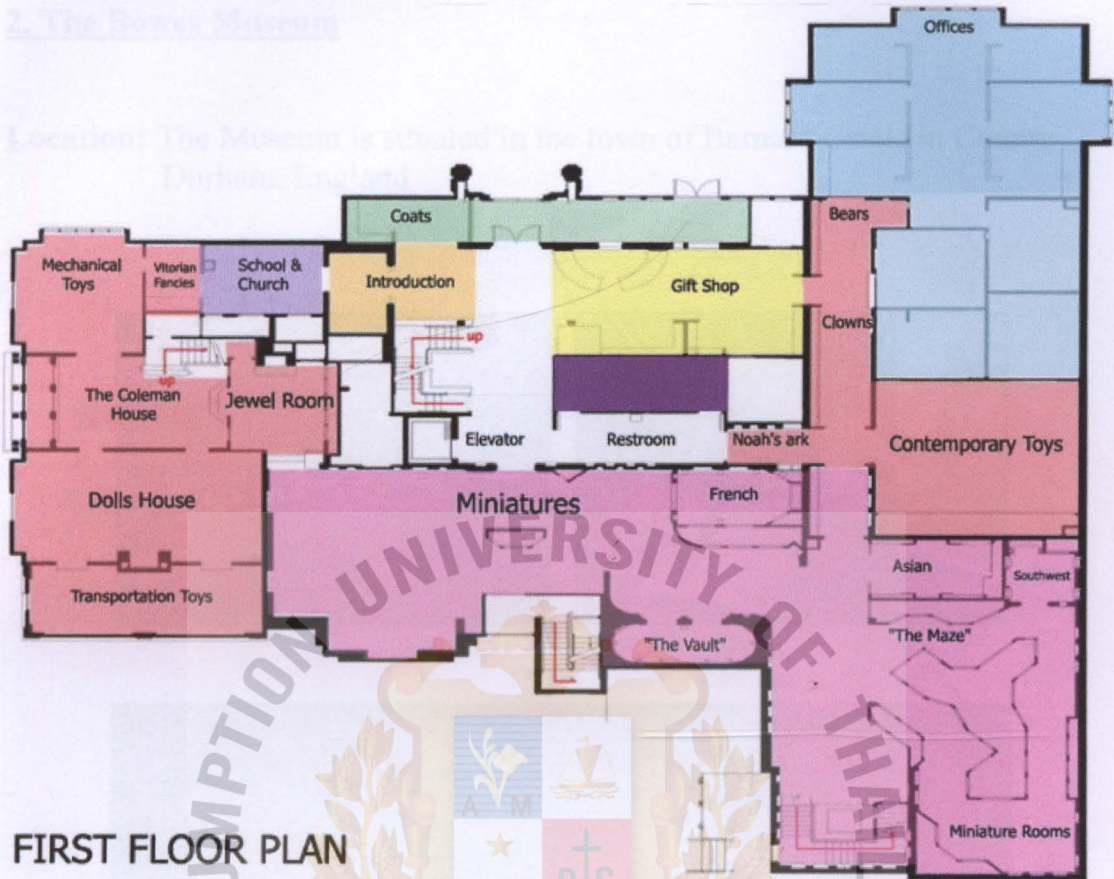
The Museum hours are Wednesday through Saturday 10:00 to 4:00 and Sunday 1:00 to 4:00. Admission prices are \$6.00 adults, \$5.00 seniors and students, and \$4.00 for children ages 5 through 12. The Museum is closed Monday, Tuesday, major holidays, and the two weeks following Labor Day in September.

Toy and Miniature Museum of Kansas City has a good planning and large area for Permanent and Temporary Exhibition. 24 rooms of museum filled with kind of toy include playground and game room. This museum has a lot of interesting area and activity inside.

Function and Area requirement

2. The House Museum

Location: The Museum is situated in the town of Durham, England. The town is a UNESCO World Heritage Site.



FIRST FLOOR PLAN

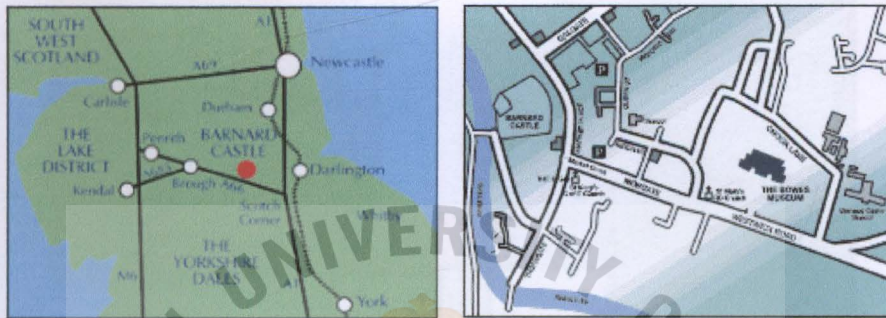
FUNCTION AND AREA REQUIREMENT

Entrance Foyer	1.6 %
Introduction Area	0.8 %
School & Church	0.6 %
Souvenir Shop	1.8 %
Exhibition Space	53.8 %
- Toy	= 47.8+6
- Miniature	
Staff Office	6 %
Restroom	0.75 %

: Secondary Information

2. The Bowes Museum

Location: The Museum is situated in the town of Barnard Castle in County Durham, England



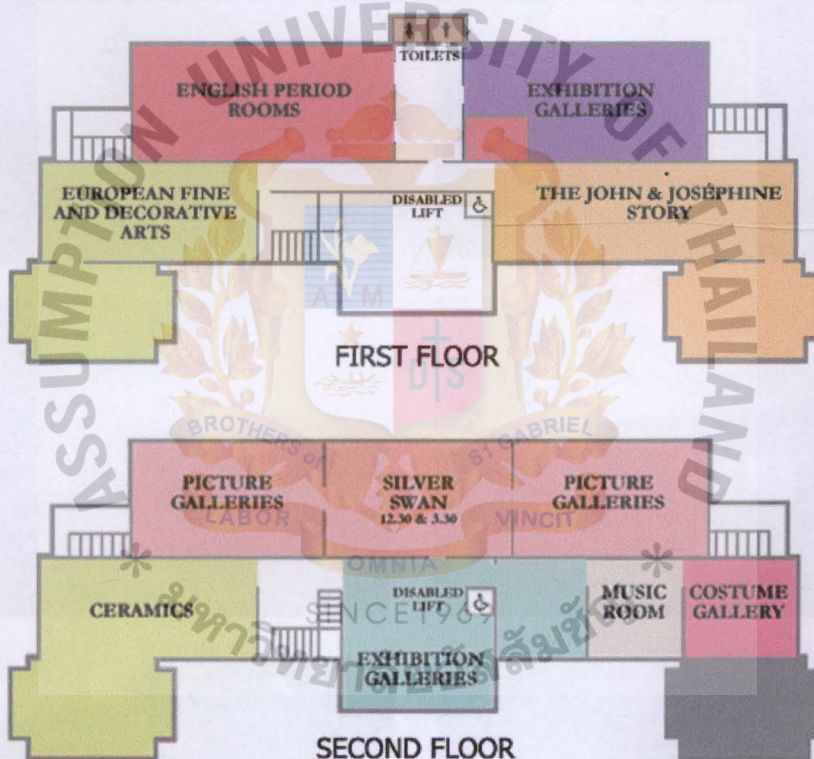
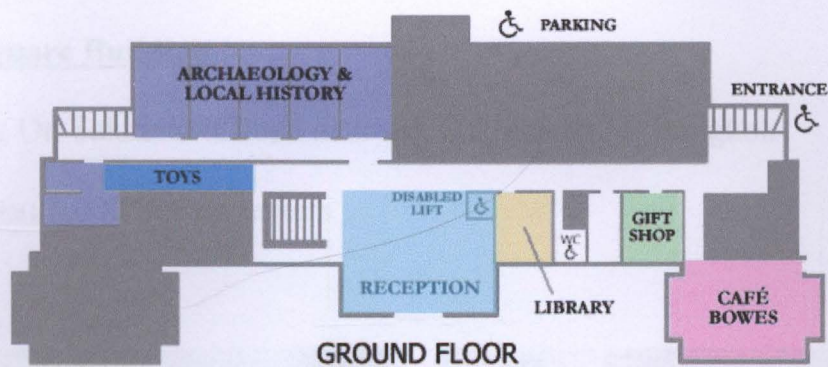
The Bowes looked very interesting. It is the museum in form of old England castle. This museum has very large space for exhibition.



