Chapter one

The concept and meaning of culture

Culture /ˈkʌltʃər/, from Latin: cultura, lit. “cultivation” is a concept based on a term first used in classical antiquity by the Roman orator Cicero: “cultura animi” **(cultivation of the soul).**

This non-agricultural use of the term “culture” re-appeared in modern Europe in the 17th century referring **to the betterment or refinement of individuals, Especially through education**. During the 18th and 19th century it came to refer more frequently to the common reference points of whole peoples, and discussion of the term was often connected to national aspirations or ideals.
Some scientists such as Edward Tylor used the term “culture” to refer to a universal human capacity.
In the 20th century, “culture” emerged as a central concept in anthropology, encompassing **the range of human phenomena that cannot be directly attributed to genetic inheritance**. Specifically,
The term “culture” in American anthropology had two meanings:
The evolved human capacity to classify and represent experiences with symbols, and to act imaginatively and creatively
and:
The distinct ways that people, who live differently, classified and represented their experiences, and acted creatively.
Hoebel describes culture as an integrated system of learned behaviour patterns which are characteristic of the members of a society and which are not a result of biological inheritance.
Distinctions are currently made between the physical artefacts created by a society, its so-called material culture, and everything else, the intangibles such as language, customs, etc. that are the main referent of the term “culture”.

Culture is central to the way we view, experience, and engage with all aspects of our lives and the
World around us.
Thus, even our definitions of culture are shaped by the historical, political, social, and cultural
Contexts in which we live.

Project definition :

a public facility that aims towards creating a social interactive environment promoting culture in the form of literature and art

project goals :

designing a building that serves the intellectual creative movement in the country and
be a center for that movement hosting activities and providing knowledge for the public
elevating the region culturally ..
introducing the public to the art ..
providing cultural and artistic materials to the public ..
providing a chance for people of common interests to meet and interact ..

project challanges

creating sustainable treatments for the heat issues in the open and semi open spaces
incorporating elements that links the center to the culture and heritage of the country
creating fluid movement , flexible spaces , and breaking the static structure that produces boredom
technically easy control and access of the facility with maintaining the safety and security side as well.

Project aspects

***cultural aspect**
introducing the public to different cultures including the Sudanese culture
having annual and monthly exhibits as well as shows and plays and events
preserving knowledge

***functional aspect**
having a public library that will provide knowledge
having training and teaching classes in different art mediums
providing a good enviourment for artists to create

***economical aspect**
providing chances of employment
enhancing the global view of Sudan as a cultural
increasing the investment in the country
discovery of young new talent

***beauty aspect**

Giving the site a beautiful aspect through the making of the building and surroundings

enhancing the global view of Sudan

project importance and need

Khartoum was named the cultural capital of the world in 2005 .and so the cultural side is one of the most important things the country must attend to

since 2005 there has not been much development in this area

there is also a lack of similar buildings in the country

Chapter two

Similar projects :

The Eemhuis

Architects: Neutelings Riedijk Architects

Location: Eemplein, Amersfoort, The Netherlands

Area: 16000.0 sqm

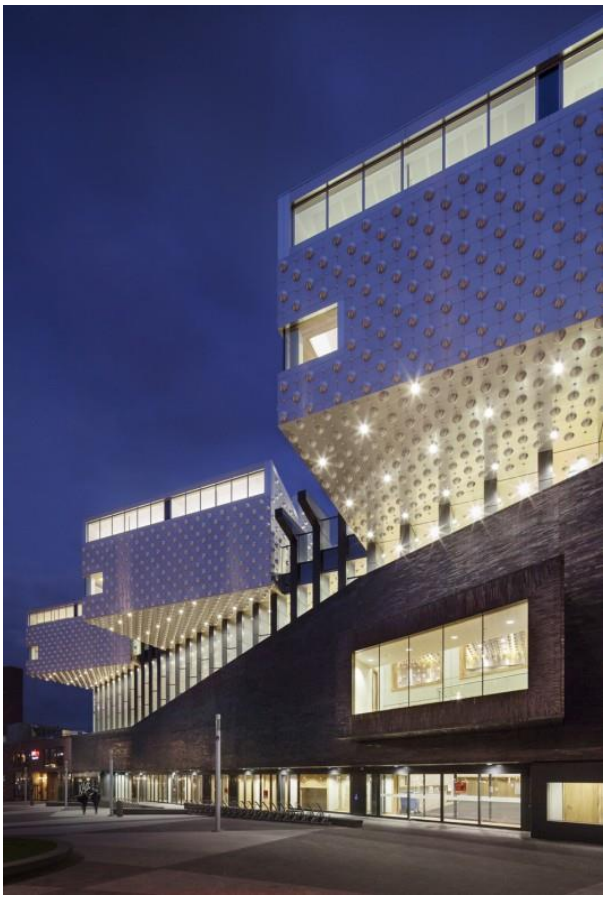
Project philosophy and design

The Eemhuis combines a number of existing cultural institutes in the city

of Amersfoort: the city library, the exposition center .

, the heritage archives and a school for dance, music and visual arts.

It is located on an urban redevelopment area close to the city center.



(2-1) prespective the eemhuis

The building is organized as a stacking of the

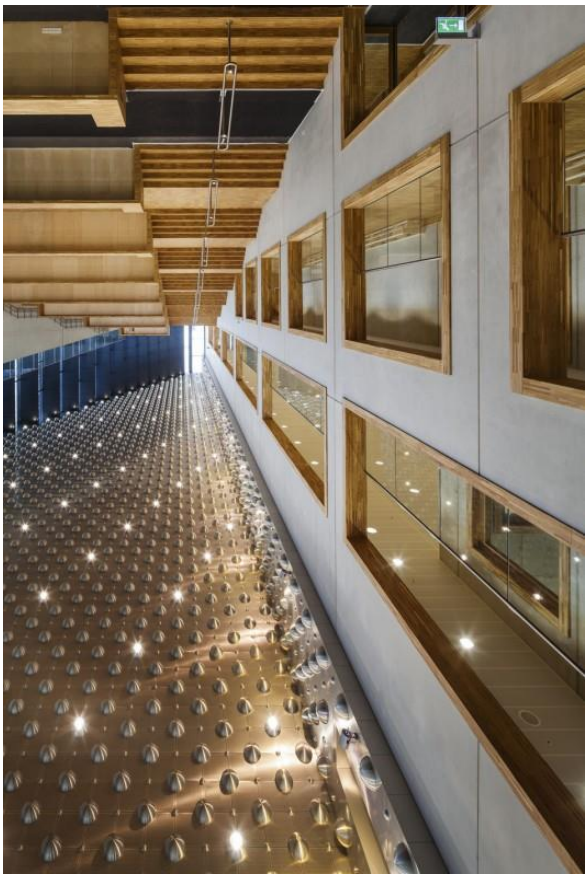
cultural programs. The public domain is continued into the interior of the building in all directions. At the ground floor,

the public square becomes a covered plaza, with a grand café and entrances to

the various functions. The exposition center is set directly off the square on the

ground floor, with a large central exhibition hall that is half sunken in the ground and

is surrounded by an enfilade of smaller exhibition rooms



(2-2) prespective

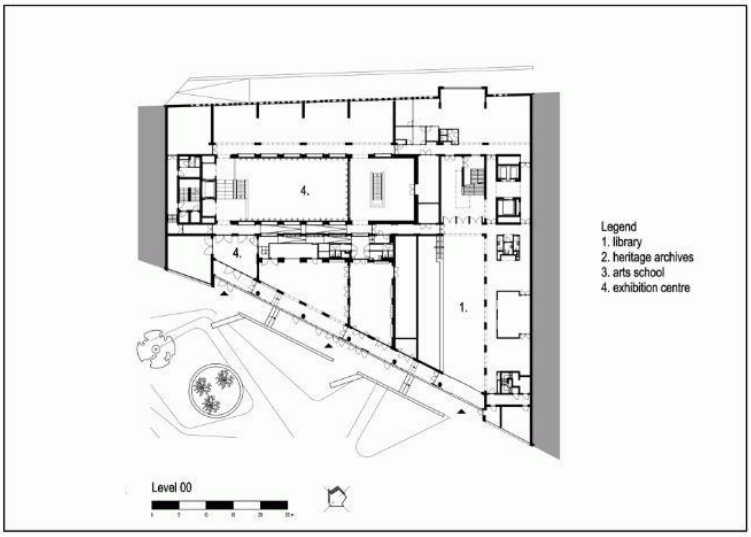
The library is a plaza of stepped information terraces as a prolongation of the city square that brings the visitors up to the main library floor. On the top of the stairs

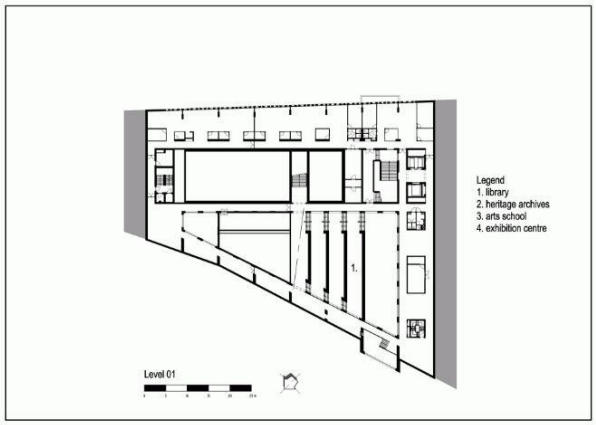
the library spills into a vast open space with book stacks and reading and study

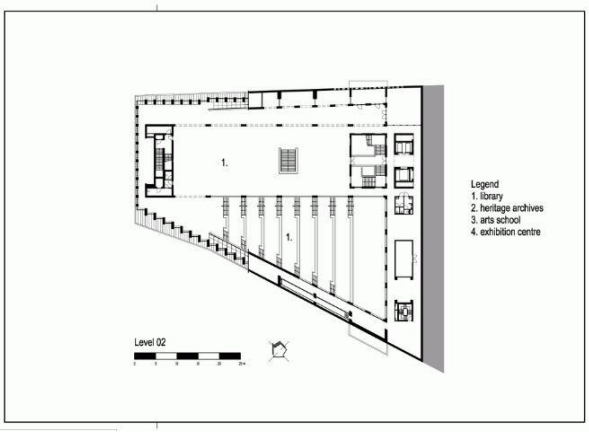
areas overlooking the city. Above it hovers the archive volume that forms the ceiling (2-3) interior

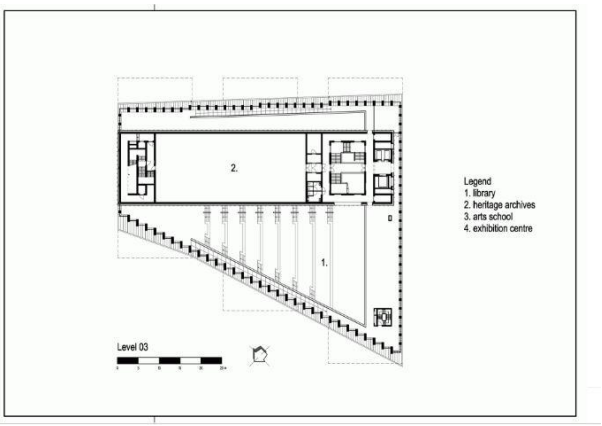
of this space. The attic of the building houses the arts school. The three arts departments (theatre & dance, visual arts and music) are each expressed separately as cantilevered beams that crown the complex.

Project plans :



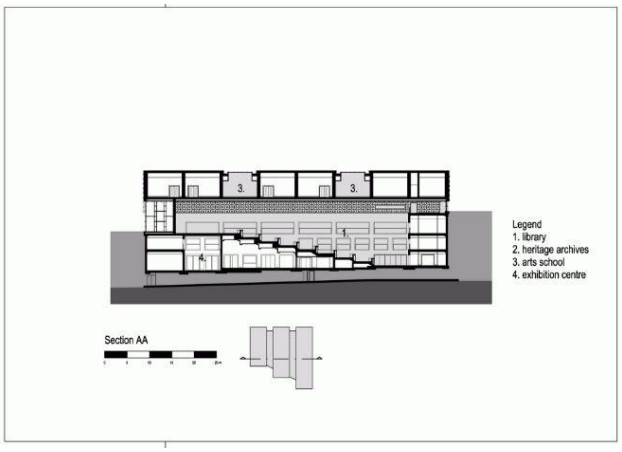


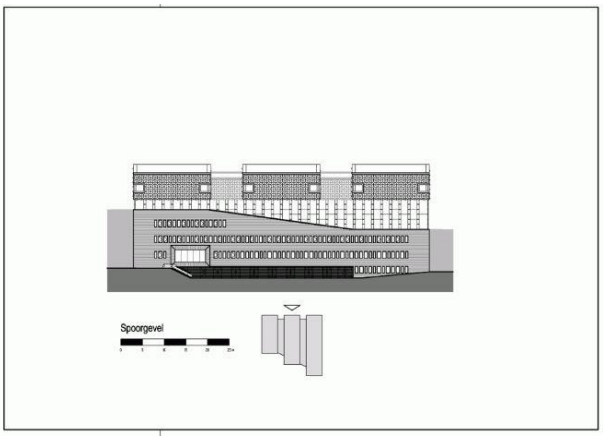




Project advantages and disadvantages :

ADVANTAGES	DISADVANTAGES
*creative library and reading hall design *artistic training separate from library (on different story) *good orientation *admin offices on basement floor	*exhibitions on basement level *undefined vertical movement (stairs and elevators) *too many doors and control areas (making users un comfortable) *4th story has long hallways that are too narrow .

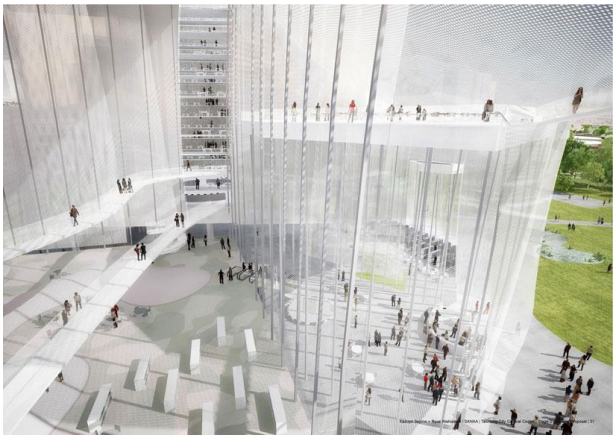




SANAA's 'Cloud Boxes'

Project philosophy and design

the pritzker prize winning team of SANAA (kazuyo sejima and ryue nishizawa) has been selected (among four other international shortlisted firms) by a master jury to realize the 'taichung city cultural center in 9egati



the local government envisioned a new urban space that would place art

at its core, celebrating the regions' disparate cultures

The competition brief sought to combine a public library and a fine arts

museum into one compound. But, of course, this is not all. The cultural

center must aid in creating a local identity,

represents the optimism and creativity of the locals, whilst attracting the attention of the international community.

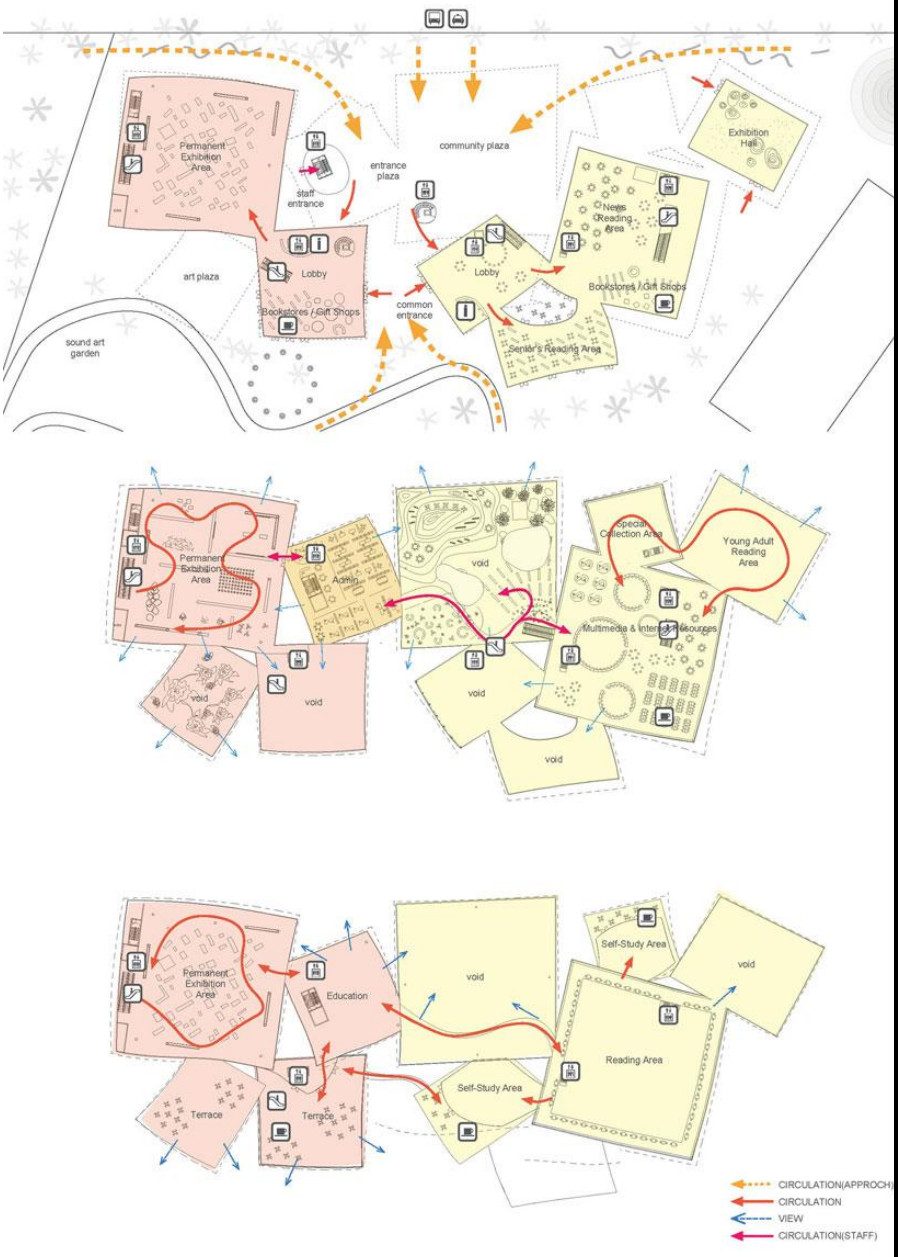
SANAA has managed to do just that.

The new 'taichung city cultural center' is part of a cultural park plan located

in the gateway city district. It will assist 10egative's urban development and

is set to become a landmark in 10egati's third-largest city,

linking tourism and municipal marketing resources to enhance its cultural brand

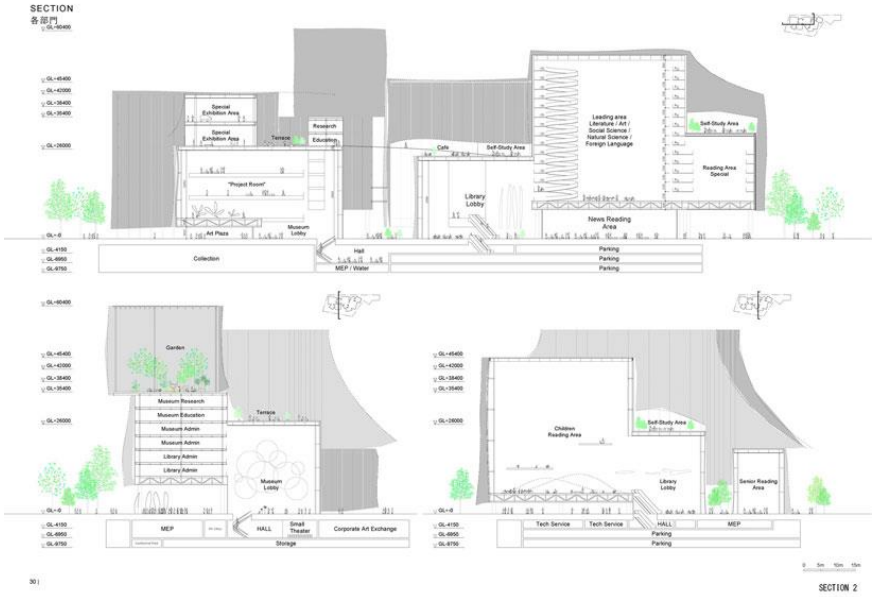


SANAA's proposal, which has been conceived with local

firm ricky liu & associates architects + planners ,

is an abstracted arrangement of white cubic volumes-

the façade is not composed of strict vertical walls, but rather



a draped and curved transparent mesh exterior which expresses

movement and openness from both inside and outside.