FUNCTION AND AREA REQUIREMENT

Exhibition Space - Toy	53.8 % = 6+47.8
Playground	1.2 %
Theater	0.8 %
Nursery	0.4 %
Game Room	3.8 %
Temporary Exhibition	10 %
Auditorium	2.8 %
Restroom	0.75 %

Area requirement



AREA REQUIREMENT

Reception Hall	3.0 %
Souvenir Shop	0.8 %
Cafeteria	2.7 %
Library	0.8 %
Exhibition	77.4 %
Toilet	0.3 %

CHAPTER 3: PROJECT FACTS

3.1 Site Analysis

Taisin Square Building

Location: On Sukhumvit Road near soi. Sukhumvit 71, Bangkok

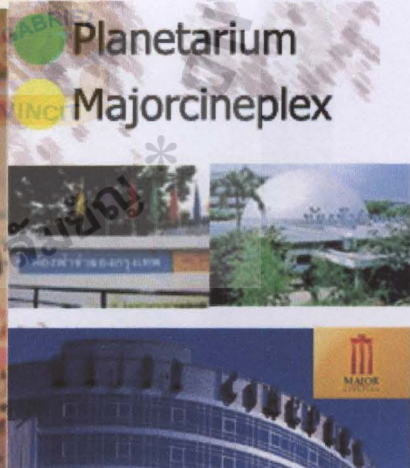
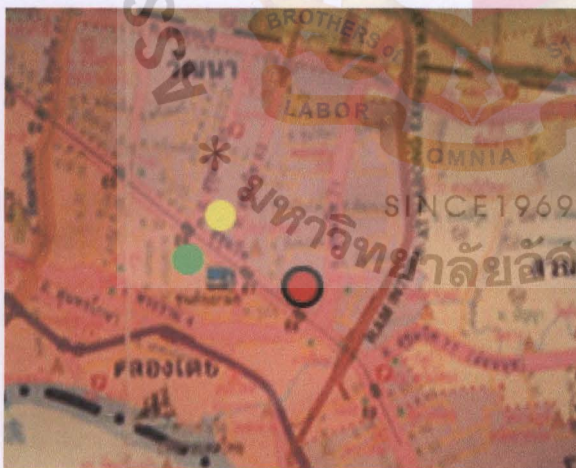
Total Area: 6,000 Square meters



Exterior

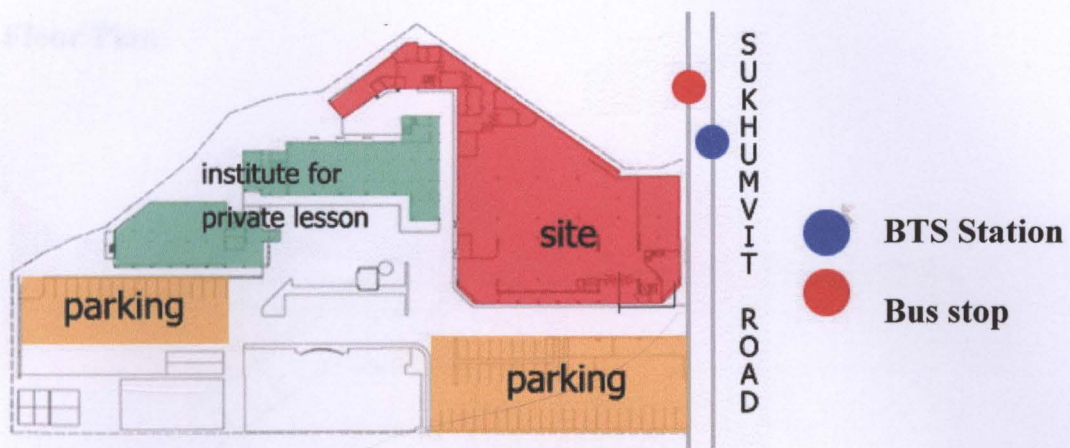


Location in Bangkok



Neighborhood Location (target group)

- Opposite to Planetarium
- Near Major Cineplex
- Thai High school and International School



Institute for private lesson (target group): such as

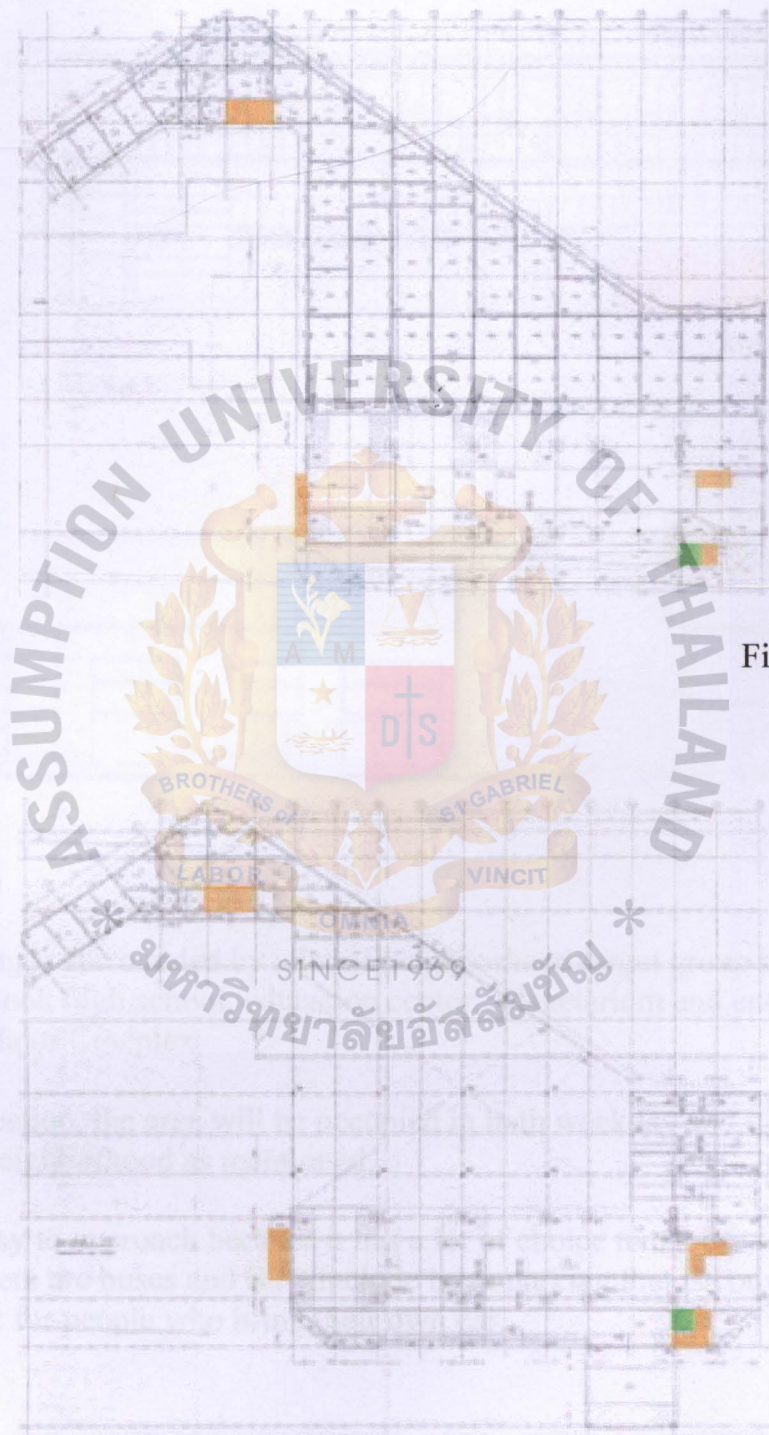
- Art School
- Taekwando School

Site approach by

- BTS
- Bus No. 2, 25, 38, 40, 45, 48, 71, 98 and 184
- Air bus No. 501, 508, 511 and 513
- Private car (Parking about 70-80 cars)



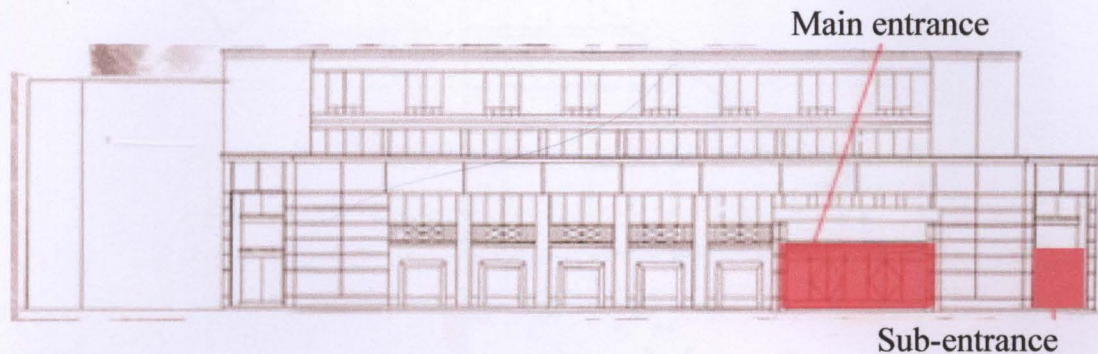
Floor Plan



First floor plan

Second floor plan

Elevation

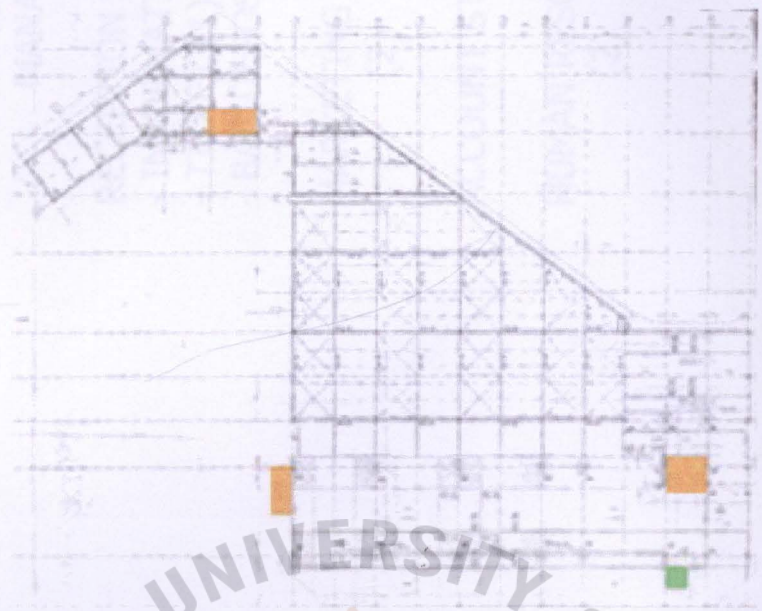


Conclusion

This building is surrounded by a lot of neighborhood target group such as primary school, high school, education center: planetarium and entertainment complex: Major Cineplex

From its location, the area will be occupied in both weekday and weekend as variety of neighborhood as mentioned.