Programs include permanent exhibition spaces, administration

offices, multimedia and internet resource center,

special collections area, and several reading

zones and rooftop terraces, which are linked by floating

walkways. These circulation belts are defined by

architectural voids, continuing this feeling of physical

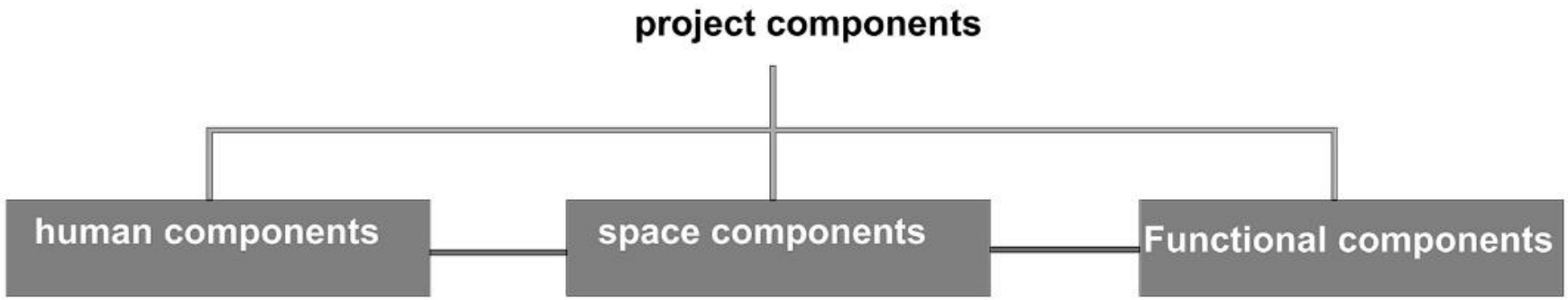
lightness, as well as offering expansive views of the interior

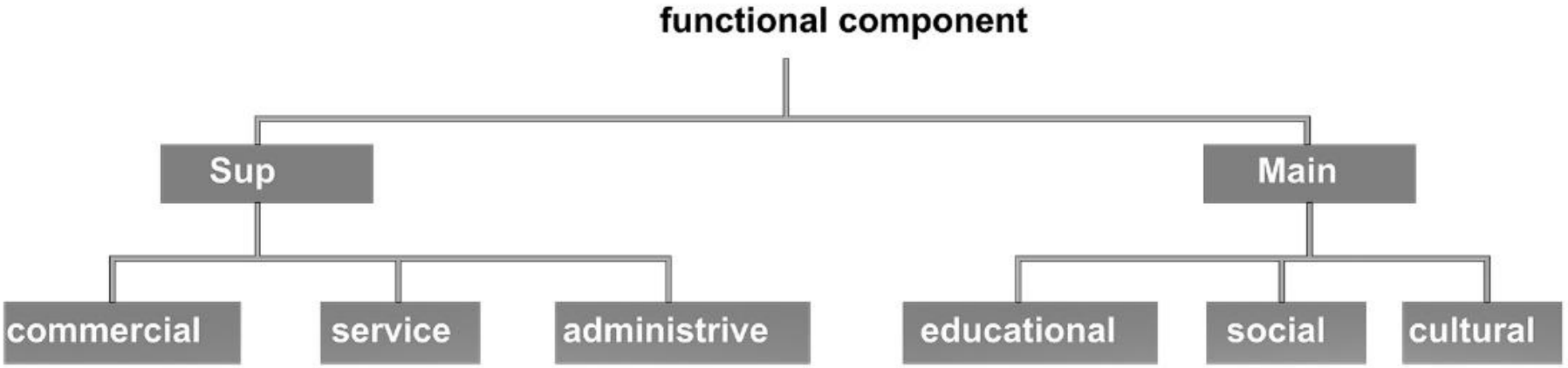
Project advantages and disadvantages :

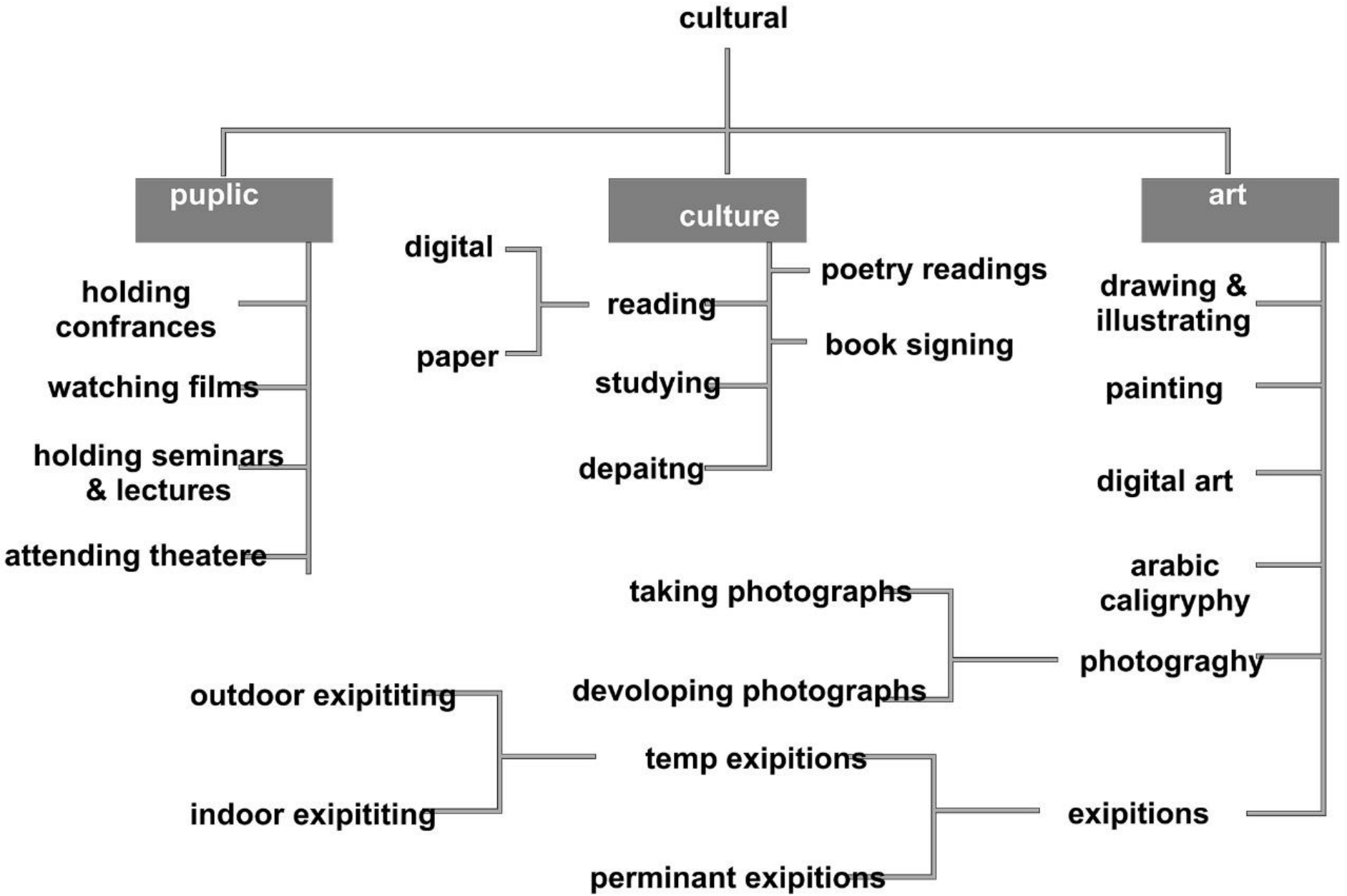
ADVANTAGES	DISADVANTAGES
*open reception hall *senior reading area and children reading area are on separate floors *self study area and reading area is quite and isolated *translucent material on facade allowing natural light into spaces	*unclear paths and walkways *exhibition hall isolated *staff entrance is with main entrance *permanent exhibition has indirect access *too many voids resulting in loss of space . *special collection is not on the same floor as the reading area