This site easy to approach because it has a lot of choice to choose to get to the building, there are buses and BTS include large parking that is convenience and comfortable for people who bring their own car.



Third floor plan

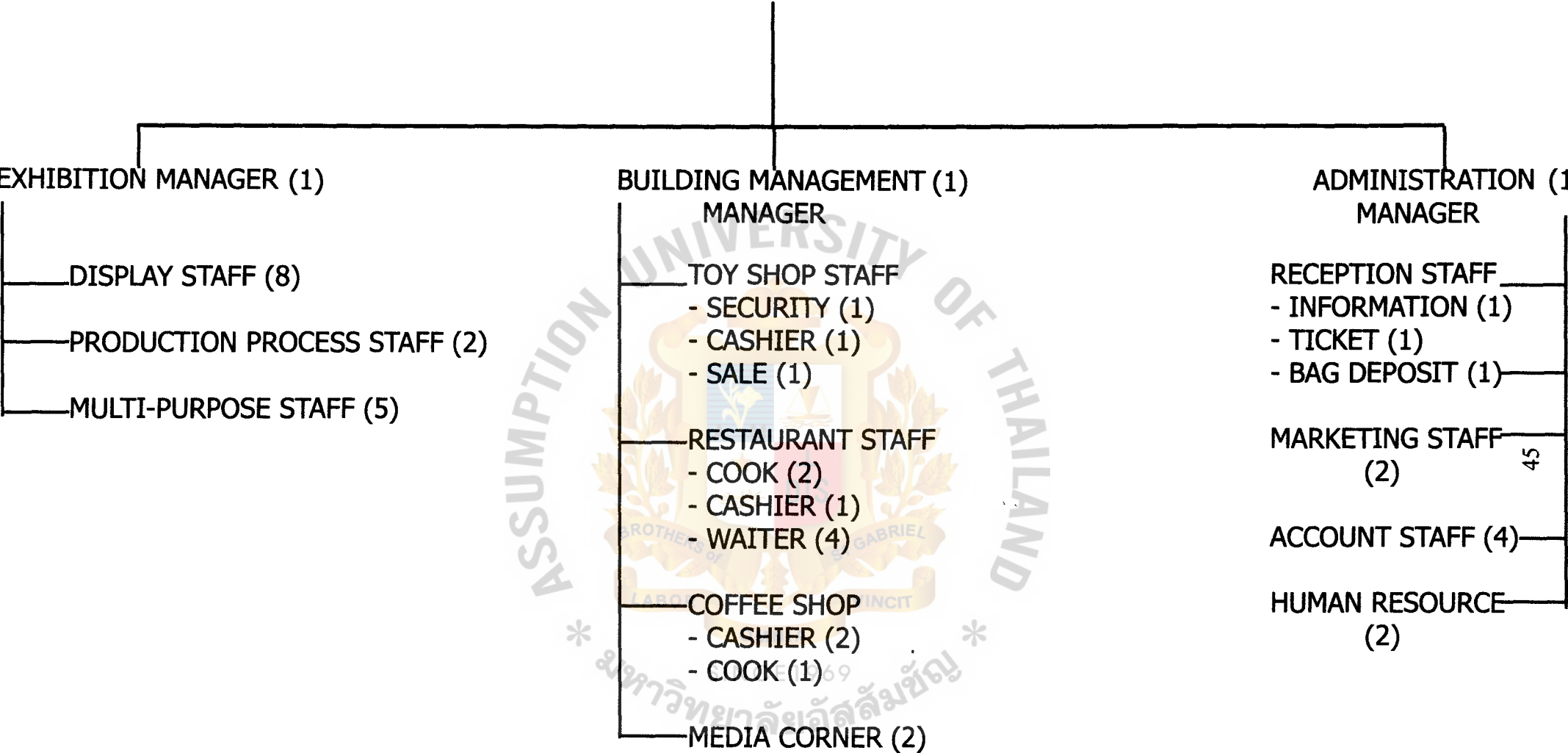


Fourth floor plan

- Stair
- Elevator

3.2 FACILITY STUDY

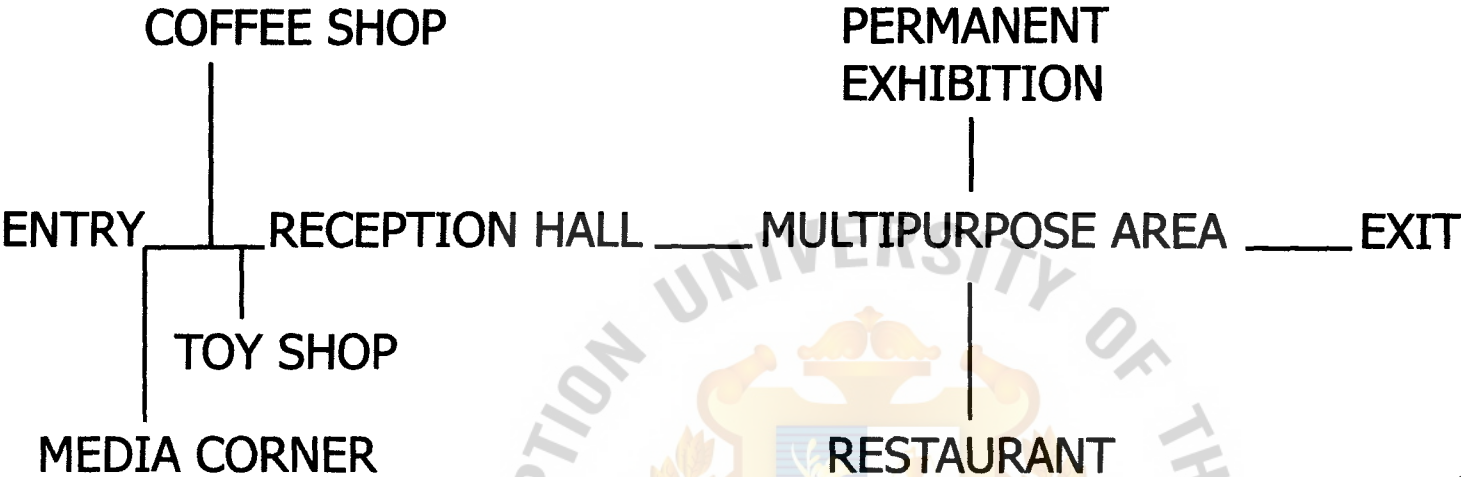
MUSEUM DIRECTOR (1)



TOTAL STAFF 45 PERSONS

MUSEUM ORGANIZATION CHART

USER BEHAVIOR

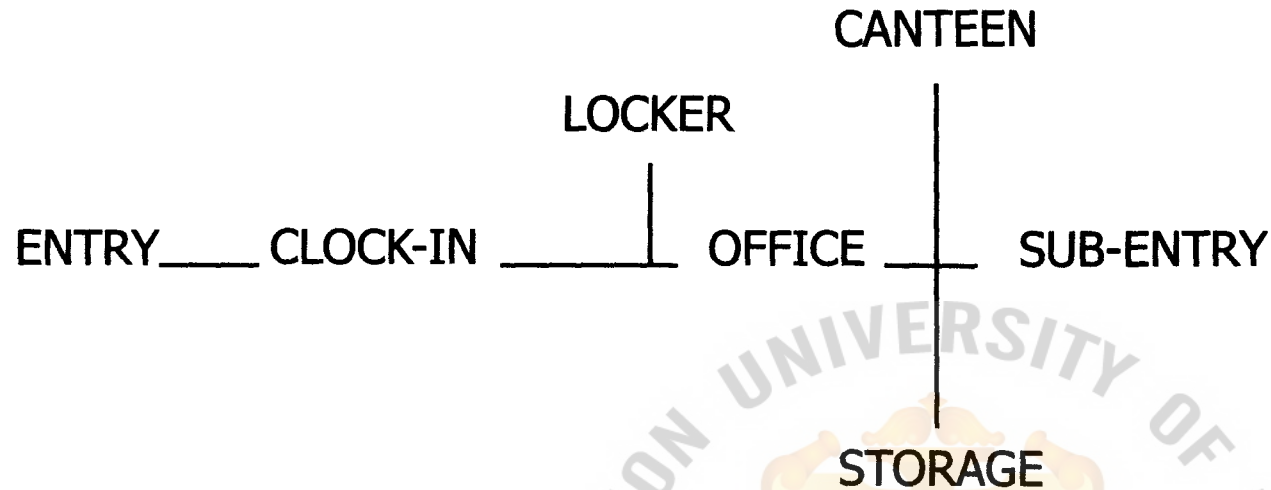


GENERAL VISITOR

46



STUDENT



MUSEUM STAFF

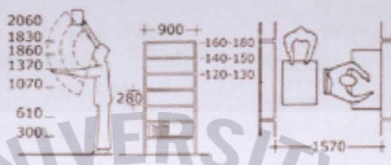
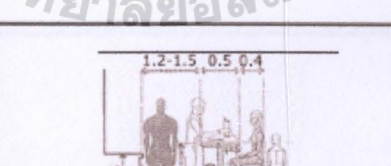
47

TOY MUSEUM HAS THREE TYPES OF USER THAT HAVE A DIFFERENT BEHAVIOR INSIDE
THE MUSEUM

CHAPTER 4

DATA SYNTHESIS AND PROGRAMMING

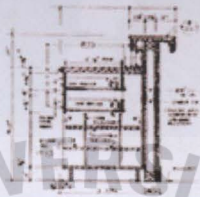
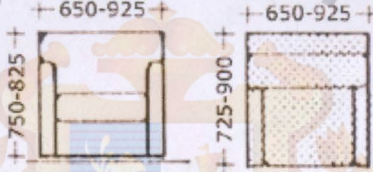
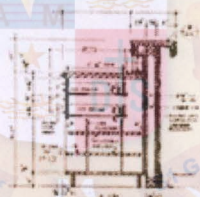
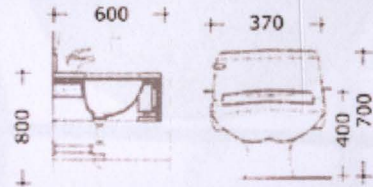
AREA REQUIREMENT:

Area	Staff	Fur Requirement	Furniture Area	Equipment	Area	Privacy
11. Research corner	2	counter, desk, table, chair, bookcase, sofa		computer, telephone, information board	60 sq.m	N
12. Restaurant	8	table, chair, sofa, counter bar, stool		cashing machine	120 sq.m	N
13. Storage	4	shelf, locker		stair	300 sq.m	Y
14. Introduction	-	display		projector, information board	30 sq.m	N
15. Temporary exhibition	4	stage, movable chair, display, table, equipment case		projector	600 sq.m	N

AREA REQUIREMENT:

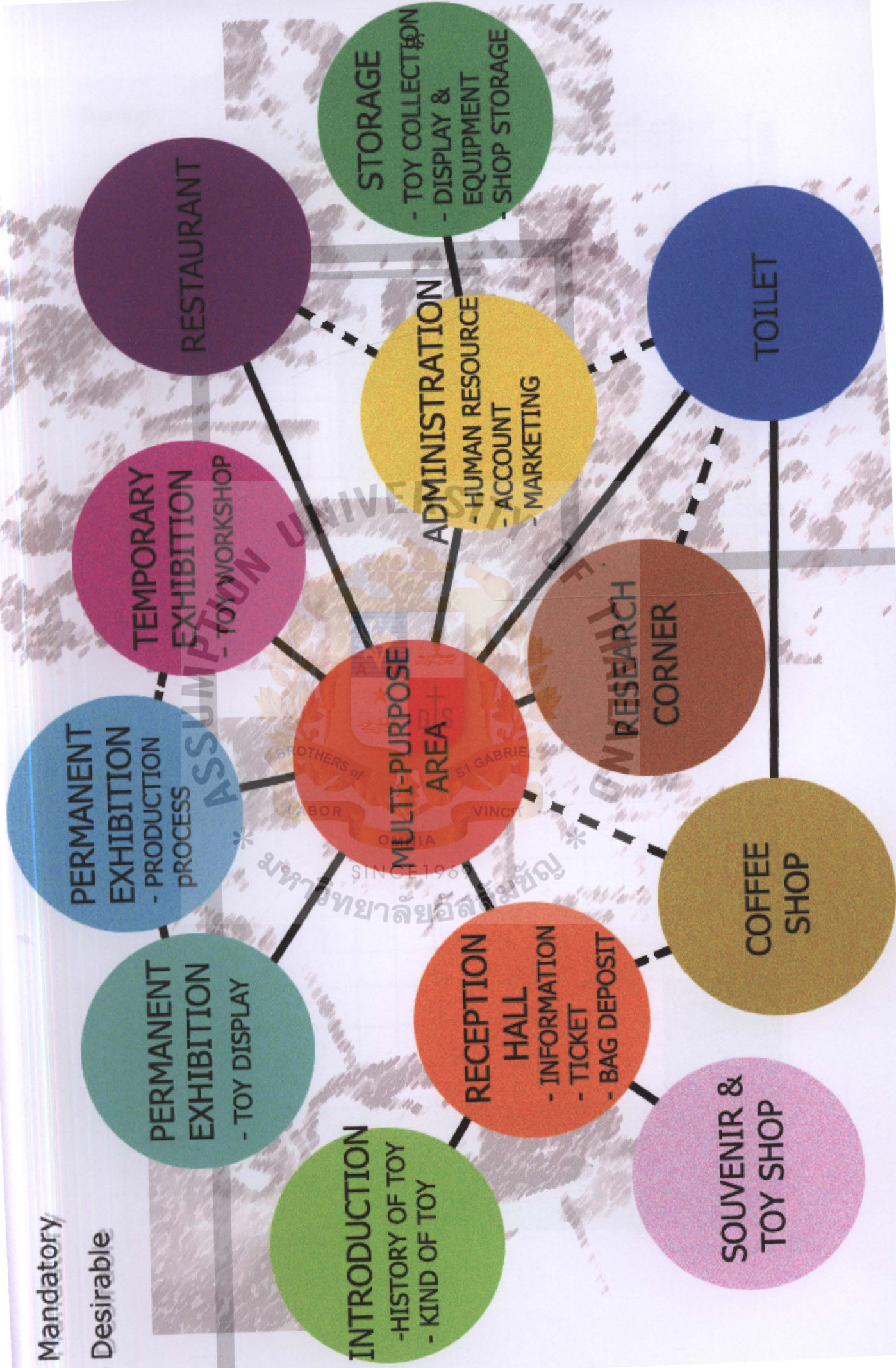
Area	Staff	Fur Requirement	Furniture Area	Equipment	Area	Privacy
6. Exhibition (Production process)	3	display product,		computer, projector, information board	600 sq.m	N
7. Exhibition (Toy display)	7	display product		multimedia	1980 sq.m	N
8. Souvenir shop	2	window display, tables display, self, boot cashier, storage		cashing machine, fax, product stand, telephone	30 sq.m	N
9. Office + Locker room	15	desk, chair, cupboard, locker		computer, printer, telephone, fax, etc.	510 sq.m	Y
10. Multi-purpose area	5	white board, stage, stand, movable chair		projector, slide, microphone, computer, etc.	240 sq.m	N

AREA REQUIREMENT:

Area	Staff	Fur Requirement	Furniture Area	Equipment	Area	Privacy
1. Reception	2	counter reception, chair		computer, fax telephone	15 sq.m	Y
2. Main hall	-	chair, display		information board	120 sq.m	N
3. Ticket counter	3	counter, chair		computer, telephone, fax cashing machine	45 sq.m	Y
4. Coffee shop	2	counter bar, chairs tables, stools, sink, freezer con, shelf storage		cashing machine, shelf display	60 sq.m	N
5. Restroom	-	mirror, small-shelf, sink		hand dryer machine, soap fixture, bin	60 sq.m	N