Chapter three

Project components



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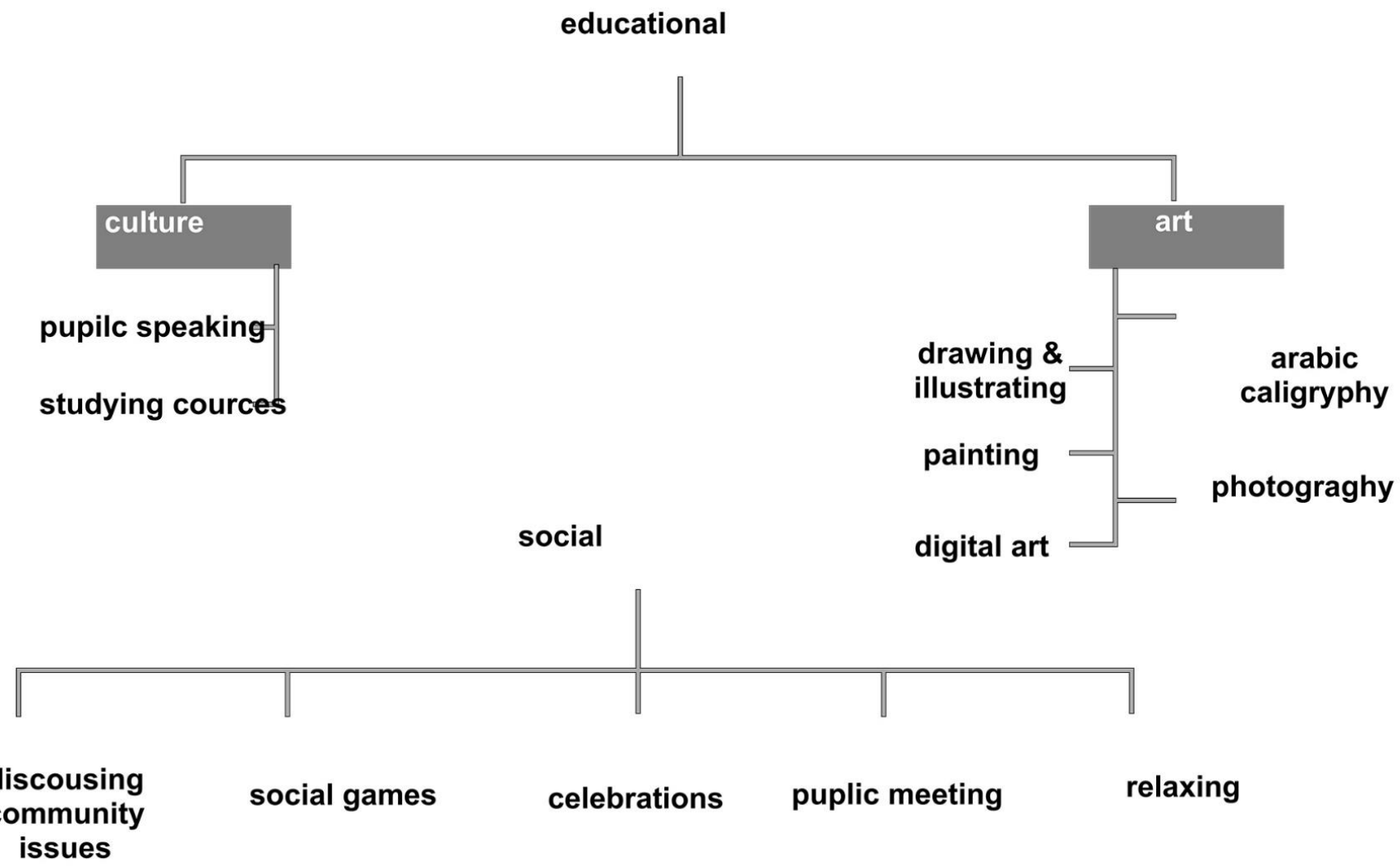
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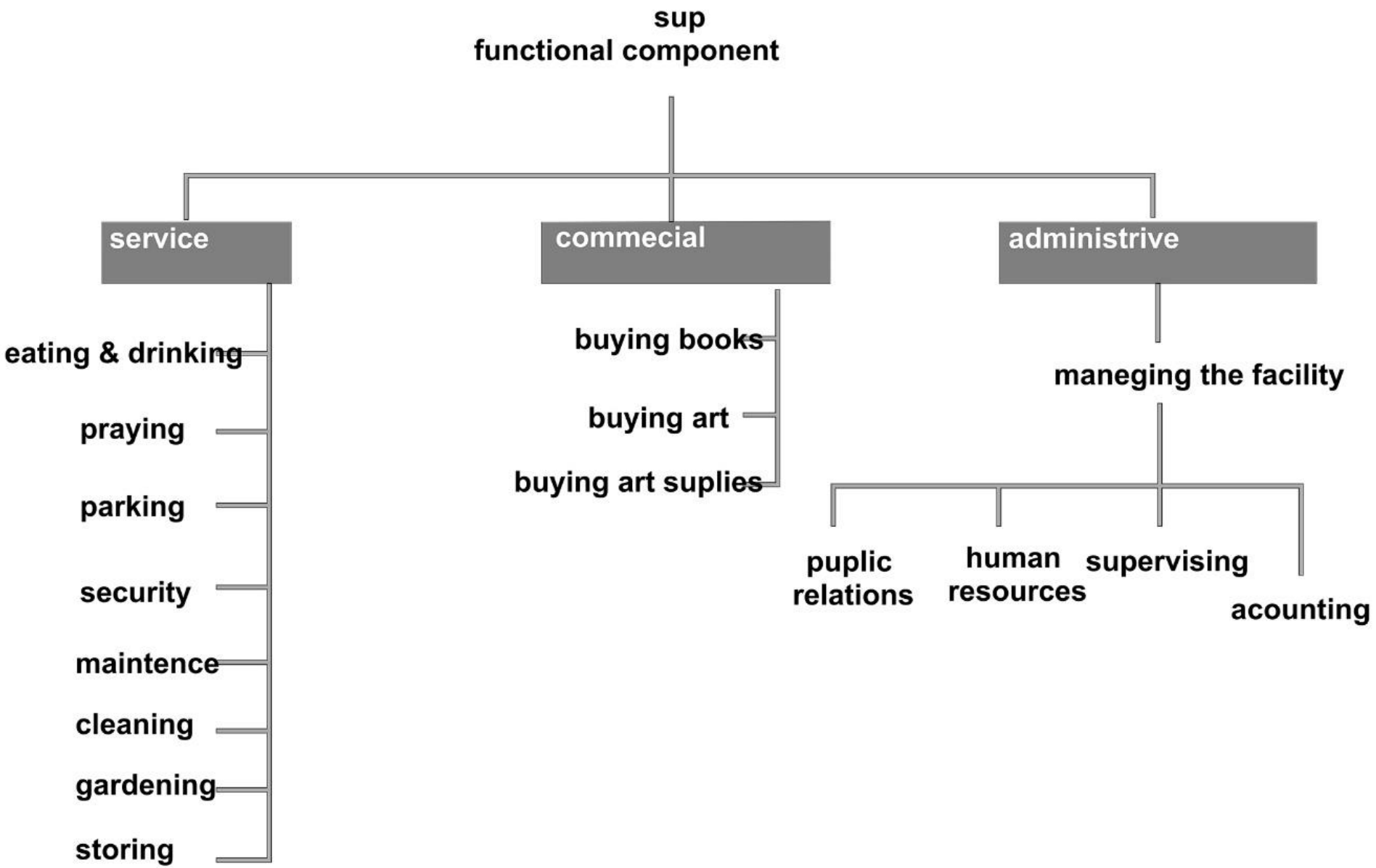
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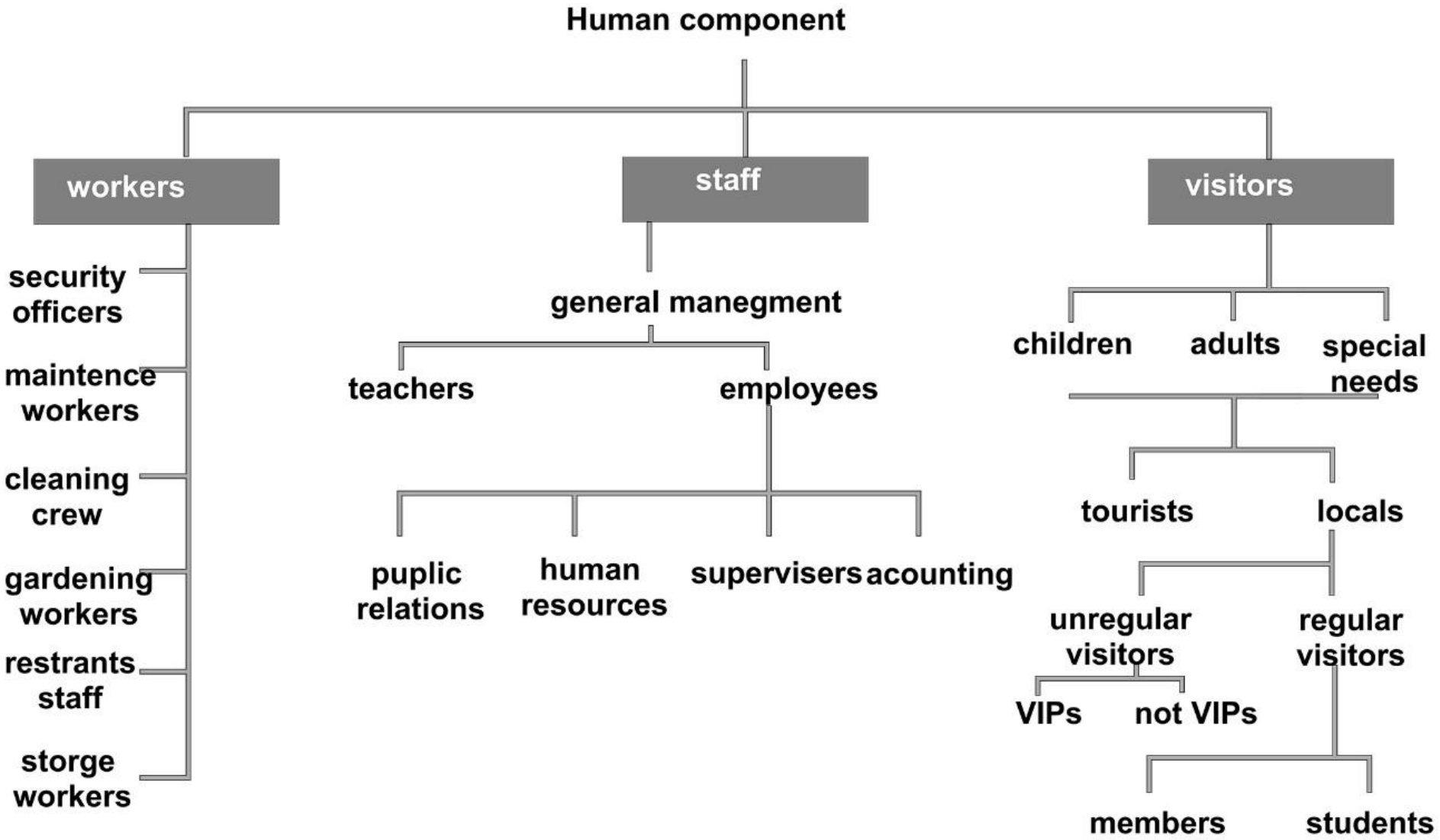
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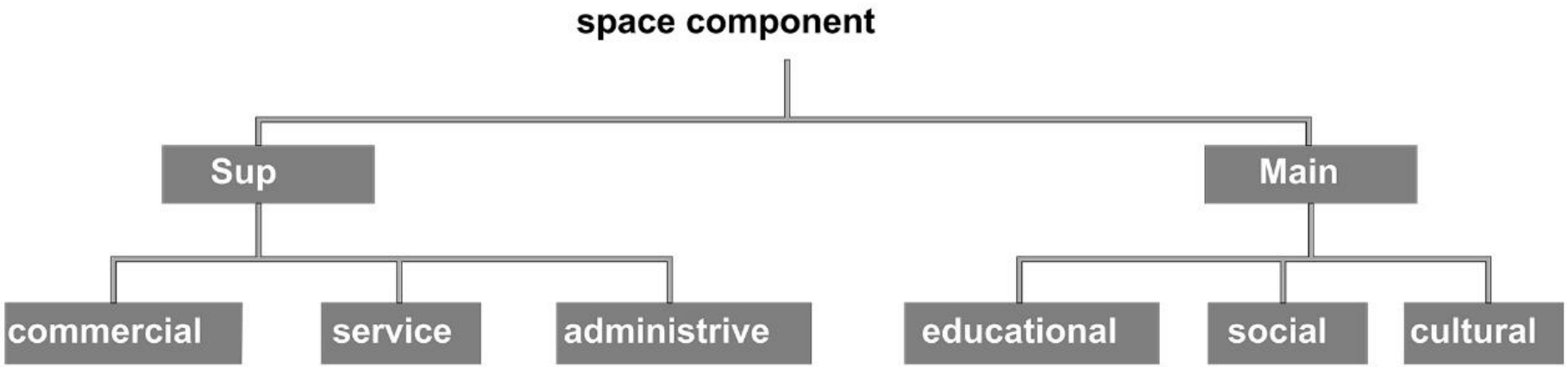
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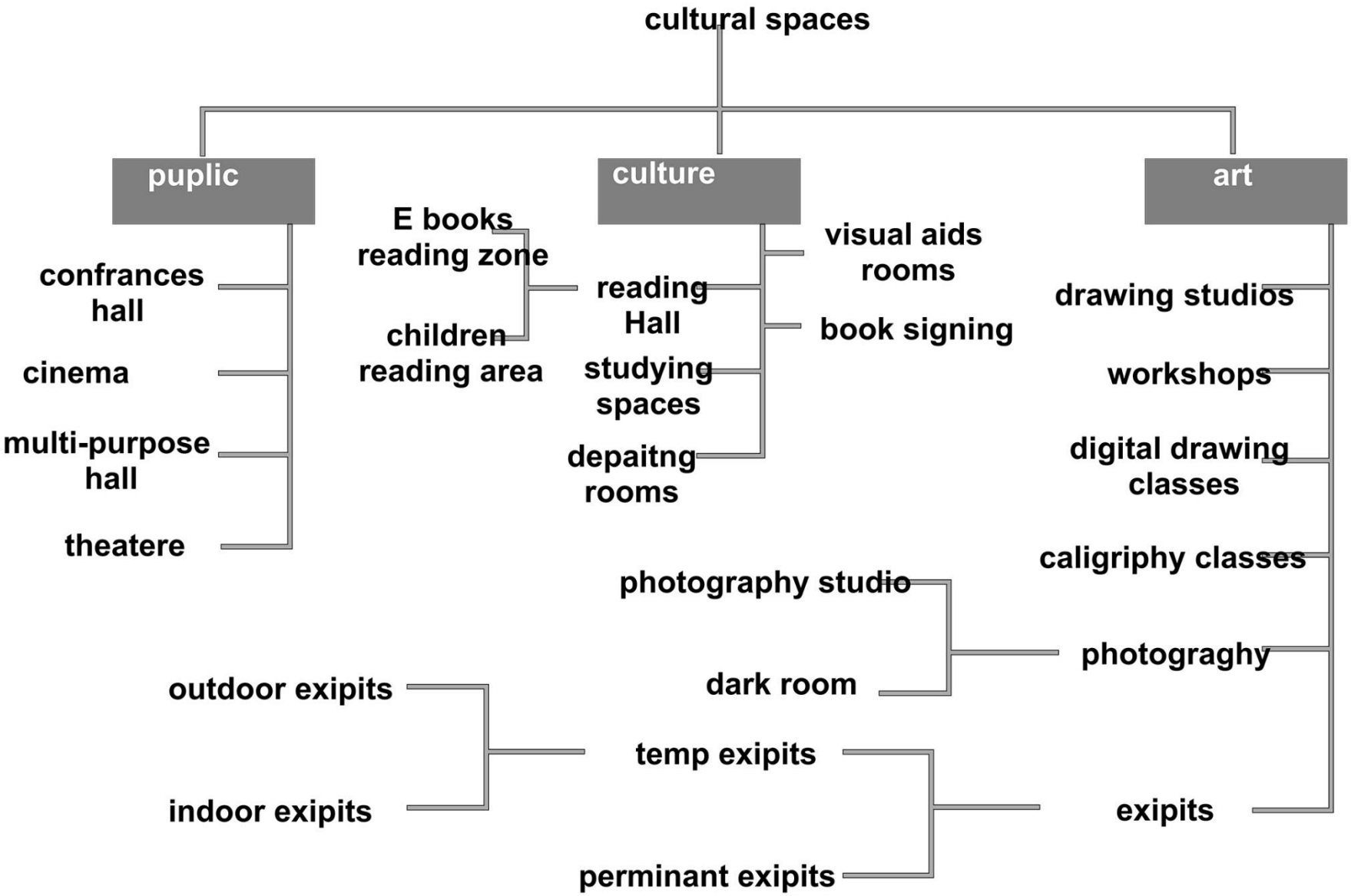
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caligriphy classes
photography studio
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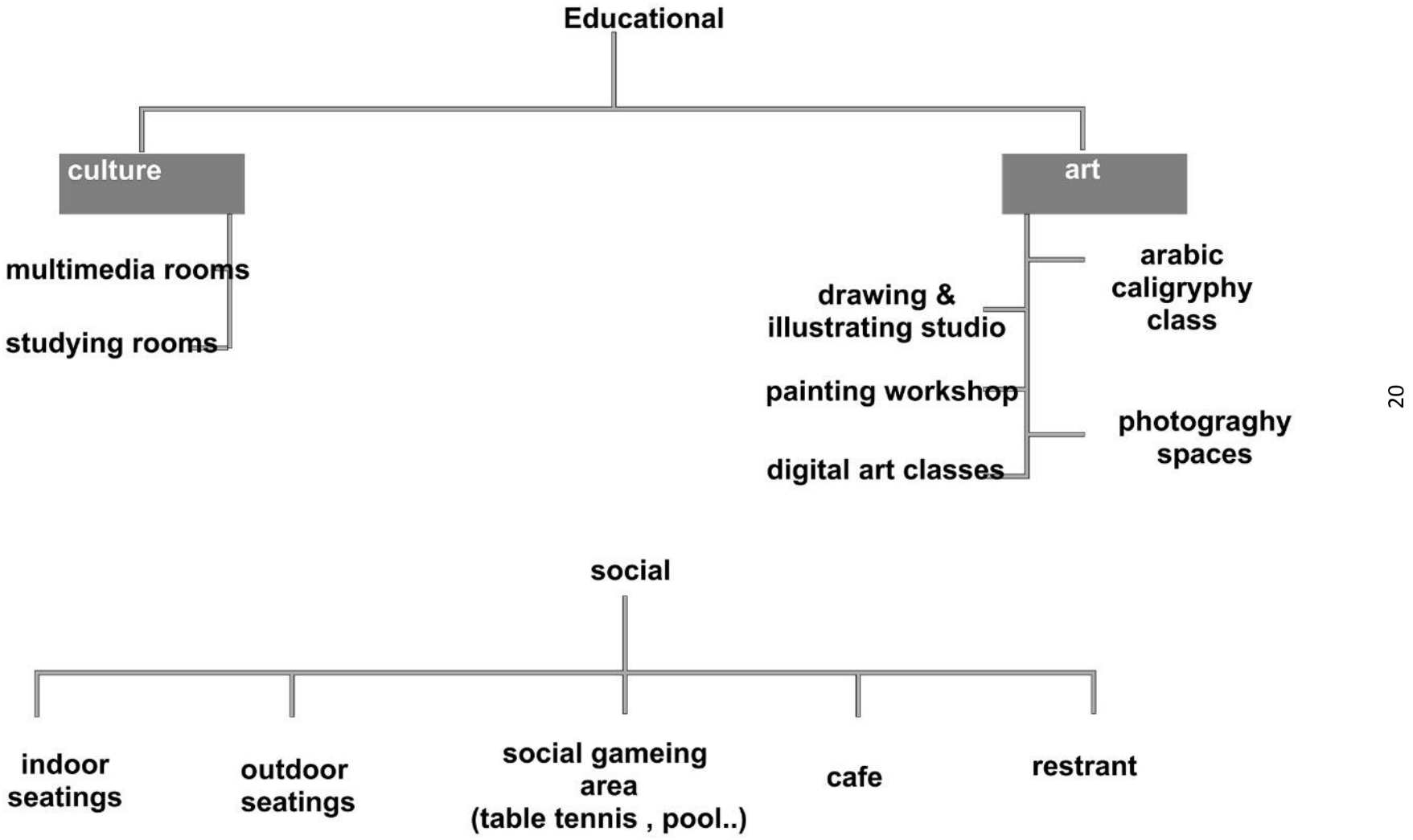
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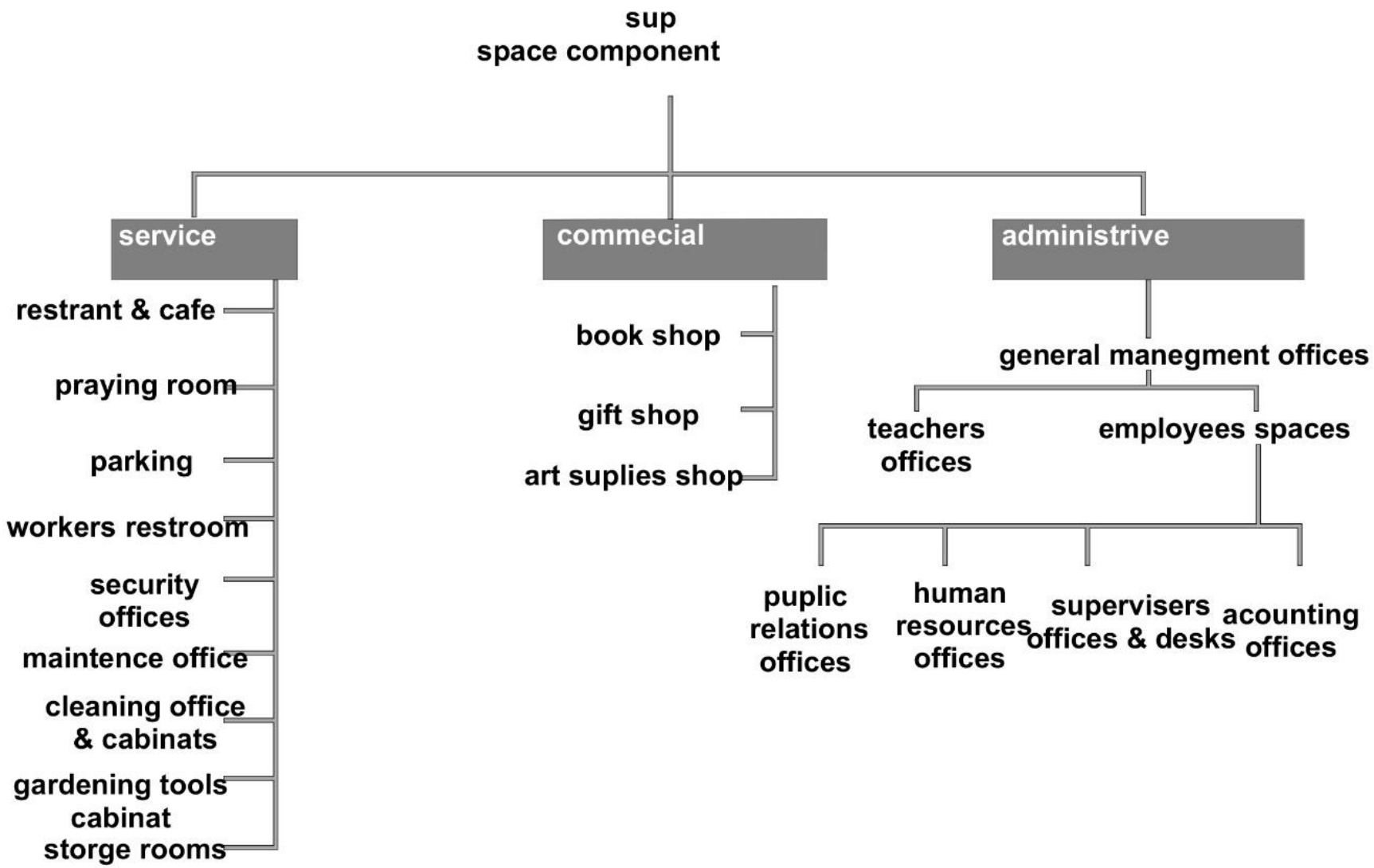
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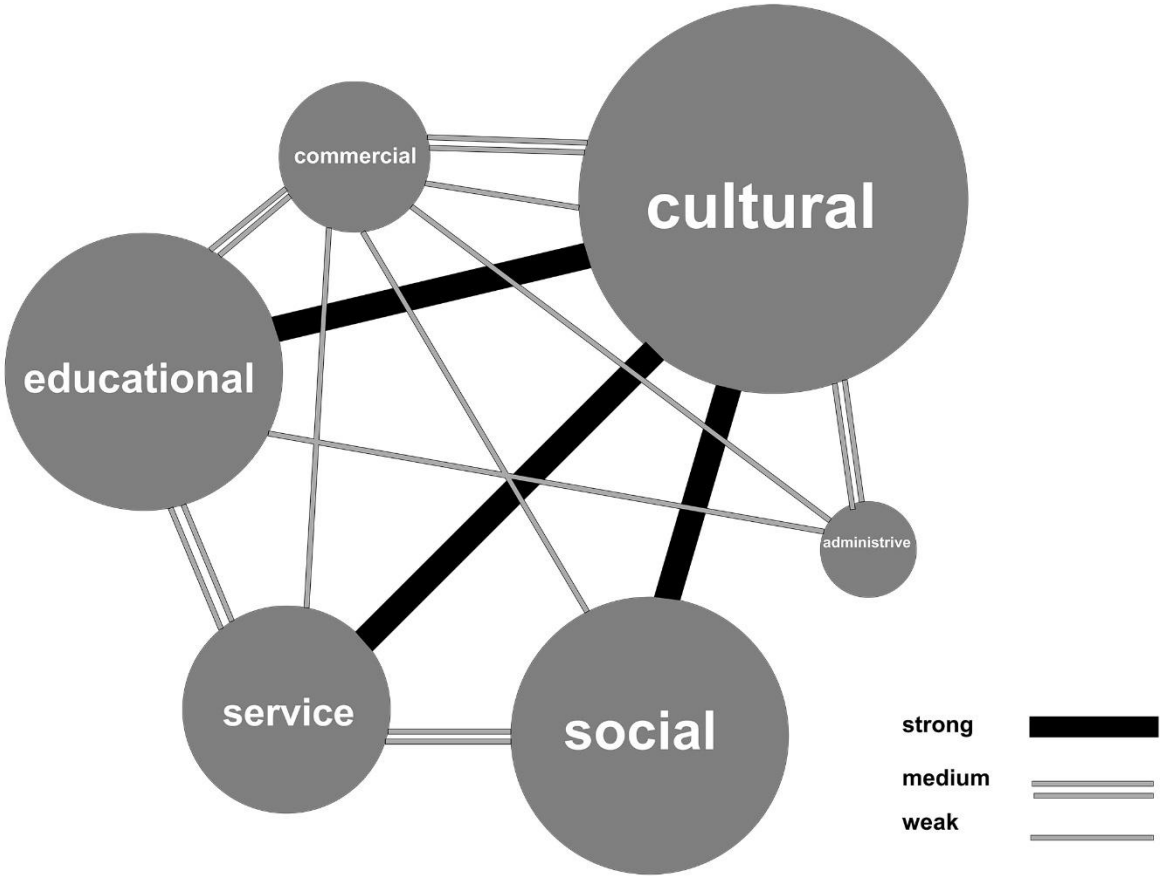
employees spaces
puplic relations offices
human resources offices
supervisers offices & desks
acounting offices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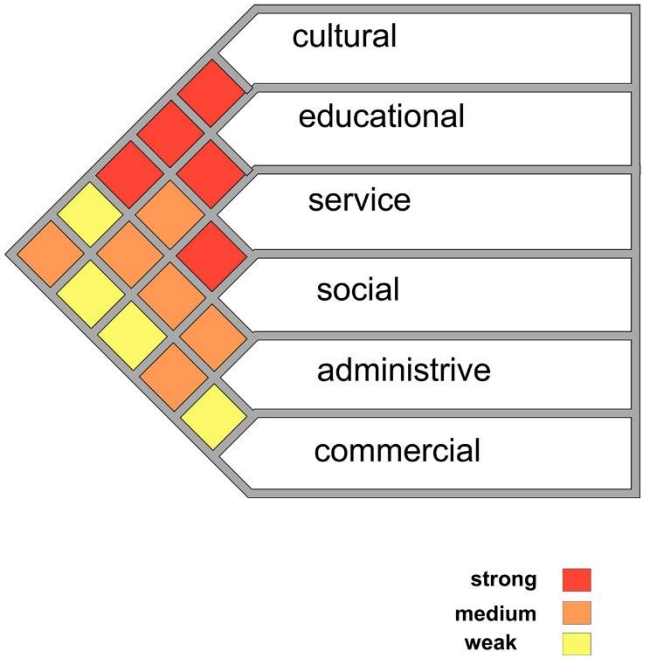
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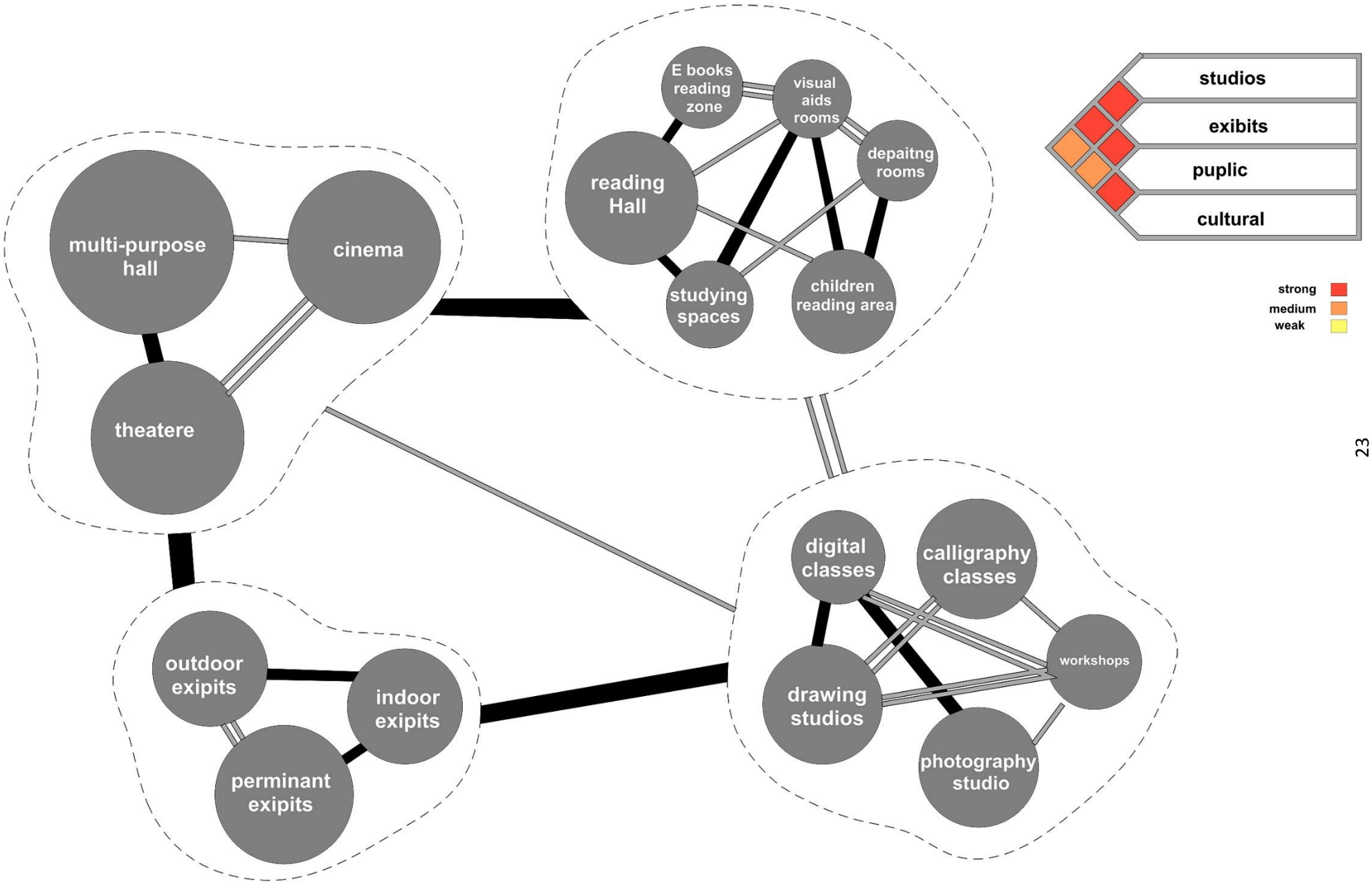
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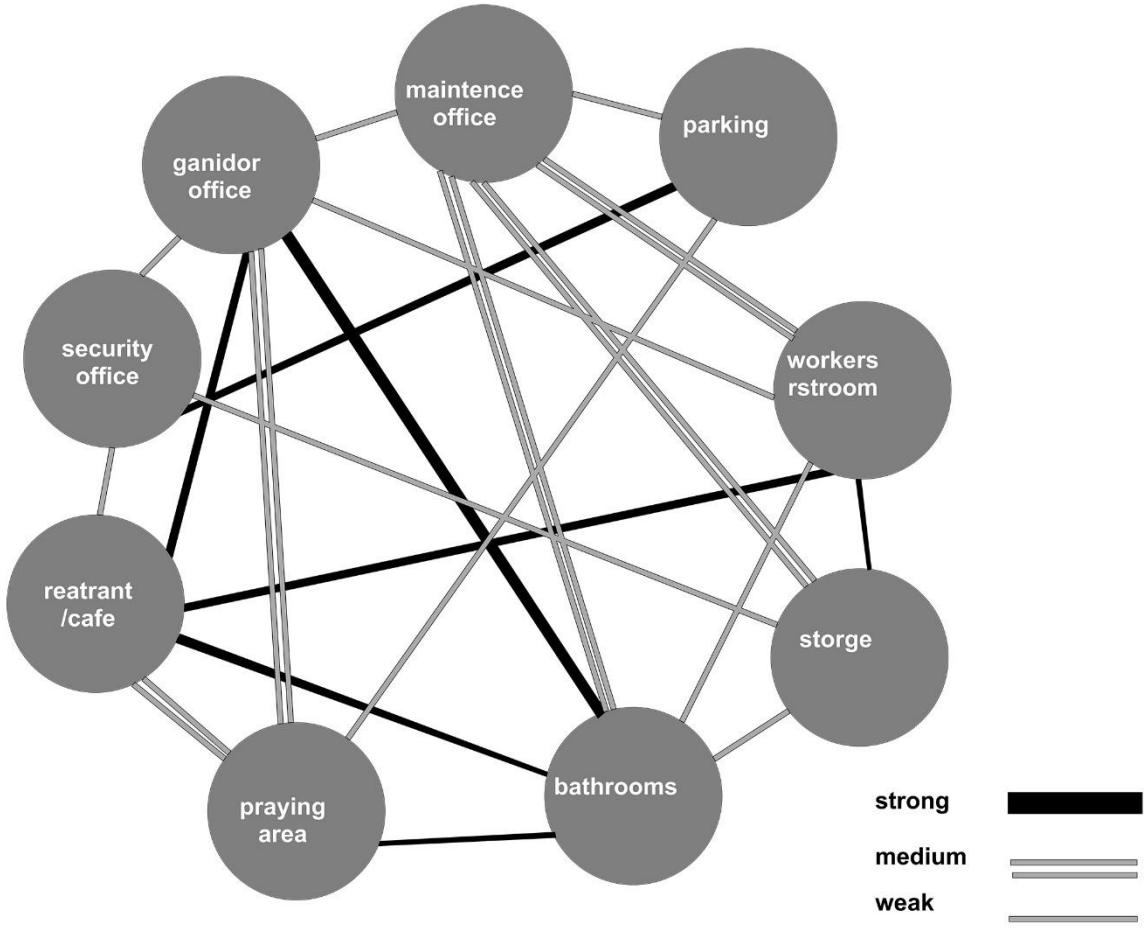
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janitor office
maintance office
security office
parking
storge
workers restroom
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medium
weak