Mandatory

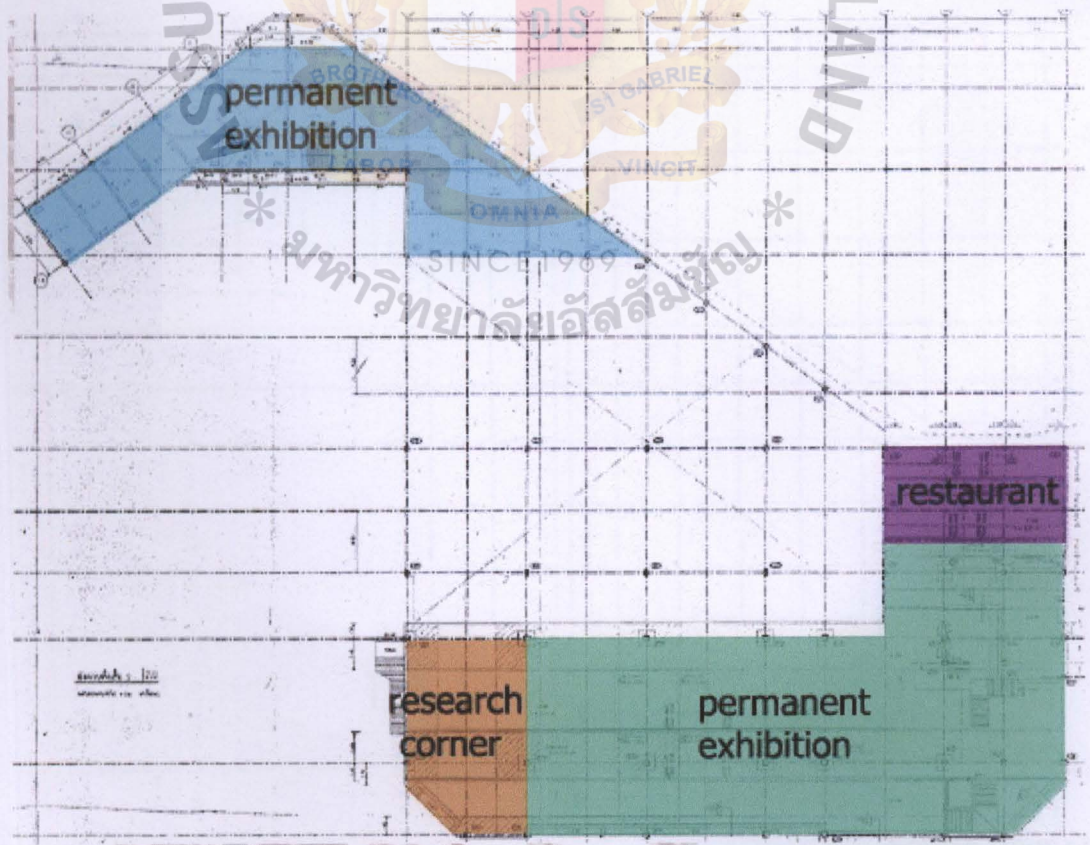
Desirable



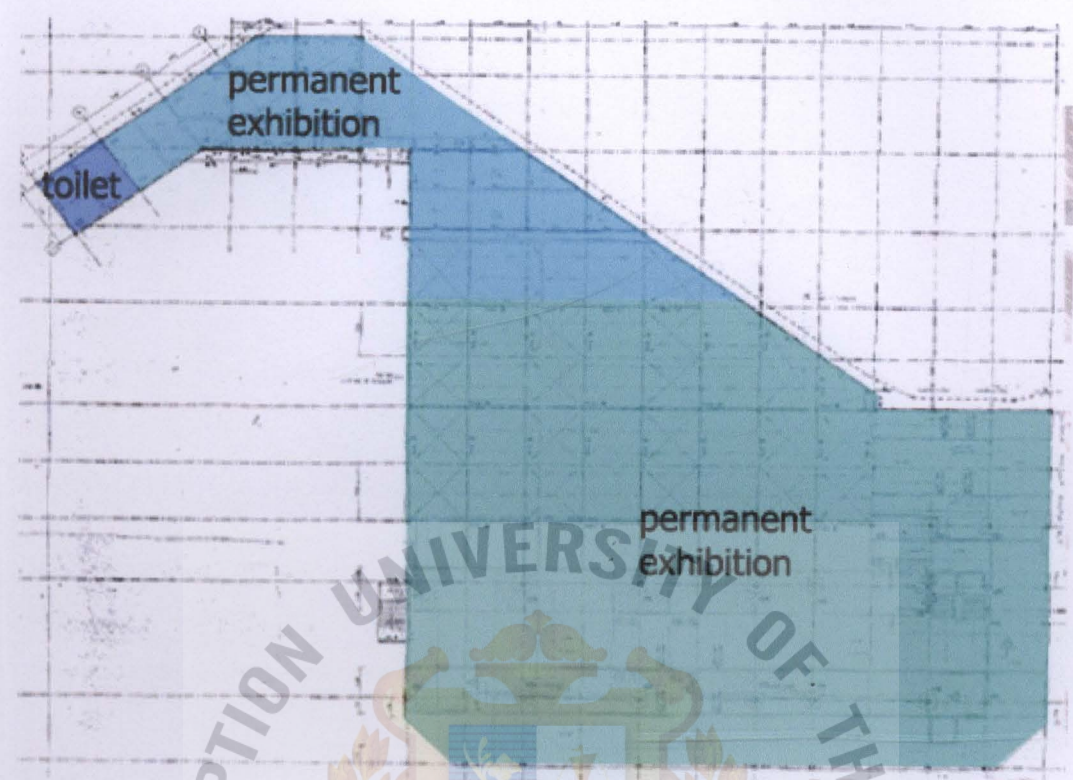
Zoning:



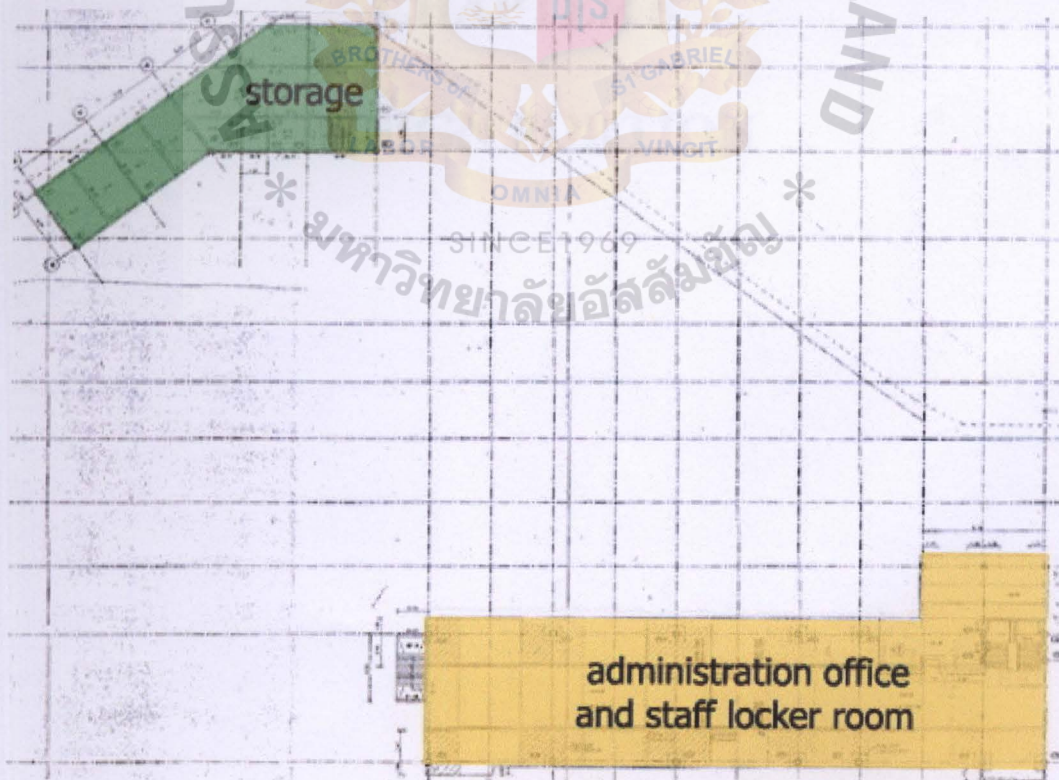
First floor plan



Second floor plan



Third floor plan



Fourth floor plan



CHAPTER 5

DESIGN PORTION

CONCEPTUAL OF BE COMPOSED:

Six kinds of toy in museum had each own character, can separated to three types of them;

1. Composed to be Form
2. Composed to be Free Form
3. Composed by Wrap



@TOY MUSEUM

Concept

Concept created from 6 characters of toy in the museum:

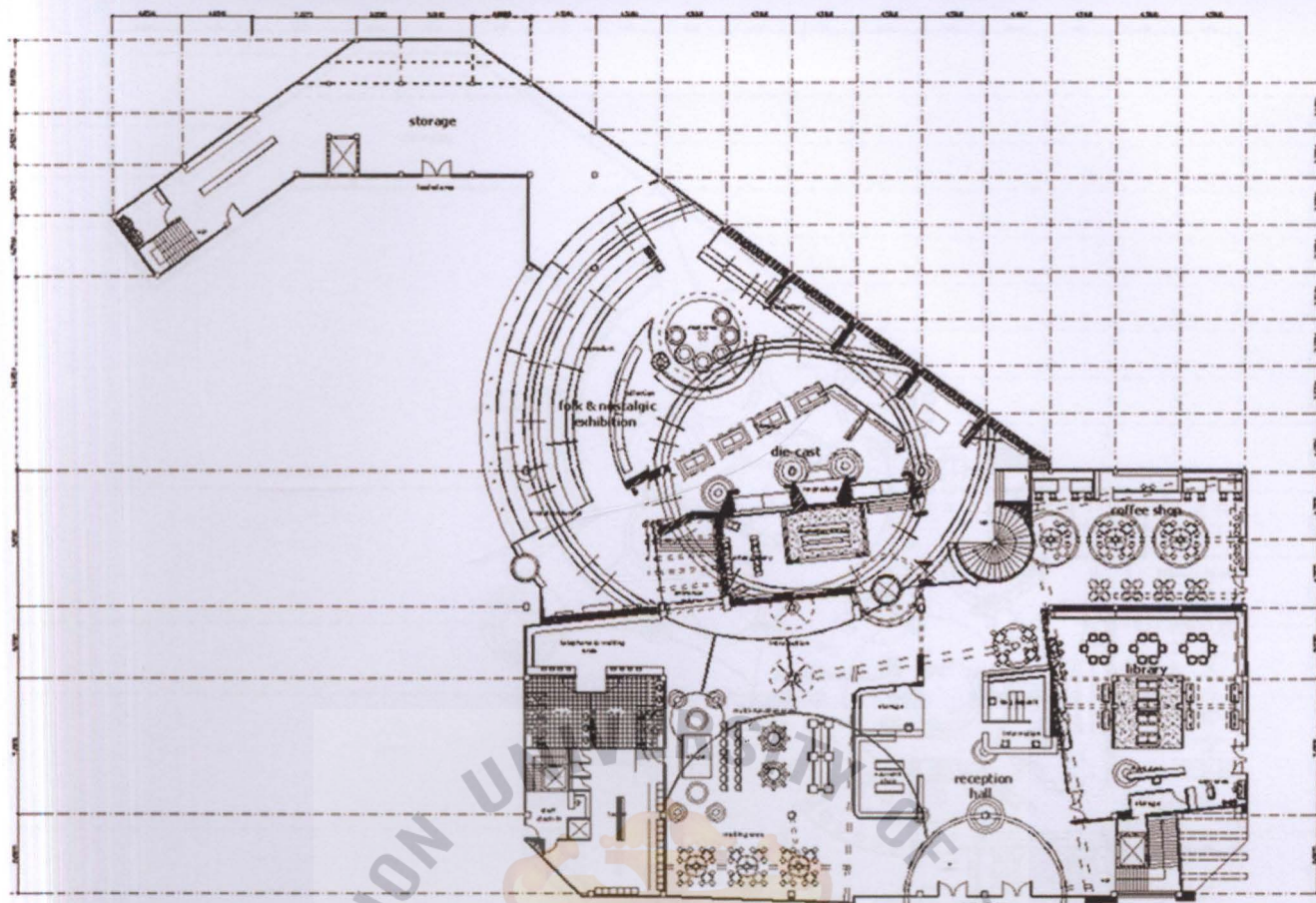
1. Figures
2. Dolls
3. Folk and Nostalgic
4. Die-cast
5. Mechanical & Construction
6. Kits