Space study

library

can be divided into these main spaces :

*entrance

*reception

*reading area

*children section

*newspapers & magazines sec

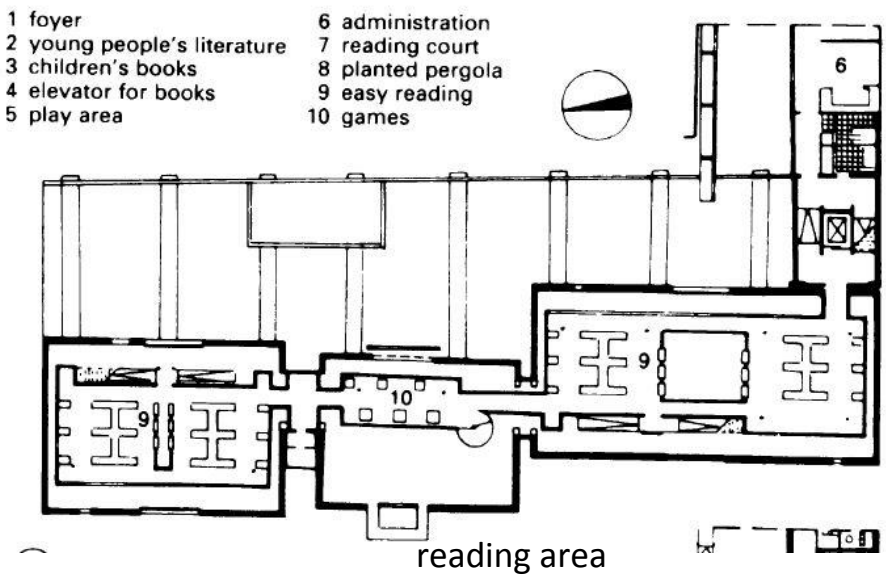
*E books readings area

*index section

*services

*warehouse & storage

Example :



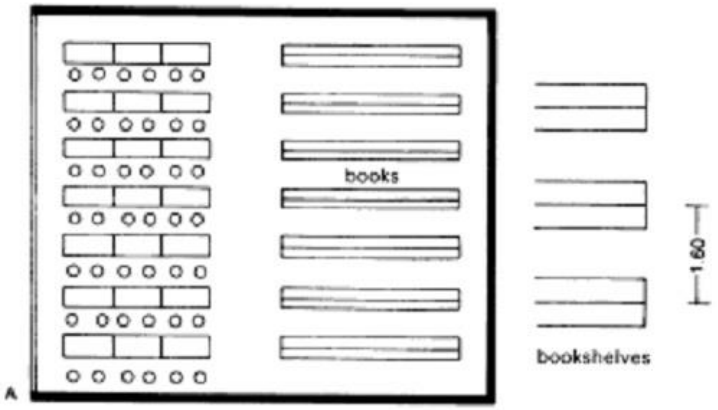
25egative25 a small liparary

like those found in schools

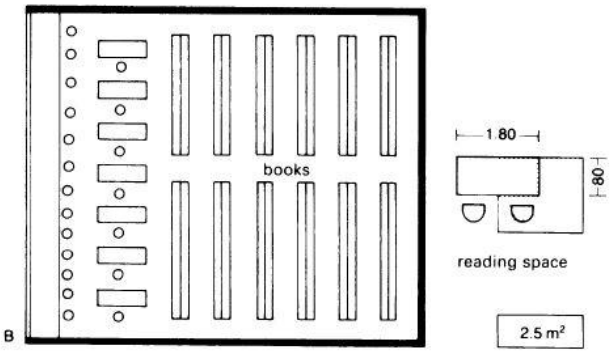
contains about 30,000 book

reading area

2.4 to 2.5 square meters per liparary user

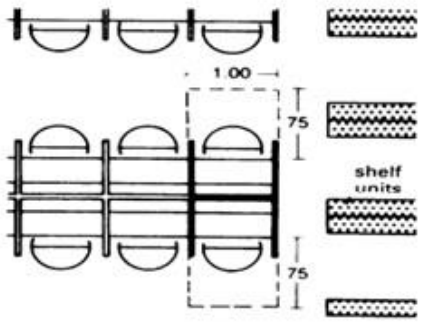


(3) Arrangement of reading places and bookshelves

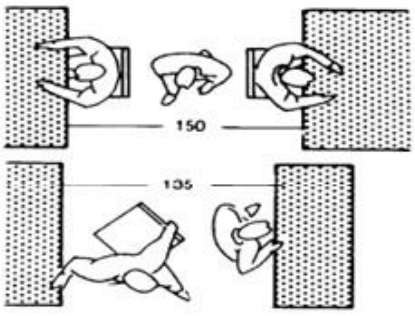


(4) Arrangement of reading places and bookshelves

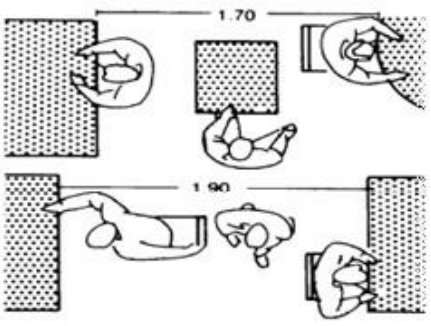
simple example of shelfes and reading area



(7) Individual study booths

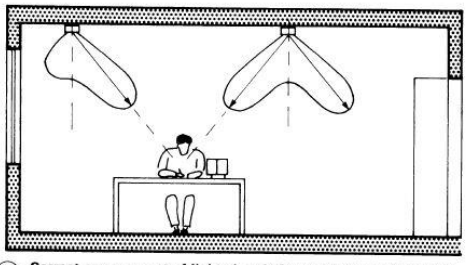


(8) Minimum free space in reading area → (9)

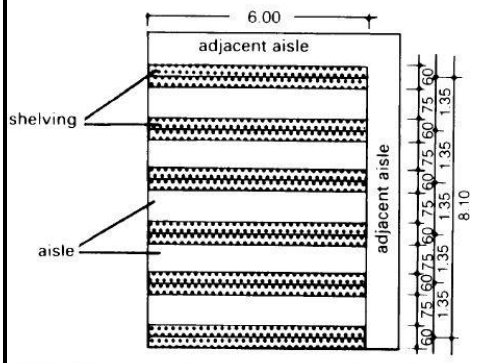


(9) When books are moved between seated and

Circulation routes should be >1.2m wide, and clear spaces between shelves at least 1.3–1.4m wide (or in accordance with local regulations). Avoid crossings and overlapping of routes for users, staff and book transport. Access to reading rooms can be through control gates equipped with book security equipment and, if possible, only one entrance and exit. For functional reasons, the control gates should be near the lending desk/central information desk.

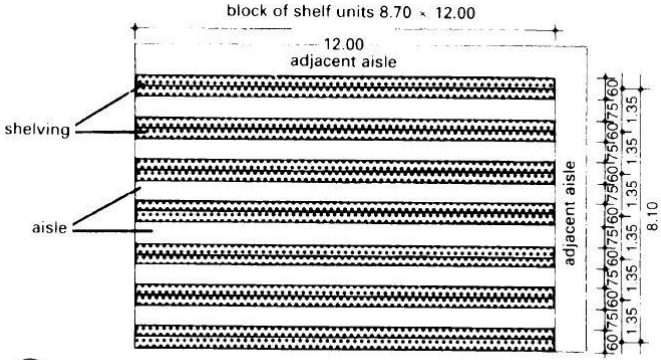


① Correct arrangement of lights in relation to work position: light from the side



area	centre-line distance (m)
stacks	1.35 (1.20) 1.44
open-access shelving	1.40 1.70
enquiry area and reading room	1.60 2.00

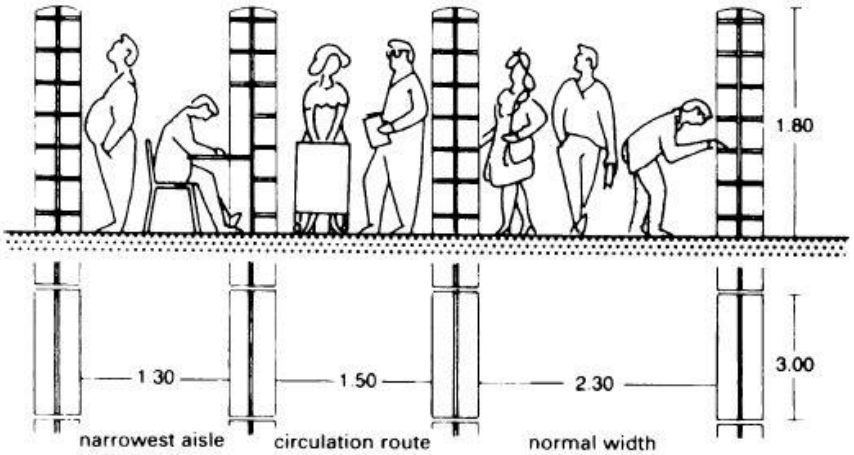
③ **Floor area for open-access bookshelves 8.70×6.00m per block of shelf units**



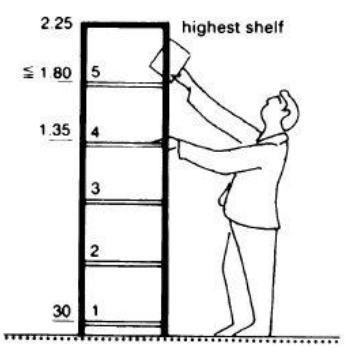
② **Floor space for bookshelves in areas closed to the public**

book storage :

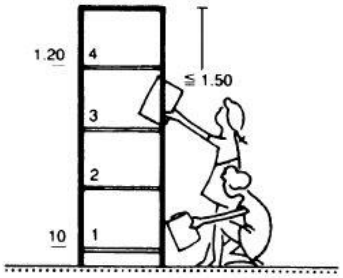
usually every 200 book needs about 1.2 to 1. 5 square meters



Hight of shelves

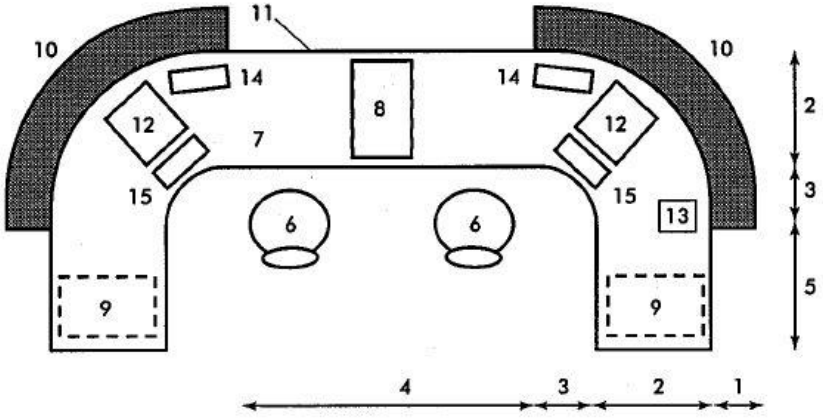


standing users

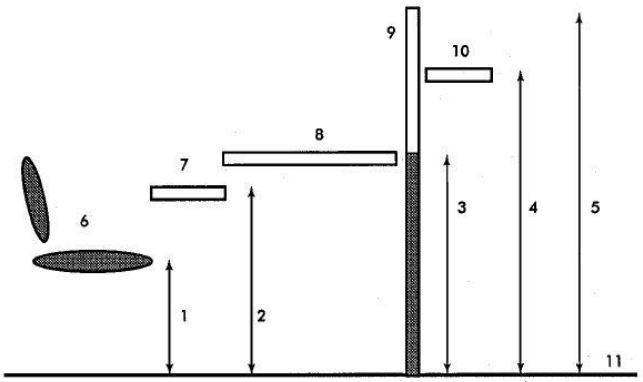


small children

reception :



		cm
1	shelf for visitors	20–25
2	depth of work surface	60–75
3	curve (inner radius)	30–40
4	width of work surface	90–110
5	work surface return	70–90
6	task chair	
7	work surface	
8	personal and office storage under desk	
9	general storage	
10	shelf for visitors	
11	screen (masking legs and wires)	
12	VDU	
13	possible security monitor	
14	printer	
15	keyboard	

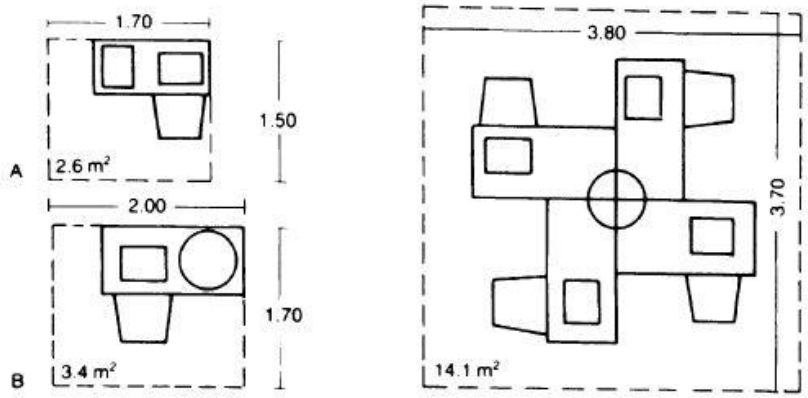


		cm
1	seat (pan) height	35–50
2	keyboard height	58–70
3	work surface height	70–75
4	visitor shelf height	100–105
5	overall screen height	100–120

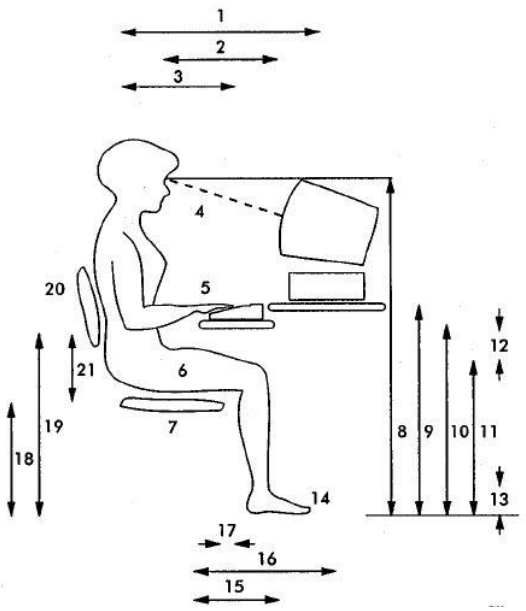
note: where it is felt desirable to increase the seated receptionist's eye level to coincide more closely with that of the standing visitor, by employing a raised floor or high chair, all vertical dimensions will increase by 20–25 cm overall

6 task chair
7 keyboard support
8 work surface
9 screen to conceal rear of PC etc.
10 shelf for visitors
11 finished floor level

Electronic library :



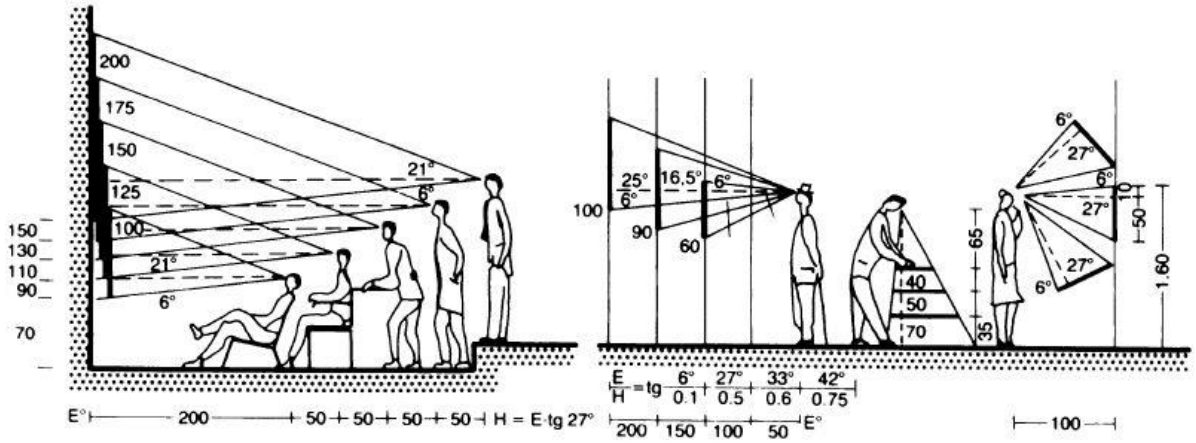
(4) Microfiche reading workstation **(5) Four-seat microfiche station**



		cm
1	arm reach	40–60
2	distance to screen (more for large screens) plus document holder	50–75
3	elbow to keyboard reach	30–40
4	working angle from horizontal eye level to centre of screen	20–30°
5	neutral forearm and wrist angle	5–30°
6	open trunk to thigh angle	90–100
7	adjustable seat (±5° from horizontal forwards and backwards)	40w × 36h × 40
8	eye height to top of screen	100–140
9	general worktop height	65–76
10	keyboard height (rounded edges and wrist supports)	65–76
11	under desk knee clearance	50
12	clearance between thigh and work surface	20
13	under desk foot clearance	25
14	feet in firm contact with floor or footrest	
15	clearance for knees beneath desk	40–45
16	clearance for feet beneath desk	60
17	clearance between calf and front of seat	4–8
18	seat (pan) height	35–50
19	relaxed elbow height	55–75
20	seat back adjustable in height and angle (and position of lumbar support)	
21	armrest height above seat (adjustable and set back from seat edge 10cm)	20–25

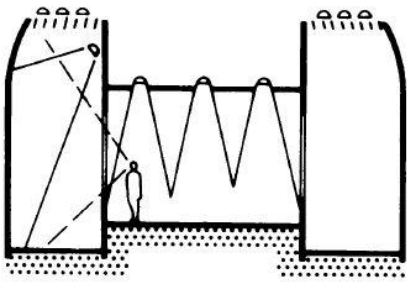
Galleries :

Field of view

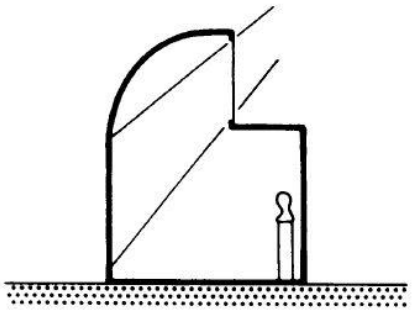


(9) **Field of vision: height/size and distance**

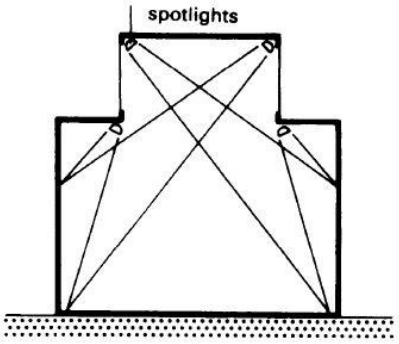
Natural lighting :



(3) **Typical cross-section for museum of natural history**



(4) **Gallery passage, lit from one side only, lower part with indirect, attenuated lighting**

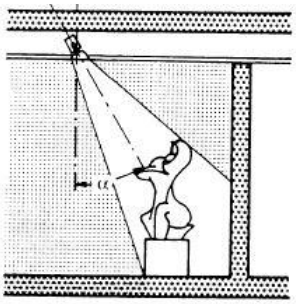


(2) **Install lighting so that angles of incidence correspond with natural light**

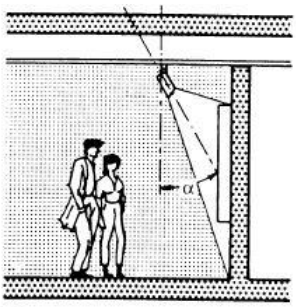
Galleries :

Artificial lighting

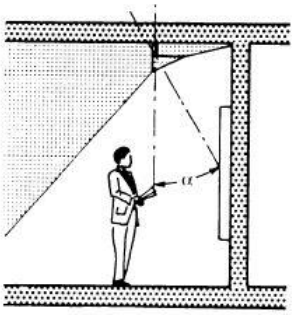
→ ⑪ – ⑫ are particularly useful in sale rooms, exhibitions, museums and galleries. With wall floodlights, typical requirements are for vertical illumination levels of 50lx, 150lx or 300lx; filament and fluorescent lamps are usually preferred. For spotlights, the basic light emission angles are 10° ('spot'), 30° ('highlight') and 90°('flood'). The angle of the light cone can be varied by passing the light through lenses (sculptured lenses, Fresnel lenses), and the spectrum of the light can be varied using UV and IR filters and colour filters. Shading can be arranged by means of louvres and anti-glare flaps.



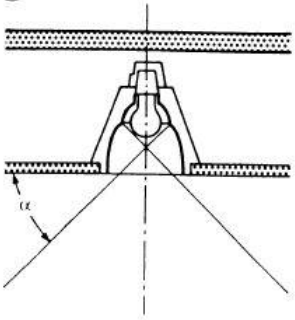
⑦ Illumination of objects



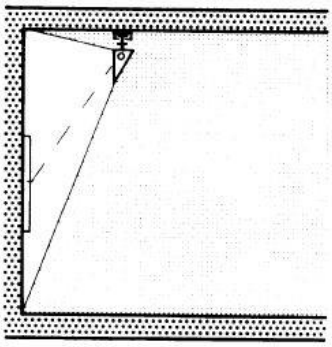
⑧ Wall illumination, spotlight



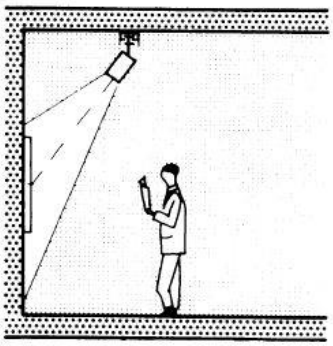
⑨ Wall illumination, floodlight



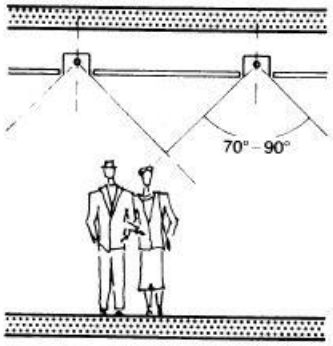
⑩ Shading angle (= 30°/40°/50°)



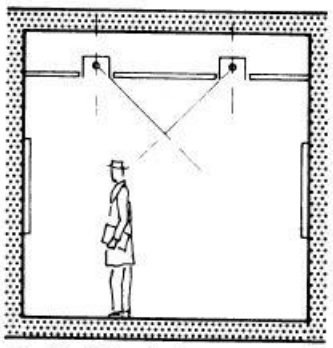
⑪ Wall flood on power supply rail



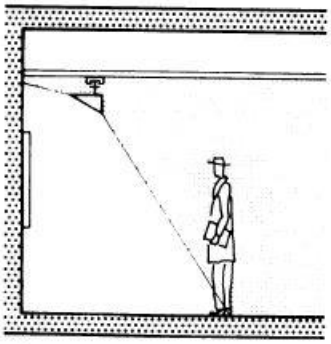
⑫ Spotlight on power supply rail



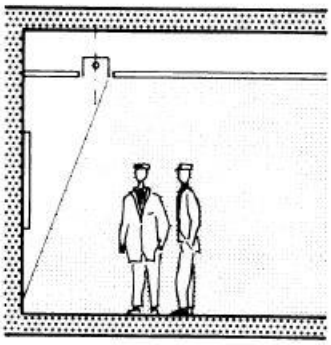
① Direct symmetrical illumination



② Wall flood; direct illumination



③ Wall flood on a power supply rail; partial room illumination



④ Wall floodlight

Studios:

Consists of actual drawing

Area

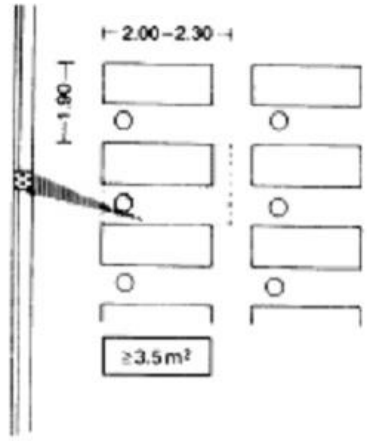
Constructers desk

Storge areas

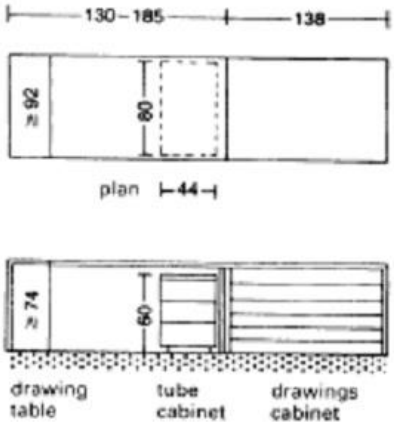
Special attention must be

Paid to natural lighting

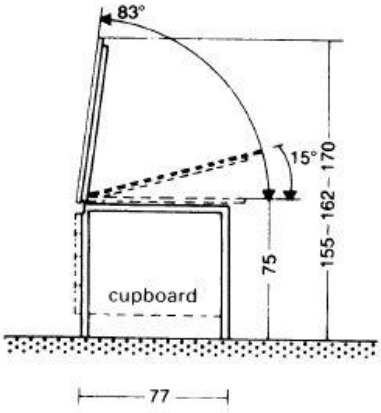
And Quietness of the space



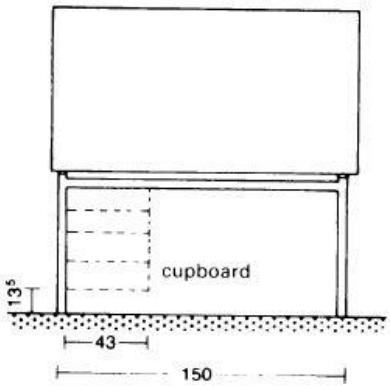
(1) **Workplace in drawing room**



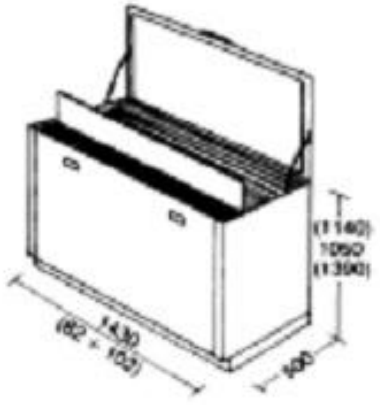
(2) **Work surface**



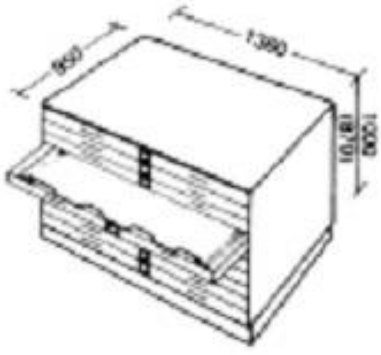
(11) **Section → (12)**



(12) **Adjustable angle desk and drawing table**



(9) **Drawings stored upright**



(10) **Sheet steel drawings cabinet**

Theatre :

Consists of stage ,makeup room .dress

Rooms.audio room,

Divided to 3 sections :

Leading spaces :

Enterance , lobby , enterance hall

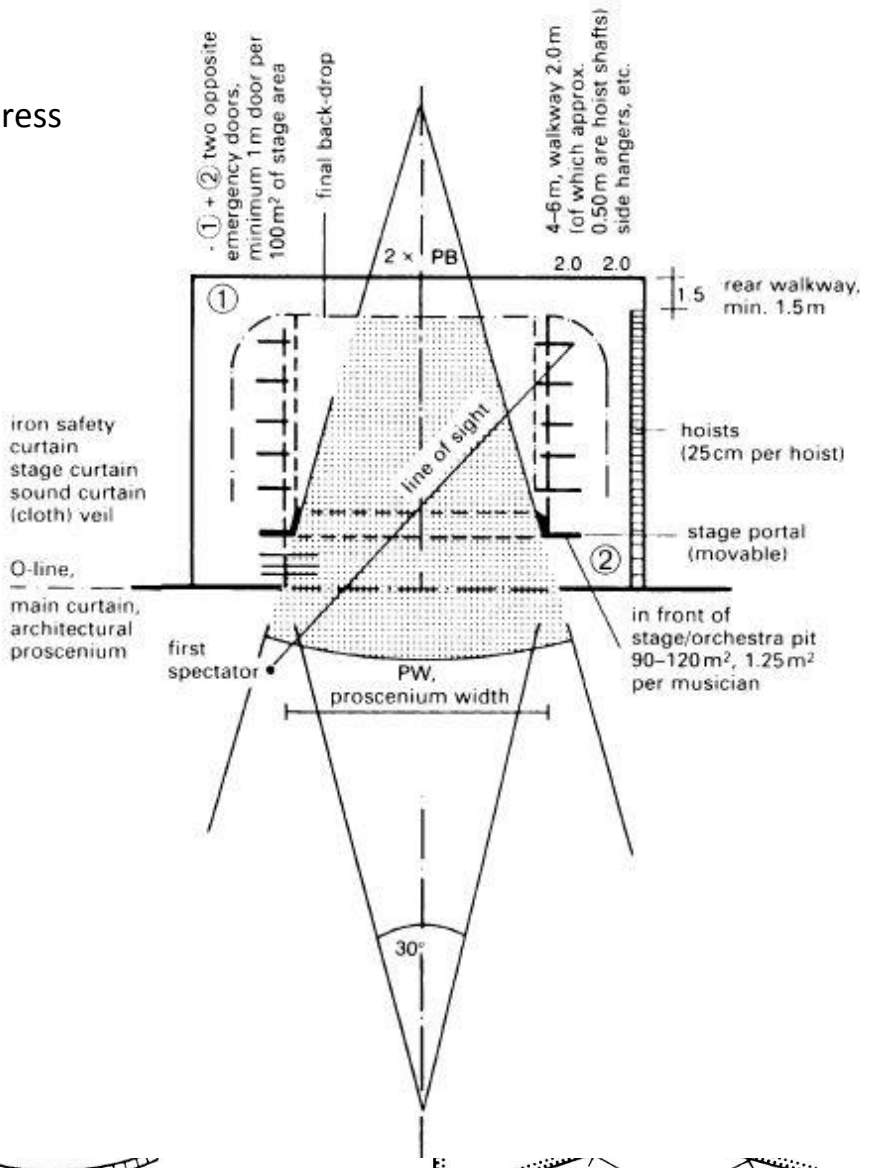
Main theatre:

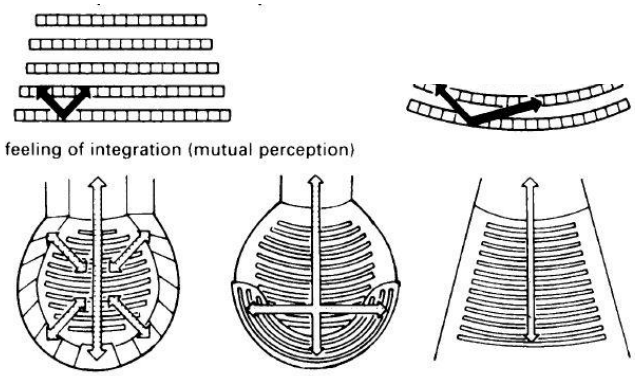
Stage :

Stage , behind stage , artist

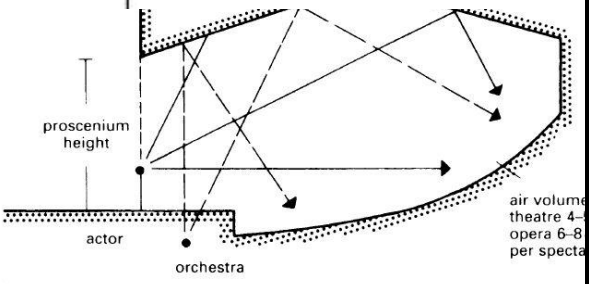
And performers rooms

Indivisual space is 0.8 m2

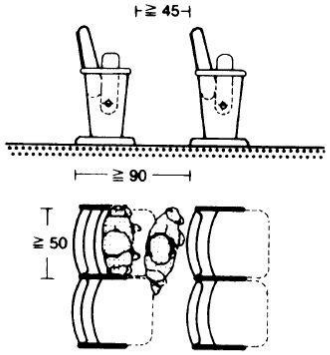




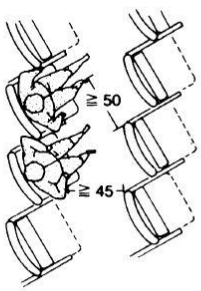
④ **Contact relationships between public and stage and among one another**



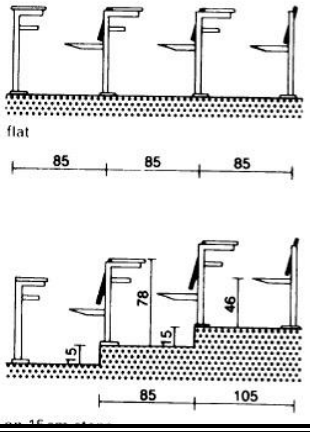
⑥ **Ceiling shape and sound reflection**

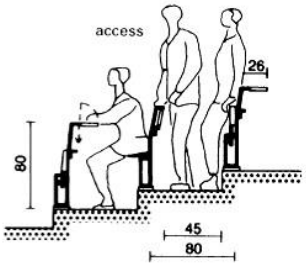


① **All seats apart from boxes must have fixed, self-operating folding seats with the above minimum dimensions**



② **Offset folding seats provide elbow space**

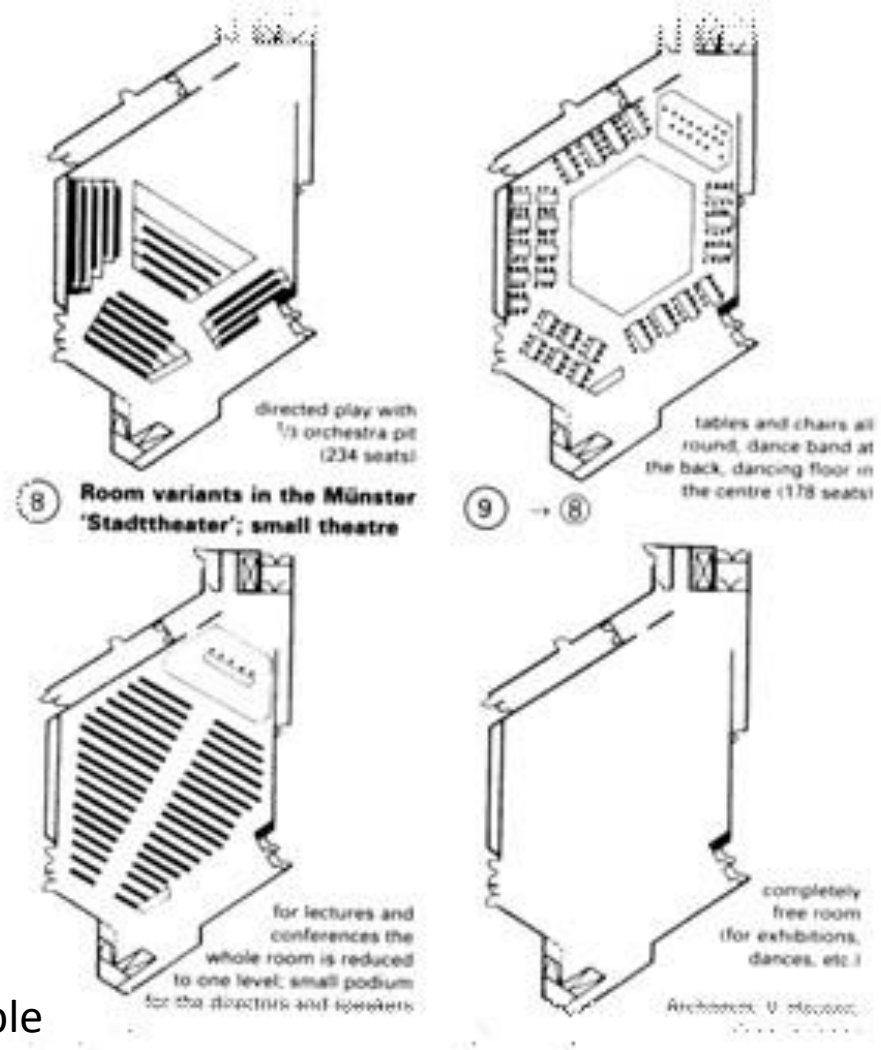




② **Seating arrangement with tip-up seats and writing shelves**

Multi –hall :

one of the main spaces
in any puplic fucility
consists of
entrance
foyer
main hall
in some cases outdoor
sitting area
vip entrance
and service spaces like
bathrooms and storge
there is also a demountable
stage



⑧ **Room variants in the Münster 'Stadttheater'; small theatre**

⑨ → ⑧

Restaurant & cafe:

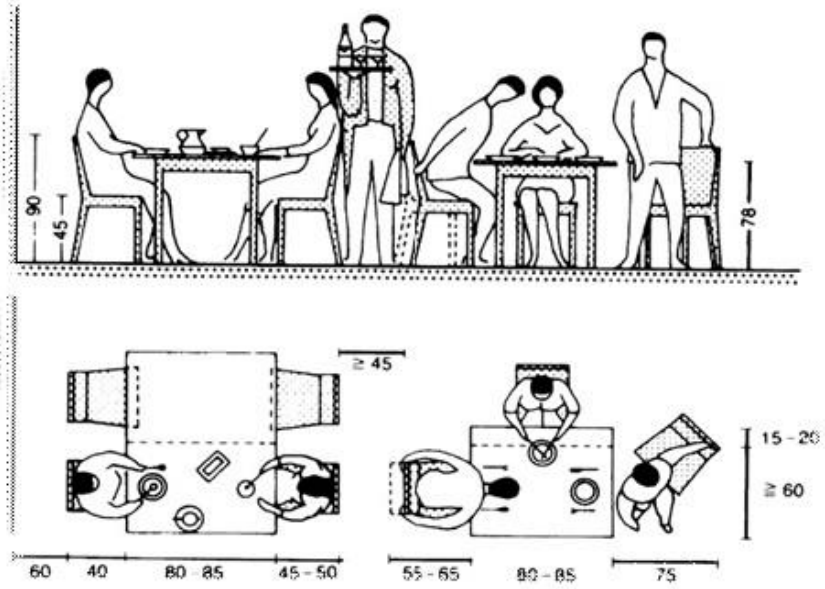
consists of

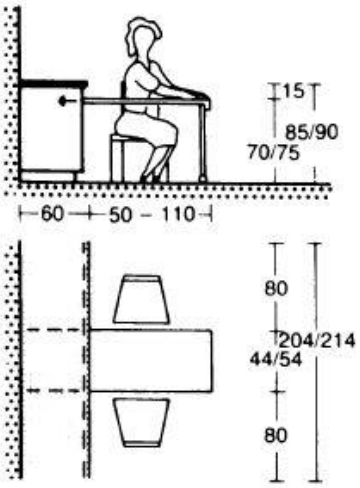
kitchen , table areas indoor

outdoor table areas

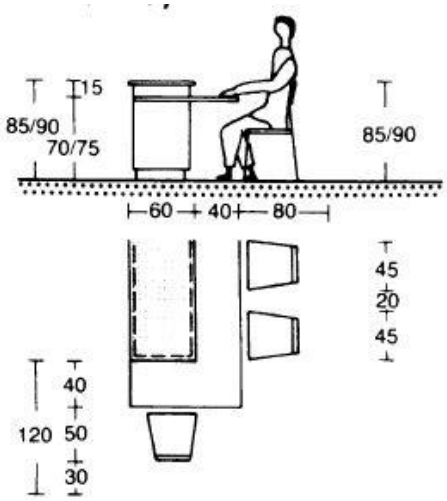
bathrooms

front desk

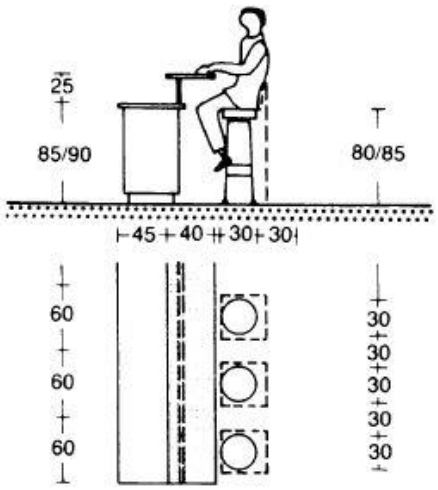




(4) **Retractable table**



(5) **Fitted table**



(6) **Breakfast bar**

Bathrooms :