All of them can conclude to be three type of composed:

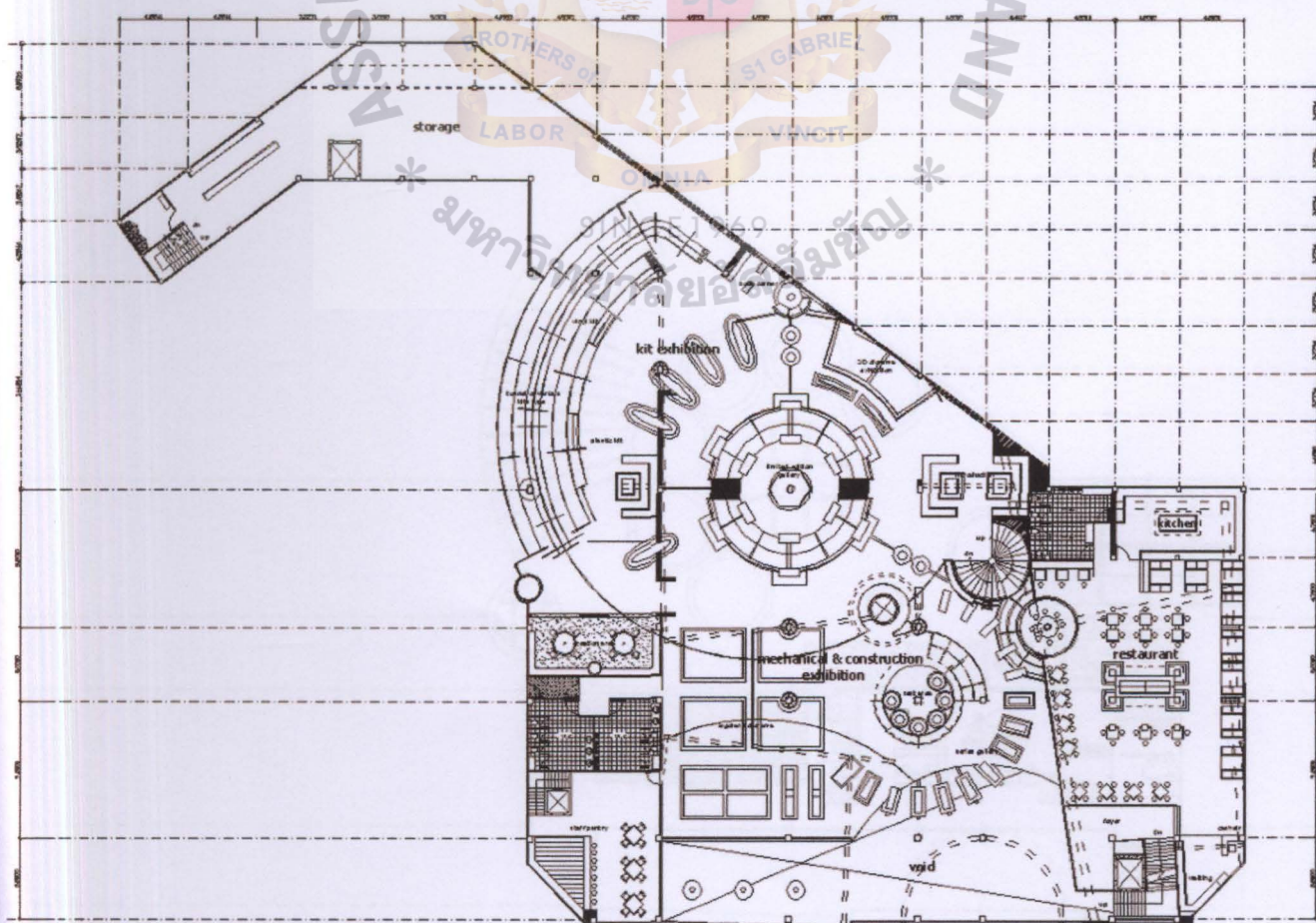
- composed to be form
- composed to be free form
- composed by wrap

Then I used three type of concept created form of space and display inside museum also the way to display toy.

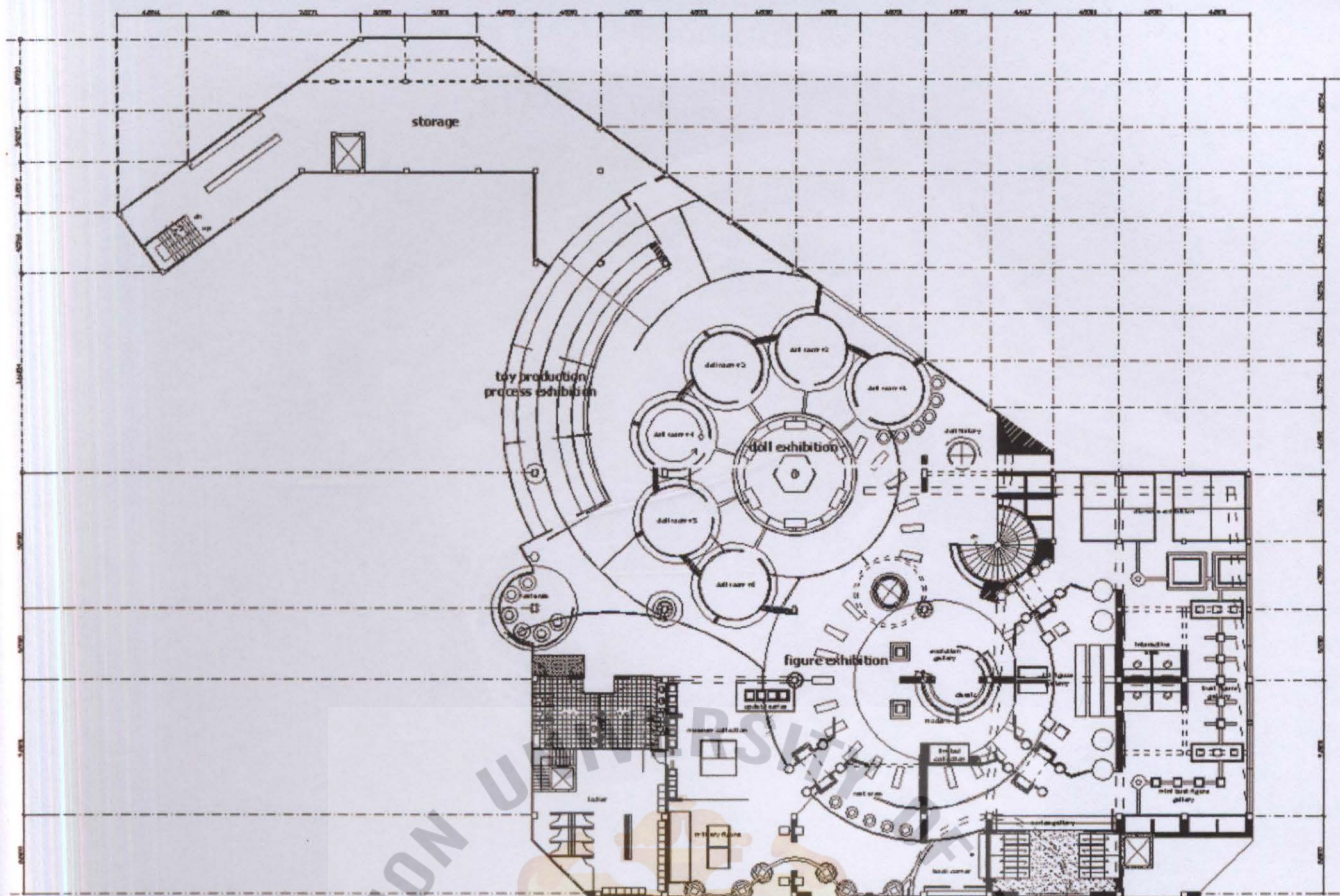
Between floor to floor you can see the way that they interlock together and their connection in detail such as beam, void and main hall of toy museum.