One of the most important spaces

Cubical is 150 *80

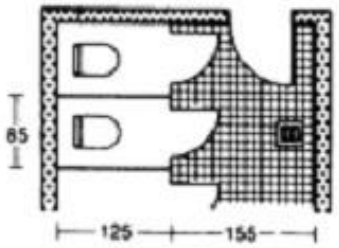
Must pay attention to privacy

Difference between male and

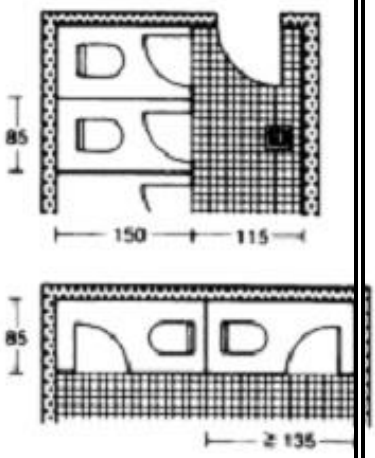
Female restrooms

Must pay attension to pipe

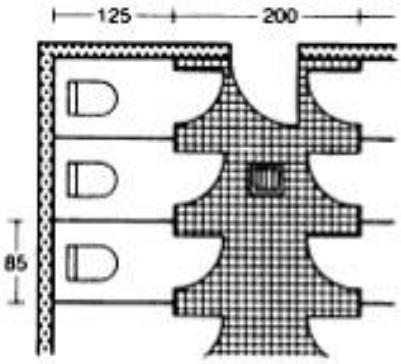
Lines and sewage ducts



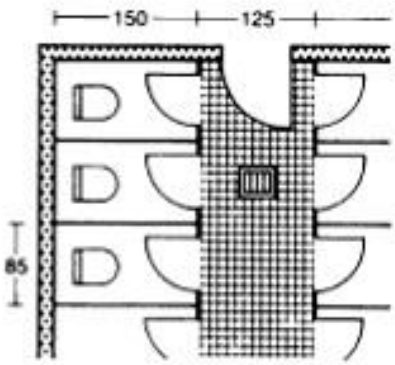
3 Single row WCs, doors opening outwards



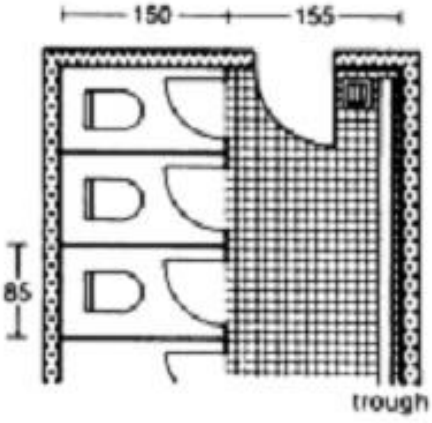
4 Single row WCs, doors opening inwards



9 Dual row WCs, doors opening outwards



10 As 9 but with doors opening inwards



6 Doors opening inwards; with urinal trough

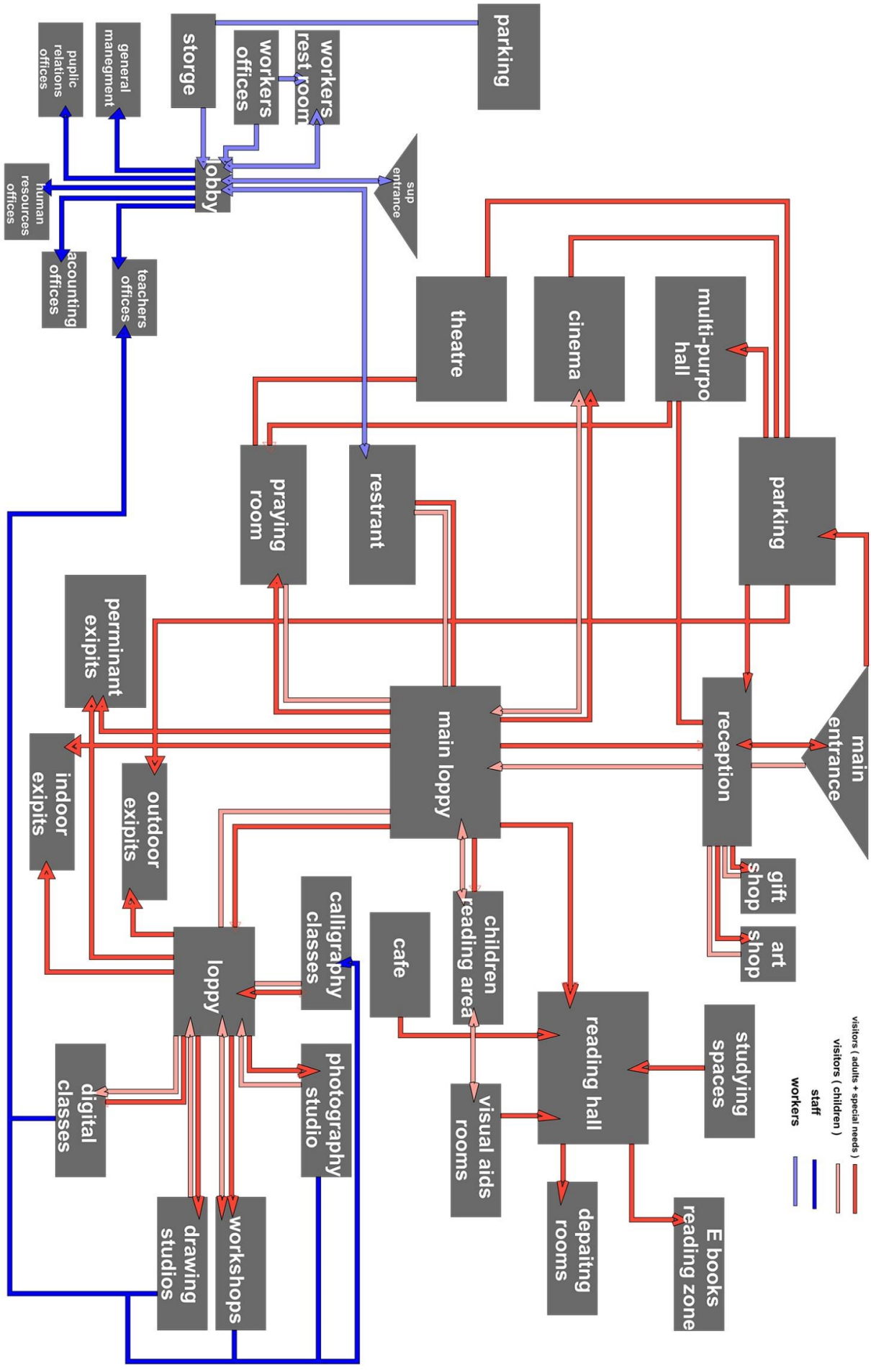
space chart :

total space	number of units	space	number of users	
280	2	140	40	drawing studios
280	2	140	40	caligriphy classes
260	2	130	40	painting studio
250	2	125	40	graphic design classe
250	2	125	40	photograghy studio
250	2	450	300	perminant exipits
1200	4	300	200	temp exipit
500	1	500	250	reading Hall
120	4	30	15	visual aids rooms
170	1	170	100	E books reading zone
230	1	230	100	children reading area
120	4	30	15	depaitng rooms
100	1	100	100	studying spaces
50	2	25	1	acounting office
100	5	25	2	supervisers offices
50	2	25	1	human resources offices
90	3	30	1	puplic relations offices
120	6	120	2	workers offices
40	1	40	16	workers restroom
750	1	750	500	confrance hall
480	1	480	300	theatre
745	3	255	150	cinema
450	2	150	100	restrant /cafe
326	1	186+90+50		storge

=

7690 + 15% = 8843 m^2

circulation diagram



Site: ….Sites comparison

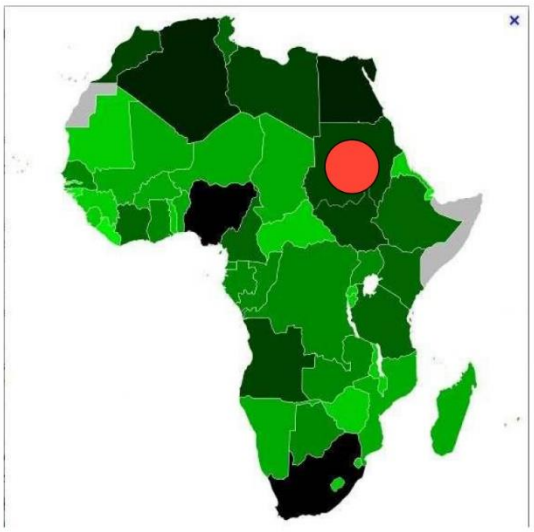
graded by these sympols ,5 being the highest

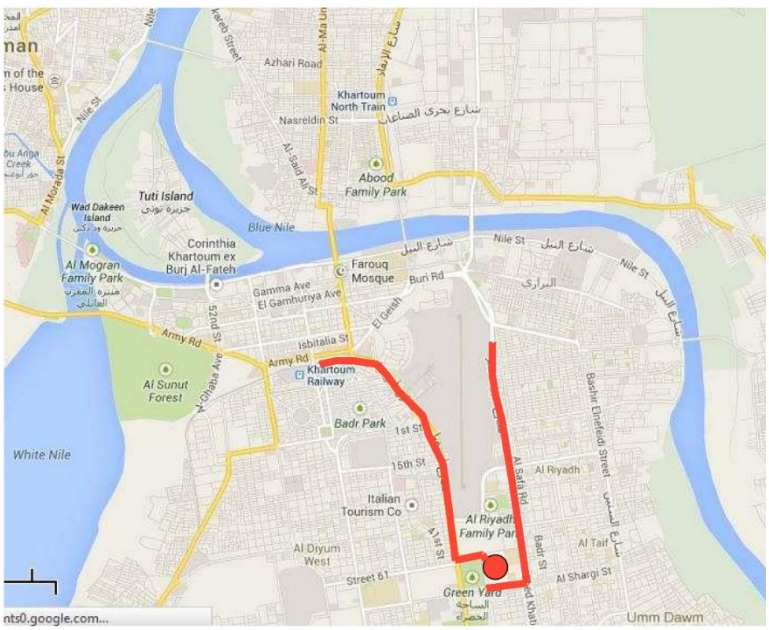
requirments for cultural center site

from "the architect handbook " edited by pickard

	SITE (1)	SITE (2)	SITE (3)
site number map and dimentions			
close to the heart/center of the community	✓✓	✓✓	✓✓
near other sevice facilities	✓	✓✓✓	✓✓
aaccessible by public transport	✓	✓✓	✓✓✓
flat site (free of obstacles)	✓✓	✓✓✓	✓✓✓
adequate space (for parking , green areas and future expansion)	✓✓	✓✓	✓✓
good oriantation	✓✓	✓✓	✓
on a low traffic street ?	✓✓	✓✓	✓✓
a relativly good view	✓✓✓✓	✓	✓
	21	27	23

site (2) is most suited for the project





Site location :

Continent of Africa

Country : Sudan

Khartoum state

Khartoum city

Arkaweit neighborhood

North south of afraa shopping mall

South of airport street

West of ebaid khatim street

South of alriad family park

Near the green square (alsaha alkhadra)

Site can be reached by

public transportation

Using two streets:

airport street using (almina albary) bus

abid khatim street using the

38egativ center (almarkaz

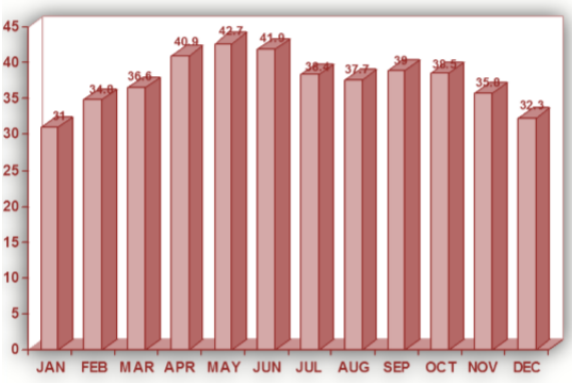
aleslami) bus

Site :


cold wind (south)
goverment buildingl
190 m
230 m
commercial
site
noise
20m wide (2lane street)
Green Yard
الساحة الخضراء
10 m wide (1 lane street)
residental
hot wind (south)
site space =4.2 hectar
N
Africa St
3rd St
55th St
57th St
59th St
Badr St
Ebed Khatim St
شارع أفريقيا
شارع مامون بحيري

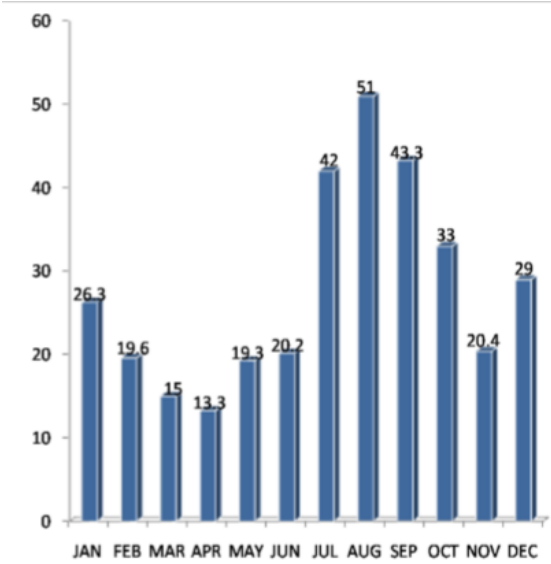
Site climate :

Temperature



Khartoum is hot year-round, more so than most other world capitals, including desert capitals in the Middle East, such as Riyadh and Baghdad. The coolest time of the year is December through February, when the average temperature is in the high 70s. Even then, the average highs are usually in the high 80s or low 90s. The rest of the months are even warmer, and May and June can be

absolutely scorching, with temperatures as high as 118 degrees possible. The average low temperature can reach the 60s in December through February but is in the 70s or 80s the rest of the year.



Humidity and rain

Rain is a rare event in Khartoum. From December through March, there usually is no rain at all. Moister southwesterly winds begin

working their way up the

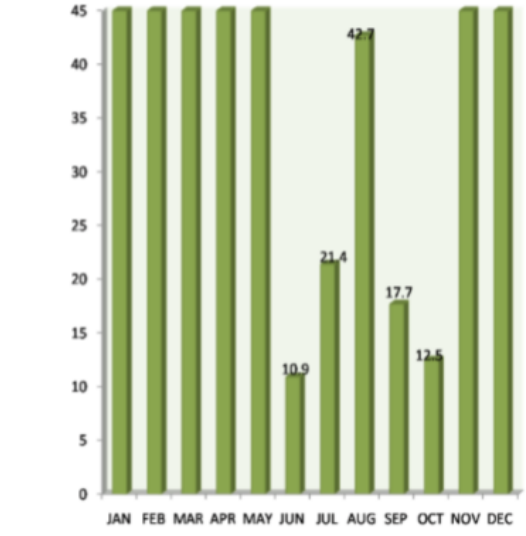
country after that, and by July, we see sporadic rain.

Even so, it usually rains only a few days in July

through September. The wettest month, August,

generally sees only about 3 inches of rain on average.

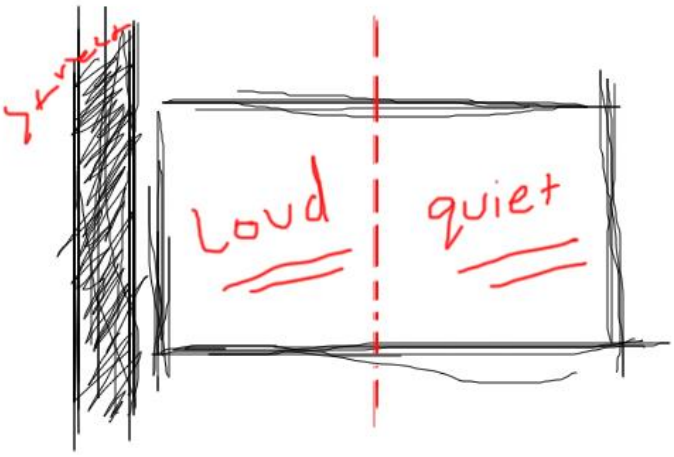
May, June and October usually have only a trace of rain.

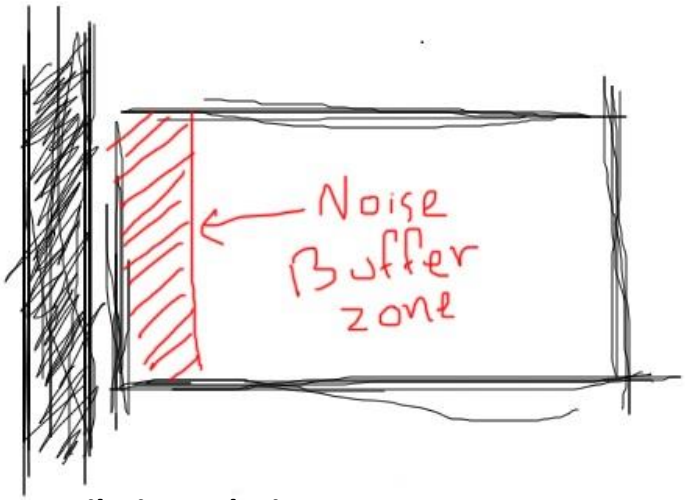


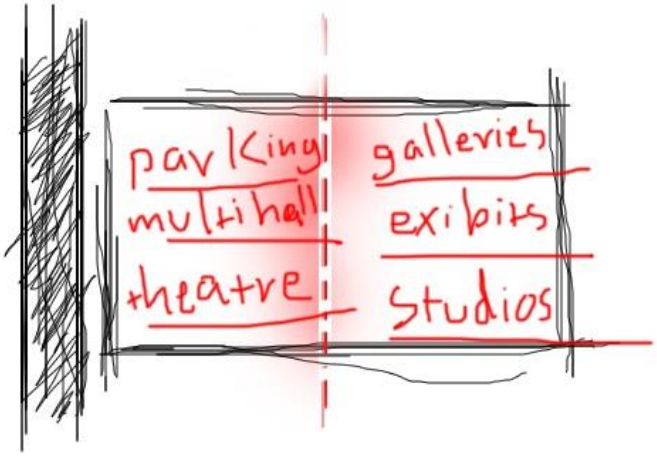
Results

Noise solutions :

Due to the noise coming from the western Street .and the privacy of the neighbours on The eastern side .i divided the site by an Imaginary line. Where loud activities would Take place on the western side . and quiet Activities would be on on the right

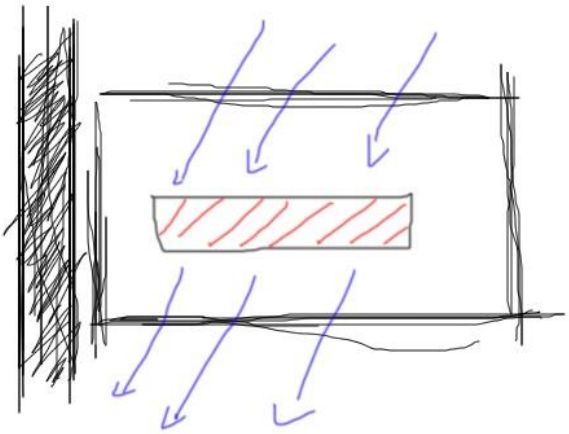


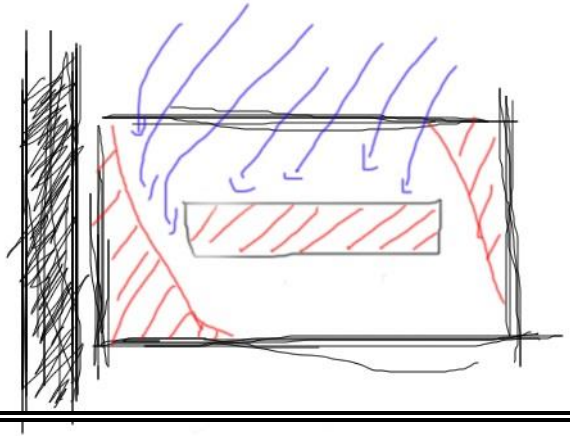


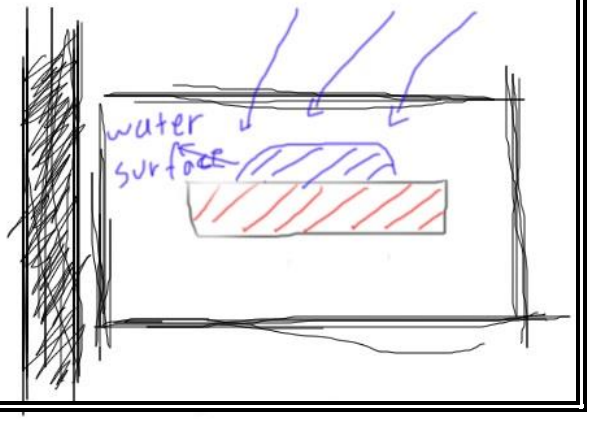


Ventilation solutions :