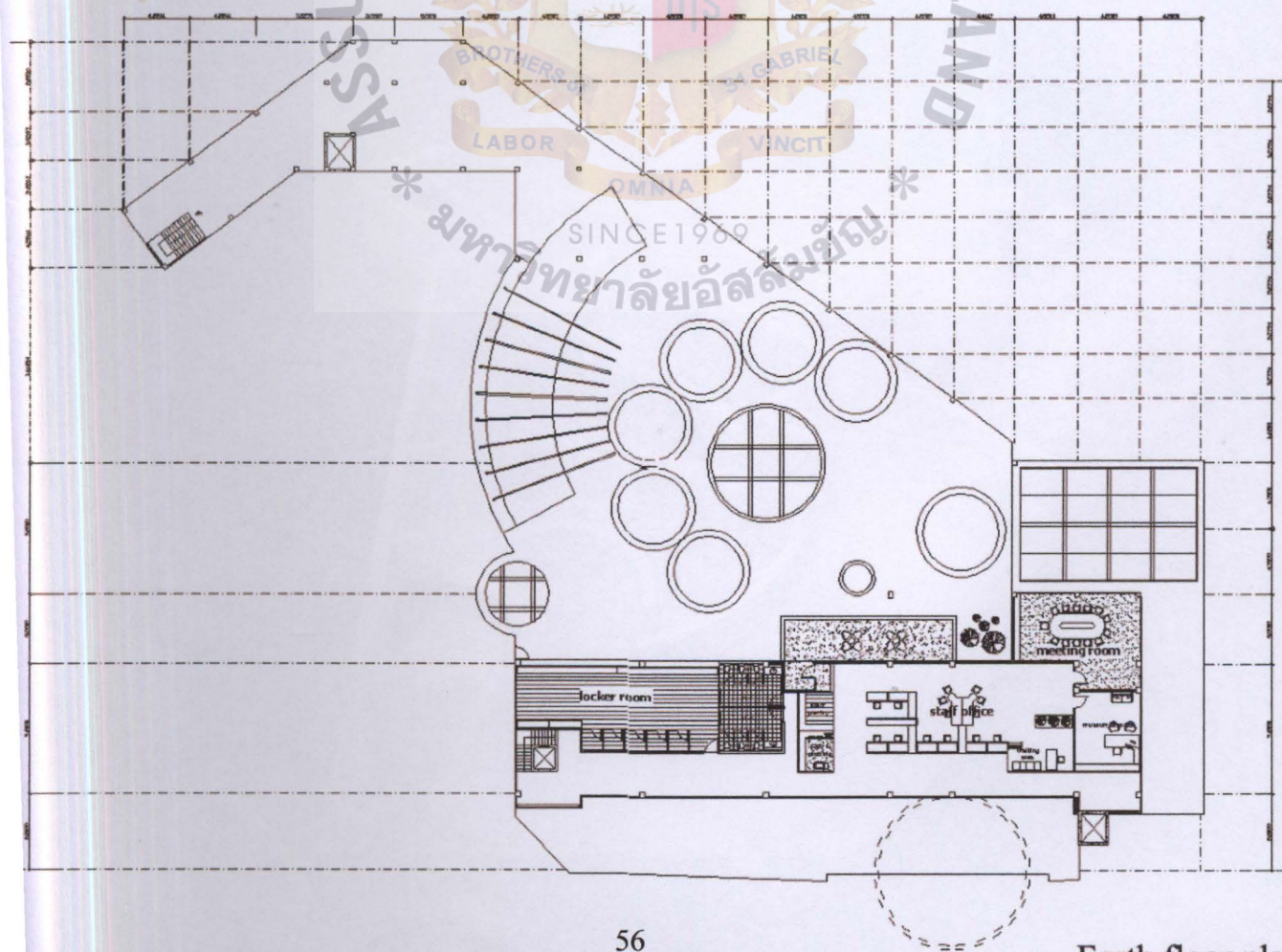
First floor plan



Second floor plan

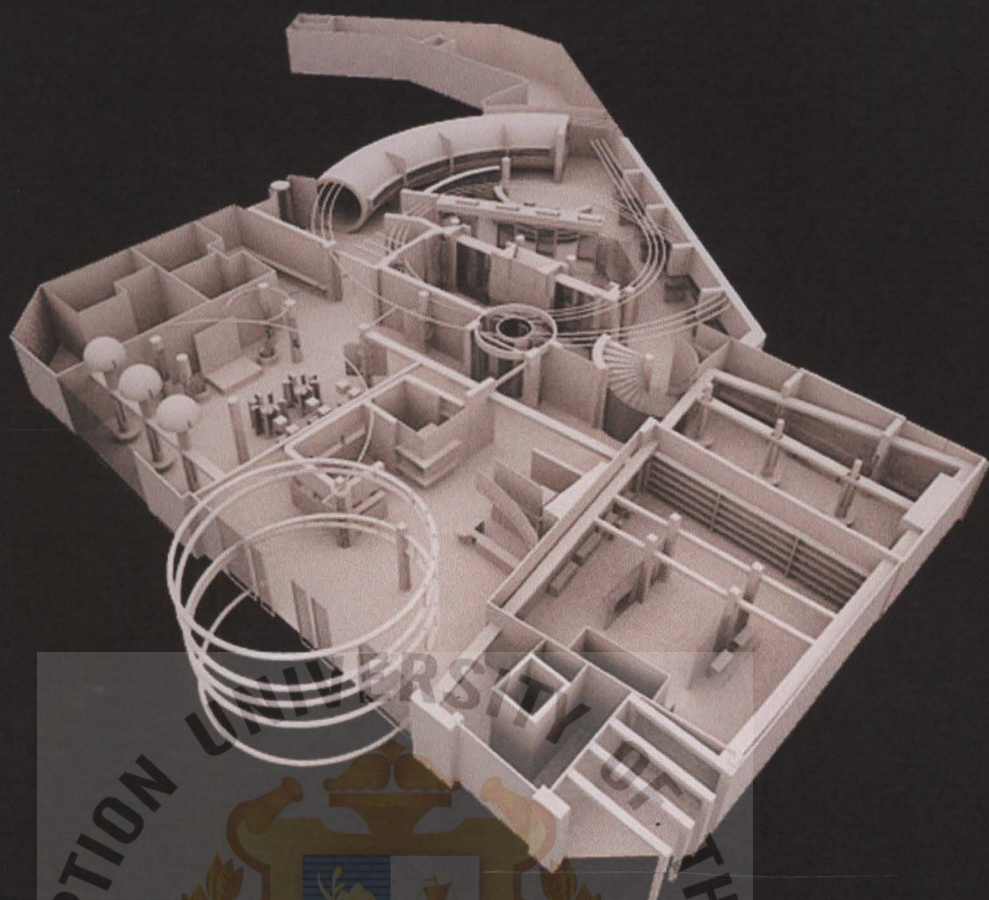


Third floor plan

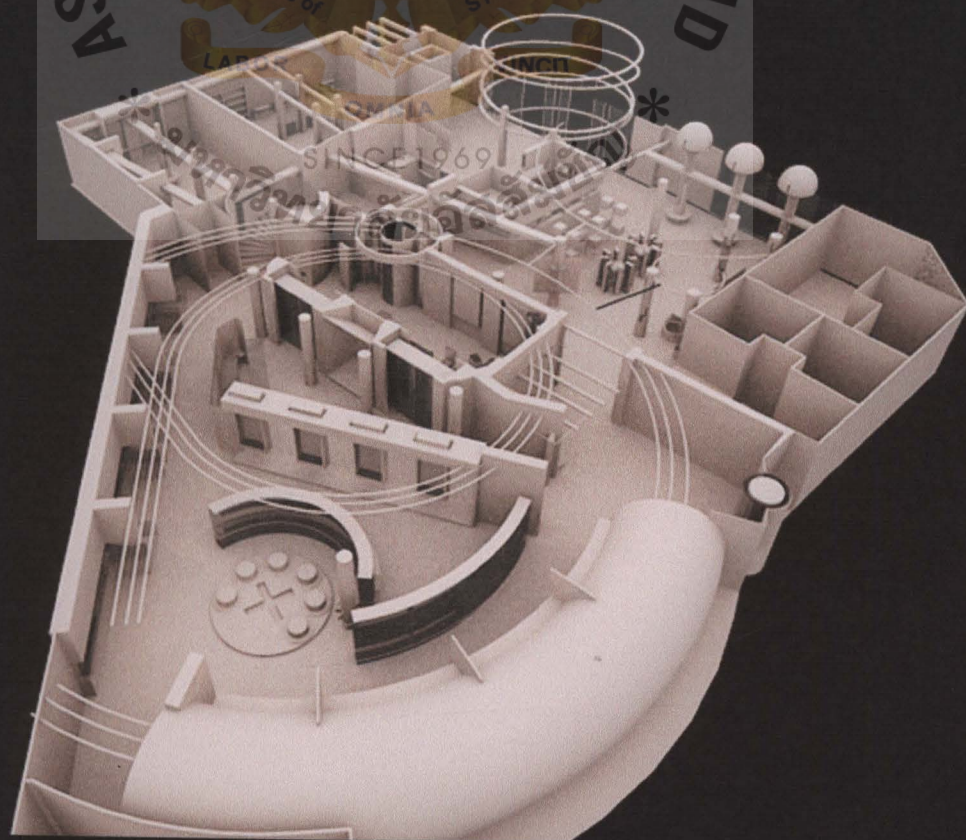


Fourth floor plan

FRONT VIEW



BACK VIEW



ONT VIEW

K VIEW

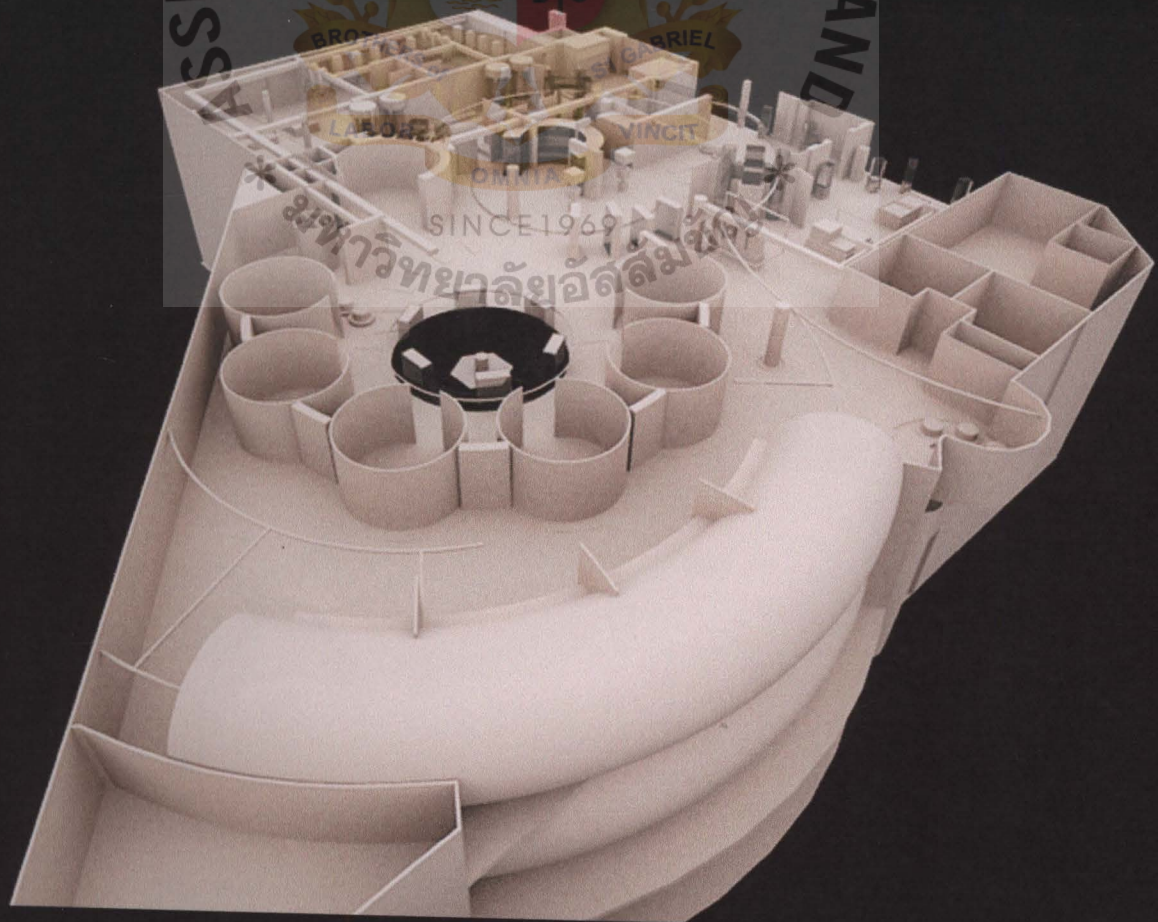


THIRD FLOOR

FRONT VIEW



BACK VIEW



THIRD FLOOR

FRONT VIEW

BACK VIEW

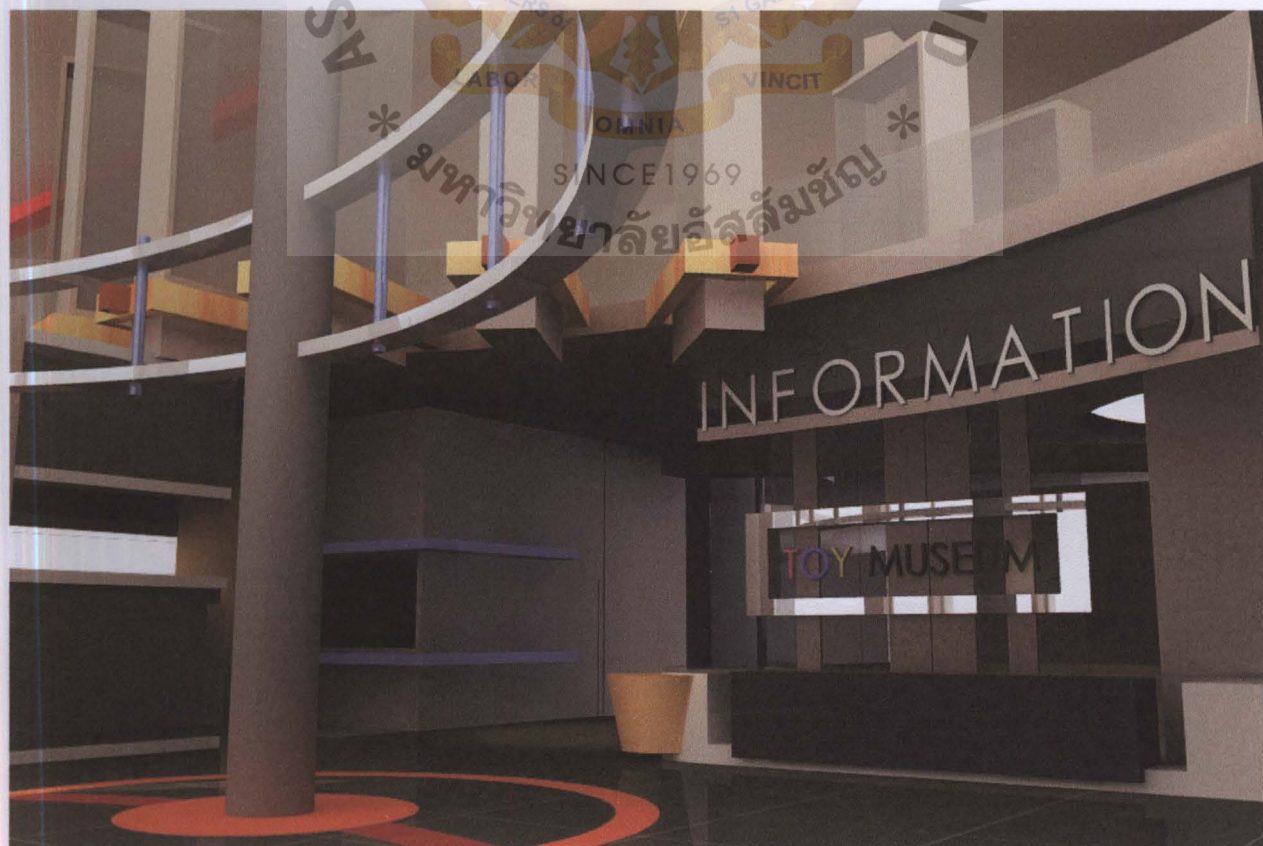


SECOND FLOOR

PERSPECTIVE GALLERY



Reception hall



PERSPECTIVE GALLERY