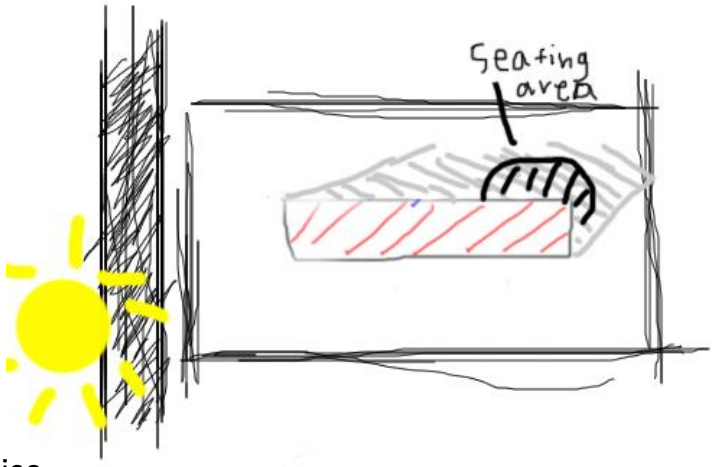
The building will be on the western eastern axis Allowing the cold northern wind to ventilate it Additionally There will be a water suface north Of the building and infront of it causing the Wind to cool down before ventilating the building and lastly an attempt was made to control the wind direction and direct it to the building. Creating a wind tunnel of sort**.**







heat and sun ray solutions :

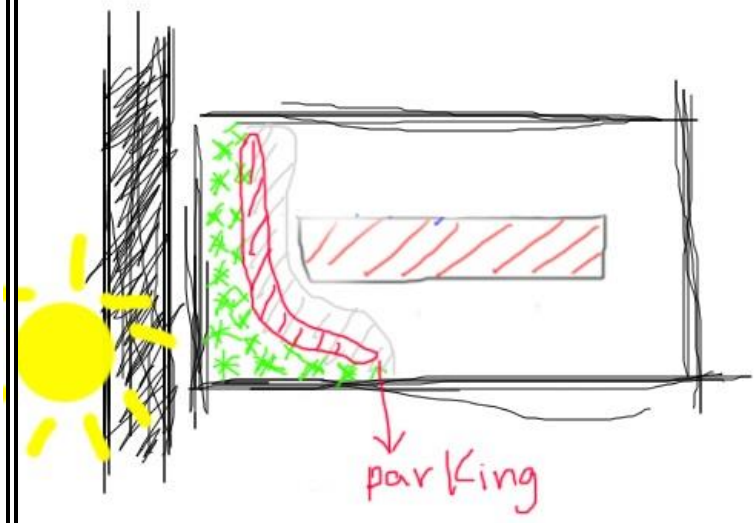


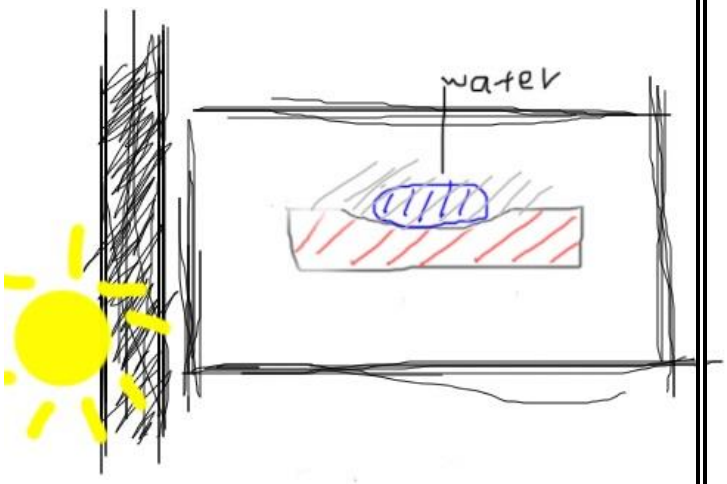
afternoon sun is more un pleasant than morning sun .

seating area and outdoor exhibits will be placed on the eastern side in the shade provided by the building itself

parking will be in western area shaded by the buffer zone (trees) which also act as noise isolation and contributes to privacy of the project from public street .

the water surface that was created for ventilation will be shaded by the building itself for maximum cooling potential **.**





Design guidelines

Design guidelines for library :

*Easy access from the outside

*Easy movement inside for library users

*Easy access and locating of books and magazines

*Library location should be in a relatively quiet area

*library itself should be divided to sections and areas Based on the level of silence and quietness needed

Technical guidelines :

*Floor of library must be coated with special material to reduce noise emmistion

also roof and walls should have a high level of sound resistance

*natural lighting is 43egative43 in lipararies . how ever natural ventilation

is not . as it may have 43egative affect on the condition of the books

design guiedlines for exibits :

*natural day light as much as possible

*have inviting spaces and welcoming

design guidelines for studios :

*the need water supply for some of them must be taken into account

*they need to be in a quite place

*they should have good view for psychological reasons

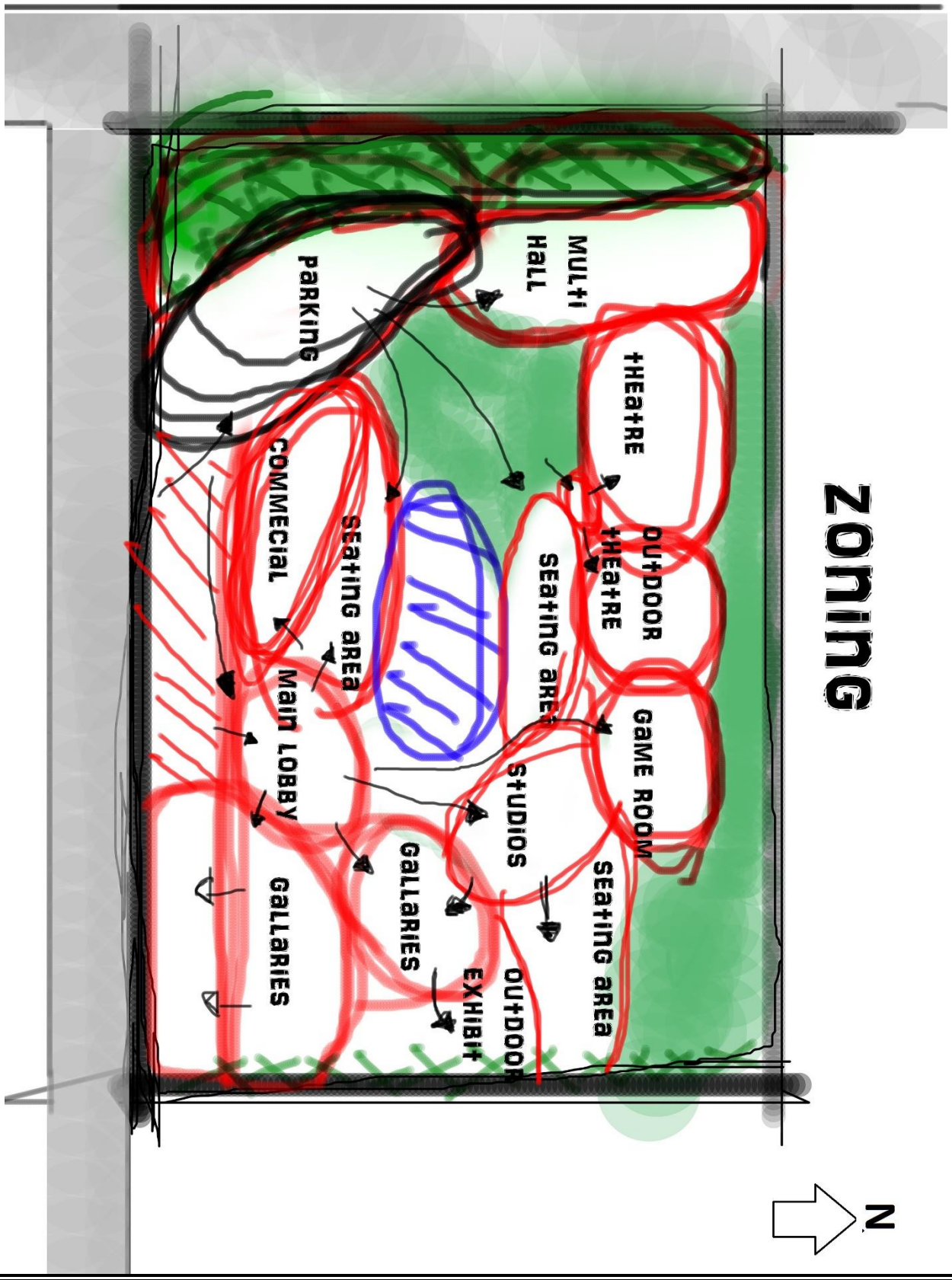
*they should have natural lighting

design guidlines for multi hall and theatre:

*should have access to parking

*should have different entrance for vip

Zoning :


zoning
MULTI HALL
PARKING
THEATRE
OUTDOOR THEATRE
COMMECIAL
SEATING AREA
SEATING AREA
GAME ROOM
MAIN LOBBY
STUDIOS
GALLARIES
GALLARIES
EXHIBIT
OUTDOOR
N

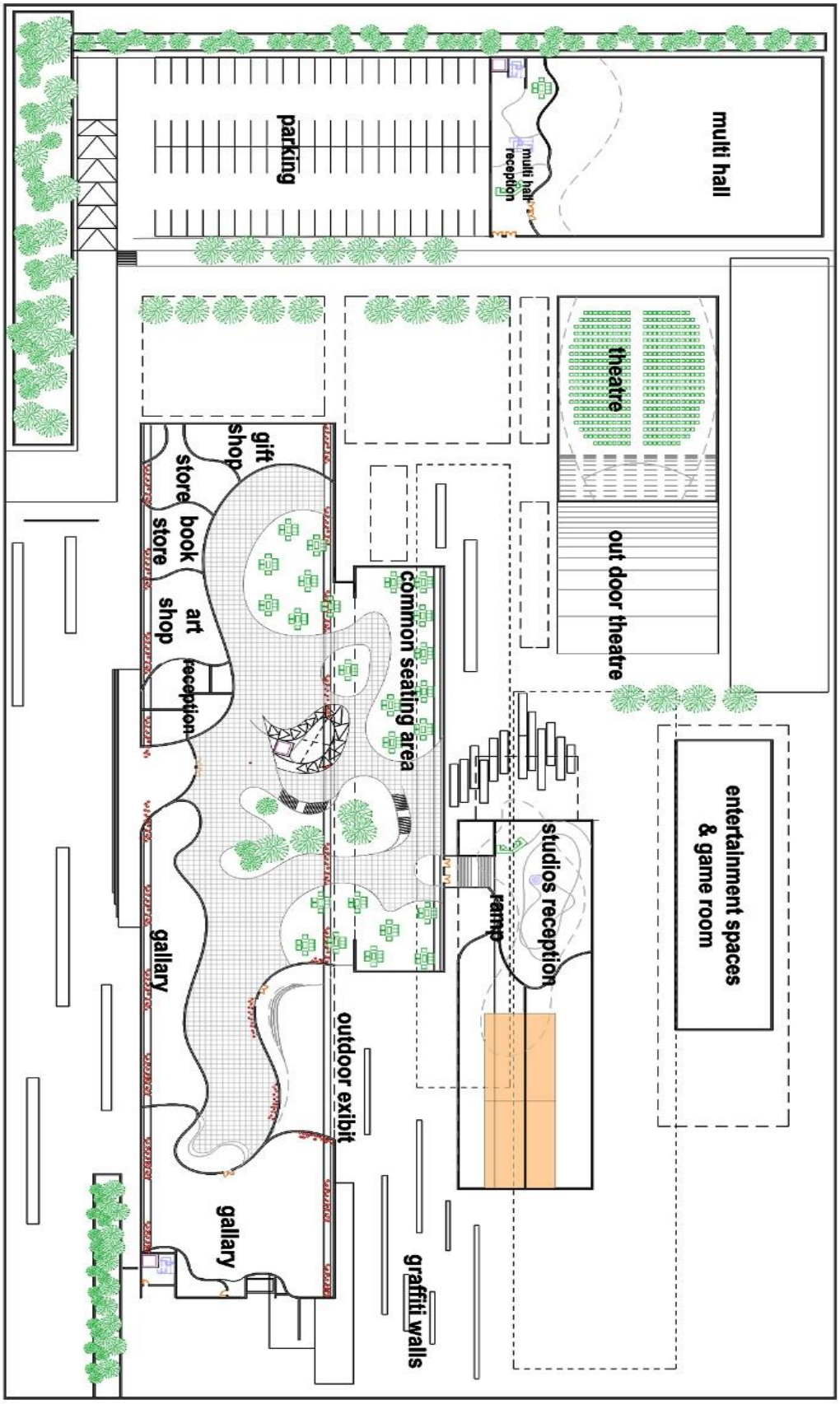
Chapter four

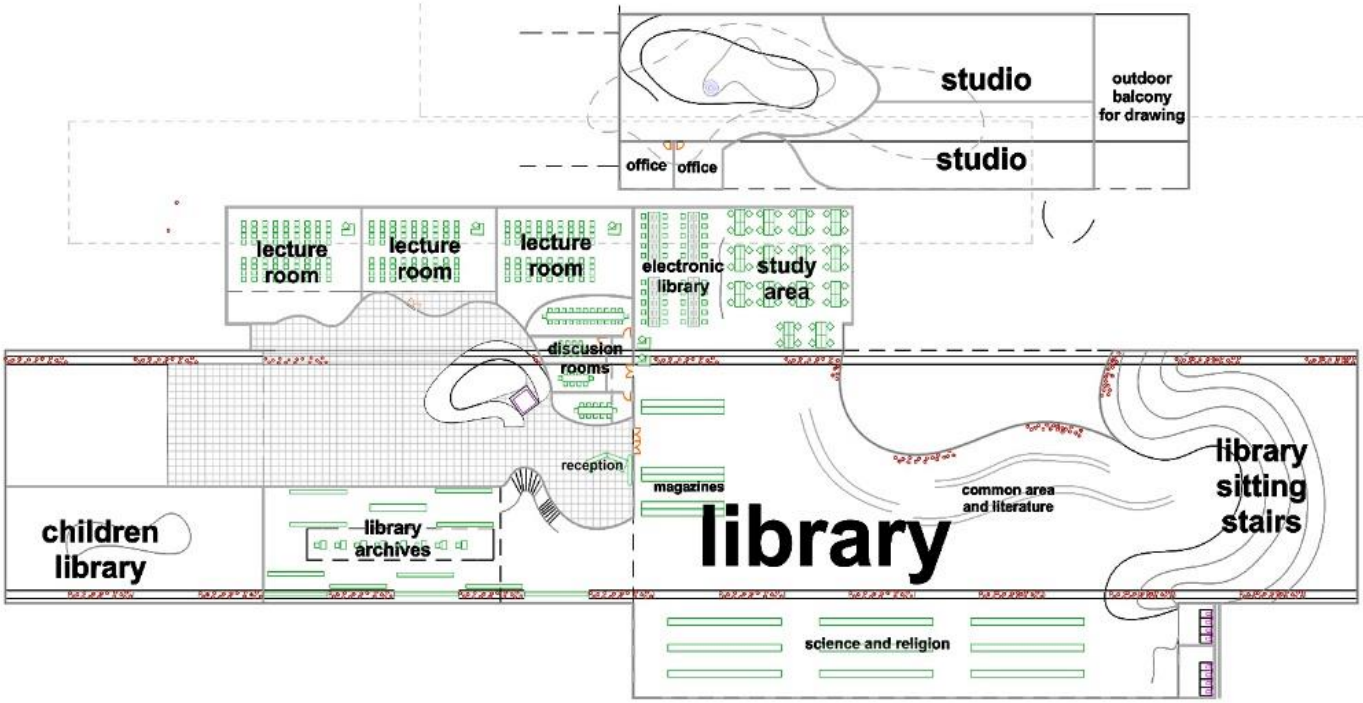
Design philosophy :

Its is hard for me to chose a school or a style for this project . but if deconstructution is defined as "…deconstruction works to keep things in an irregular state, and prevent the new growth that follows a temporary destructive act " (gablin) ,then this project falls under that category . I have not tried to make it deconstructive I only stopped trying to make it formal . I allowed the form to evolve without any boundaries .and it caused it to have the irregular shape it does . but even so if I must chose between " function follows form " or " form follows function " I would say that this project is the latest .That being said I tried to allow beauty to emerge from its irregularity .

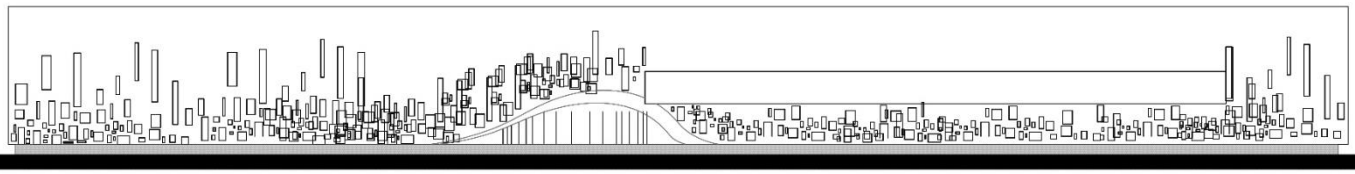
Preliminary design :

Ground floor plan





Second floor plan



South elevation

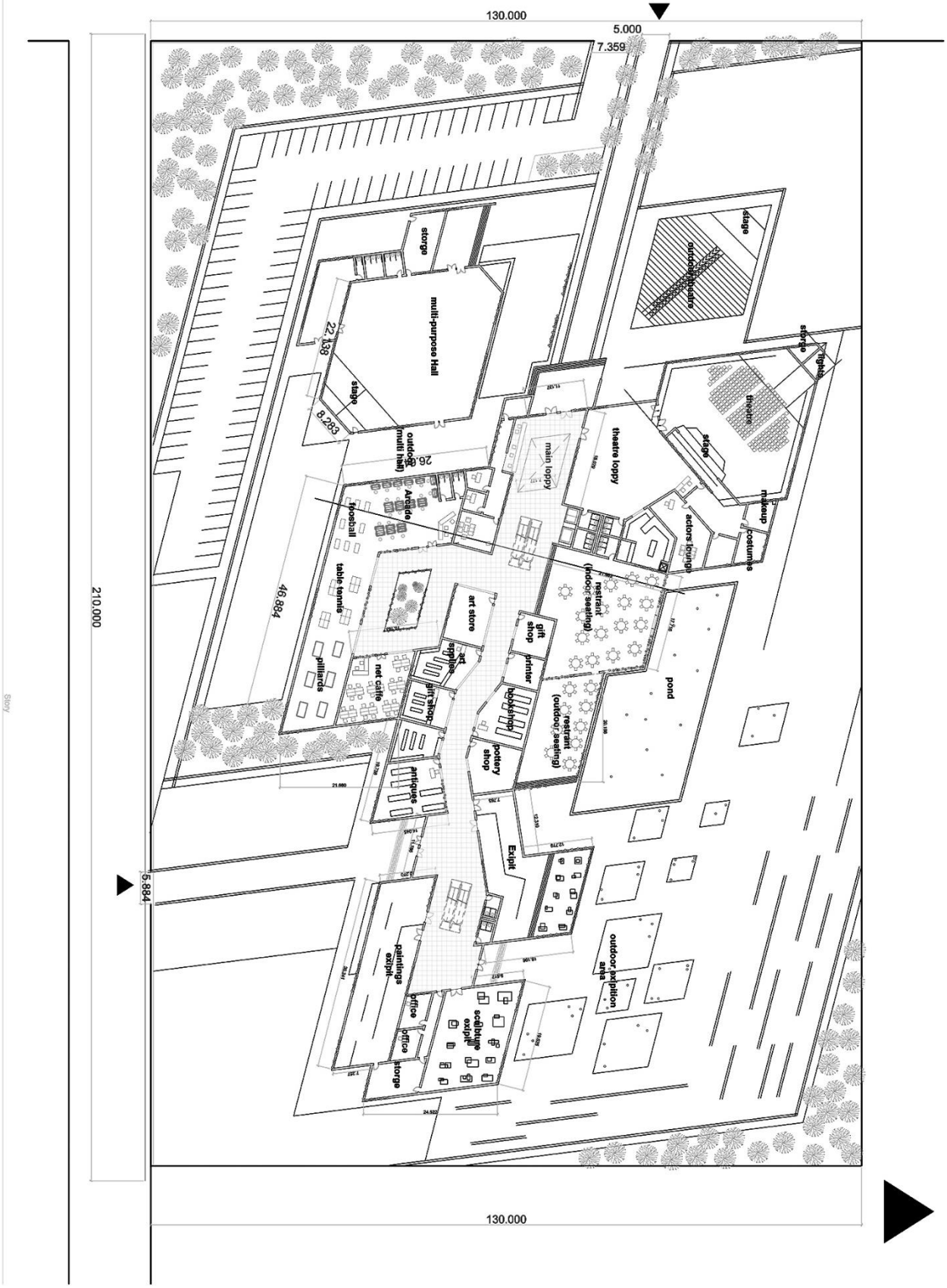
Design philosophy :

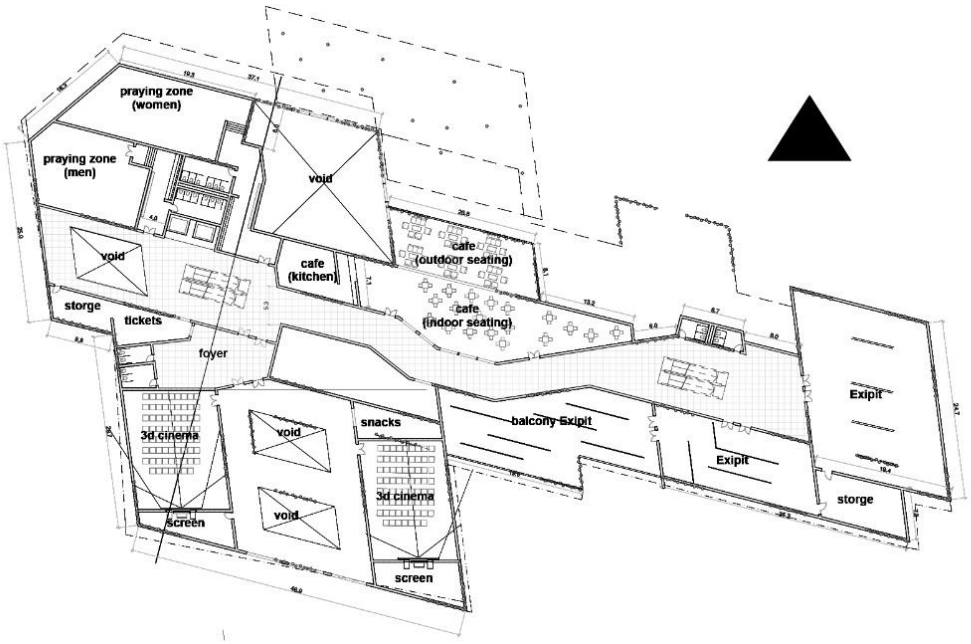
Originally the form was minimal simple and geometric with clean lines and without any irrelevant ornaments or embellishments . working with masses and voids choreographing their interaction Through basic geometric shapes . but also trying to create a dynamic look suited for the project's nature .