Coffee shop



ERSPECTIVE GALLERY

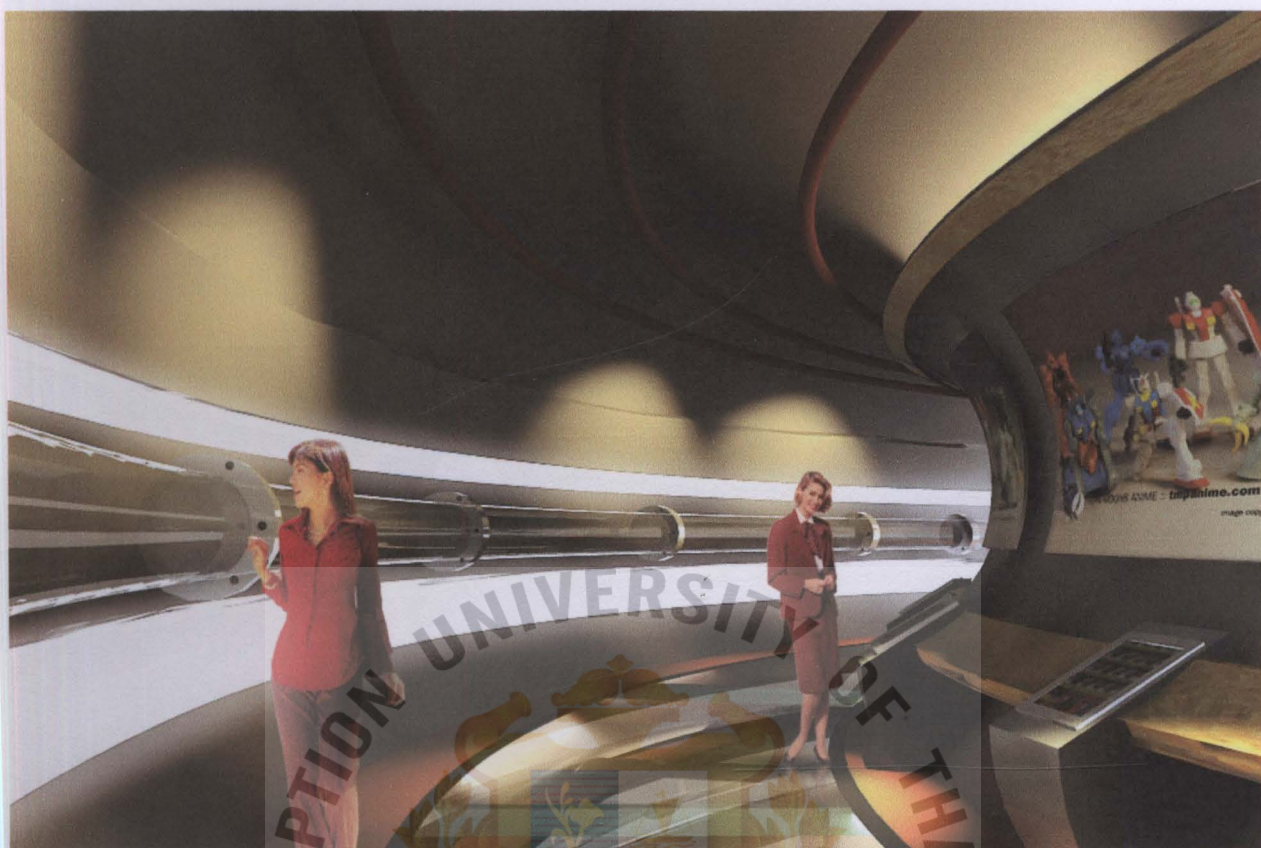


1st floor exhibition: waiting area



evolution⁶¹ tunnel of folk & nostalgic toy: 1st floor

PERSPECTIVE GALLERY



Tunnel of kit: 2nd floor



PERSPECTIVE GALLERY



3rd floor exhibition: doll rooms



LONGITUDINAL SECTION



1ST FLOOR ELEVATION



ASSUMPTION UNIVERSITY OF THAILAND
Assumption Memorial
มหาวิทยาลัยอัสสัมชัญ
SINCE 1969
BROTHERS OF
LABOR OMNIA VINCIT
S1 GABRIEL



FRONT HALL ELEVATION