From the outside despite its cubic simple form the building would seem lively and aesthetically appealing . while the visitor would be surprised by the curvy interior and open spaces inside ,thus inviting the visitor to explore and interact with the building .wondering what else might I also discover .

I also tried to not restrict the relationship between the outside and inside by flooding the interior with daylight . creating green areas and trees that stretch through voids . and with a northern glass façade attempting to eliminate the line between what is made and what is natural

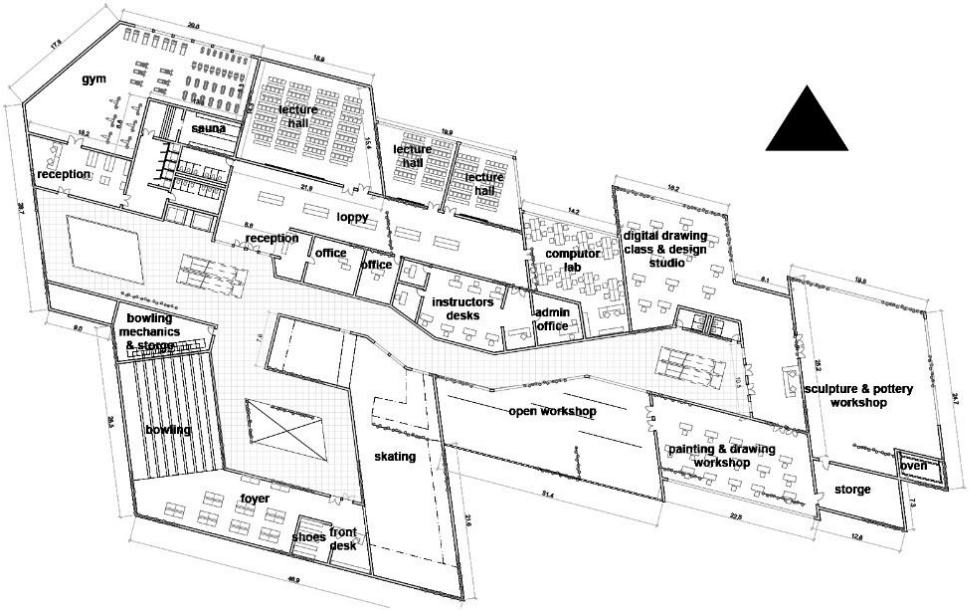
Evolved design :





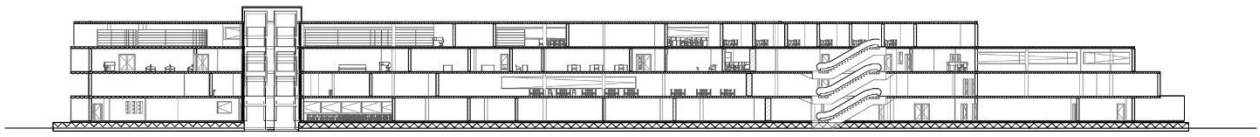
first floor plan

scale 1:300

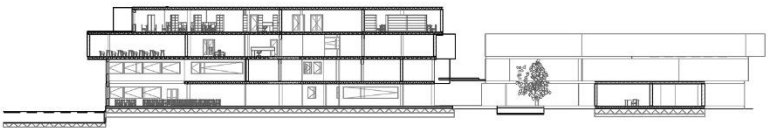


second floor plan

scale 1:300

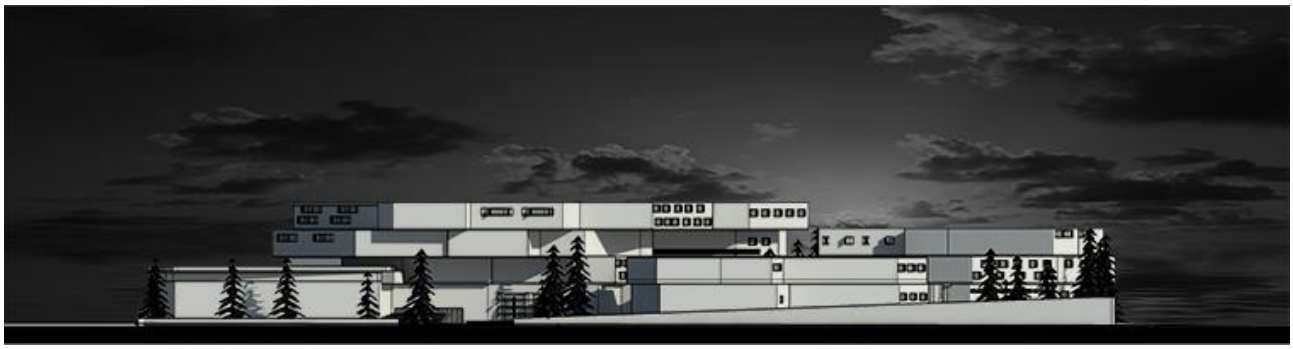


Section a-a



Section b-b

South elevation



West elevation

Design philosophy :

The form changed dramatically from the preliminary design . but kept the same basic concepts . while the preliminary design was simple . here it became complex in response to solving the design problems that were present .

The main problem with the preliminary design was that the masses were too spread apart . and there was little –or no connection at all between them .

Here instead of treating the building like separate activities sharing the same site . I approached it as one building that has many activates .

The sup entrance created for the multi hall and theatre on the west also had a great influence on the form causing the corridors to bend and shape shift to not create a visual penetration through the building

The entertainment and game mass that was moves to the south also affected the site But it also eliminated the definition of the south entrance (which will be remedied in the final design)

For the elevation my philosophy was not to create an elevation per say but letting the elevation form itself from the difference of masses in floors . resulting in a dynamic but yet simple elevation .

Chapter five

Structural system :

structural system is open web joist because it helps with the shapes and long spans the project needs

this system has advantages

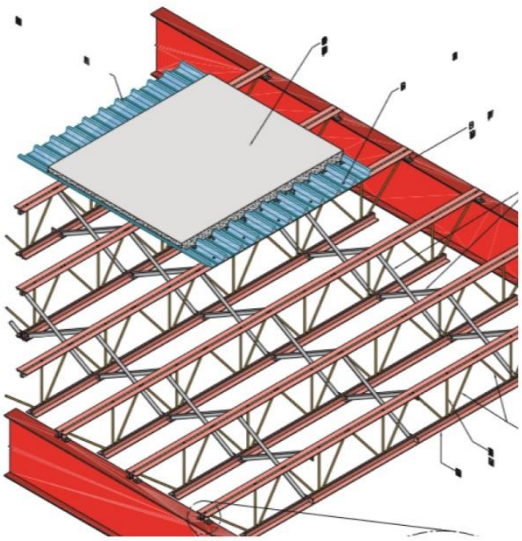
strength and hardness of steel

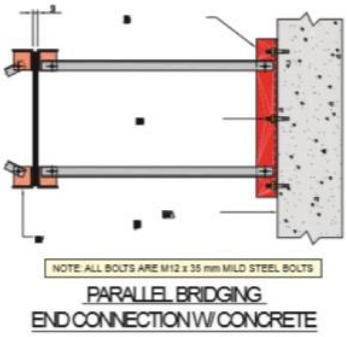
speed of execution

easier to handle especially in curving forms

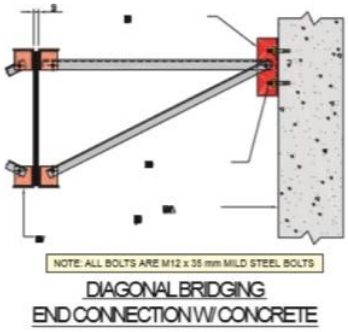
steel columns with concrete base is used with meta of the building and in some areas with concrete columns

floor system
open web joist

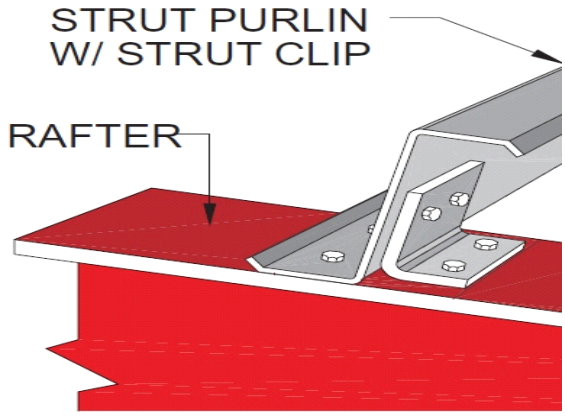


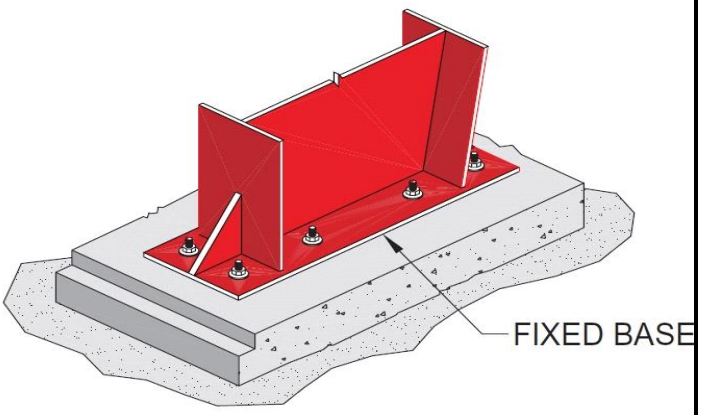


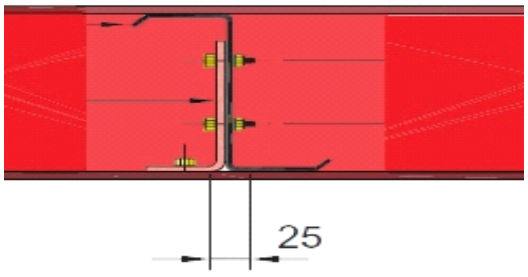
PARALLEL BRIDGING
END CONNECTION W/ CONCRETE

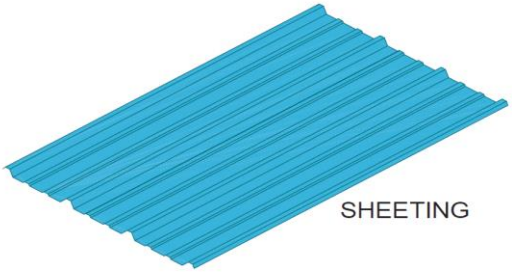


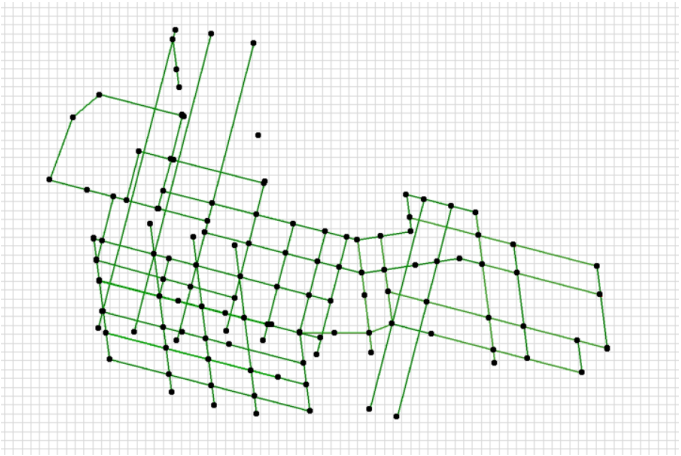
DIAGONAL BRIDGING
END CONNECTION W/ CONCRETE











grid

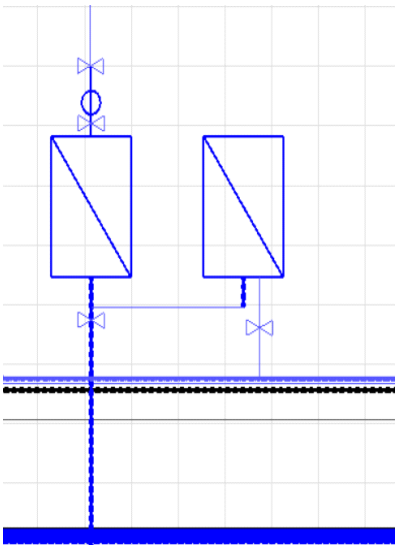
Grid with plan

Treatments

Finishes :

service

Water



water is supplied to the site from the puplic

city water lines south of the site .

then water is stored on ground level tank and

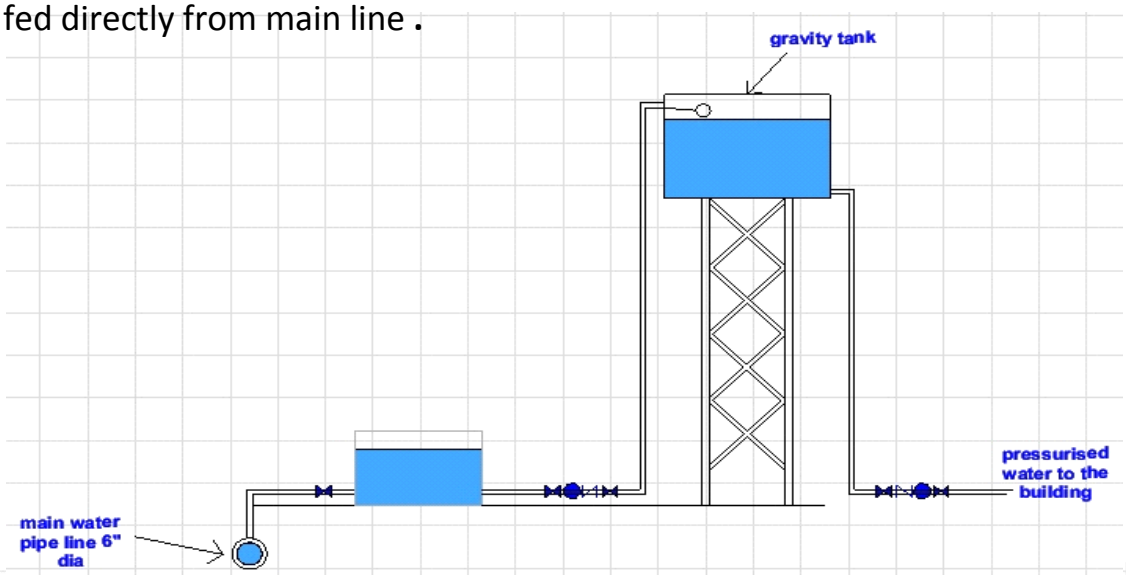
site irrigation tank and pumped from there

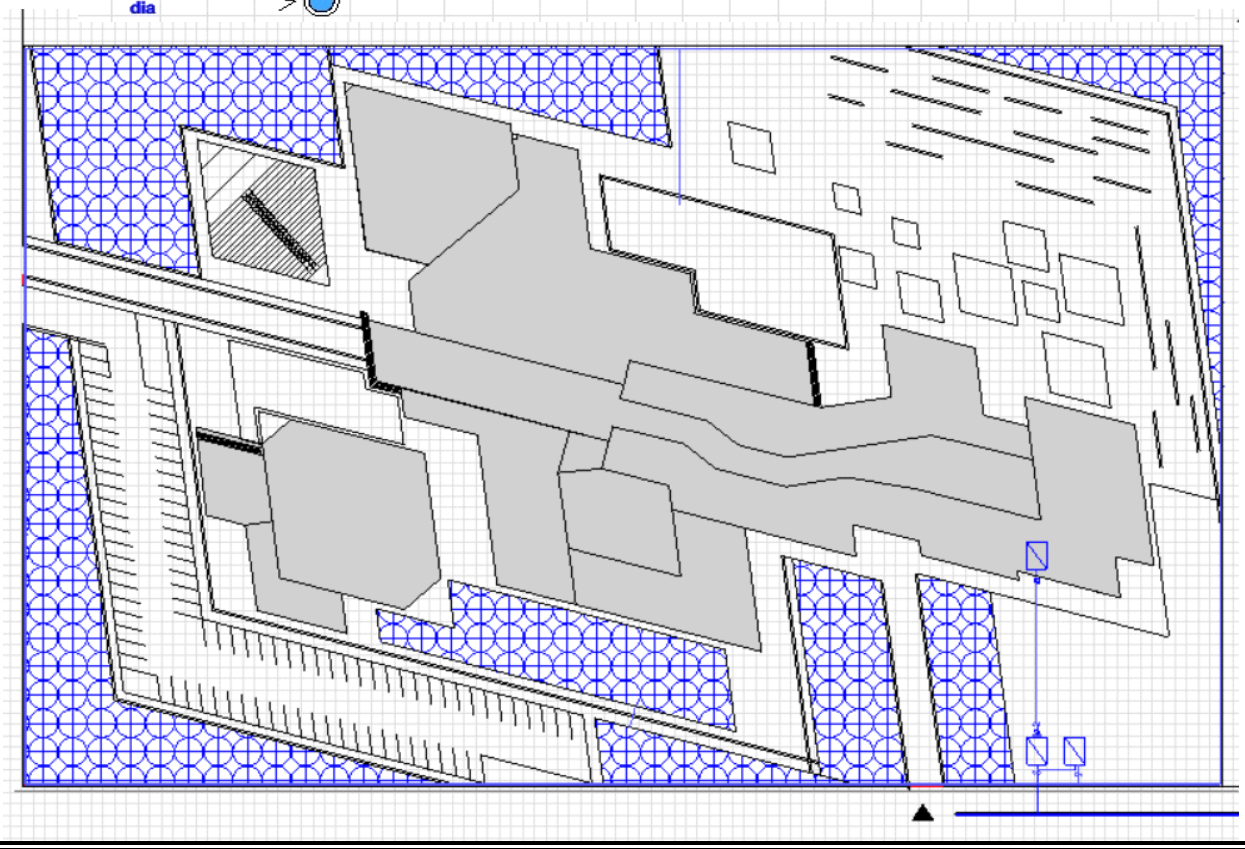
to the gravity tank which supplies water

to all different parts of the building

or to the site itself (green areas irrigation)

pond is fed directly from main line .





Drain and sewage:

separate drain system

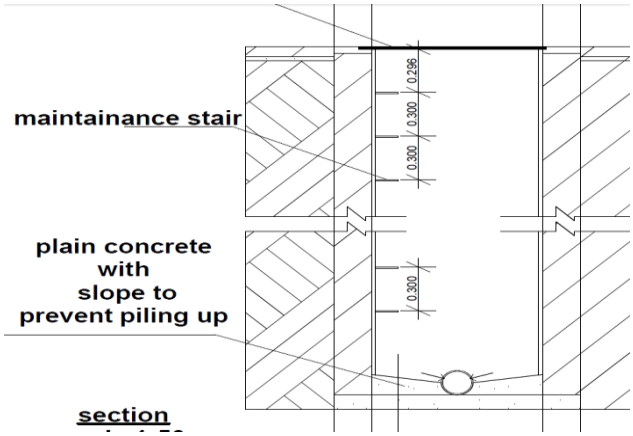
roof top is divided to sections no more than 15 m slightly tilted to ensure waterflow

down pipes with 4 inch diameteris distributed every 15 m max as shown on plan ending to sup trenches with slope 1:100collecting all of drain water from site to main trench and out of the site .

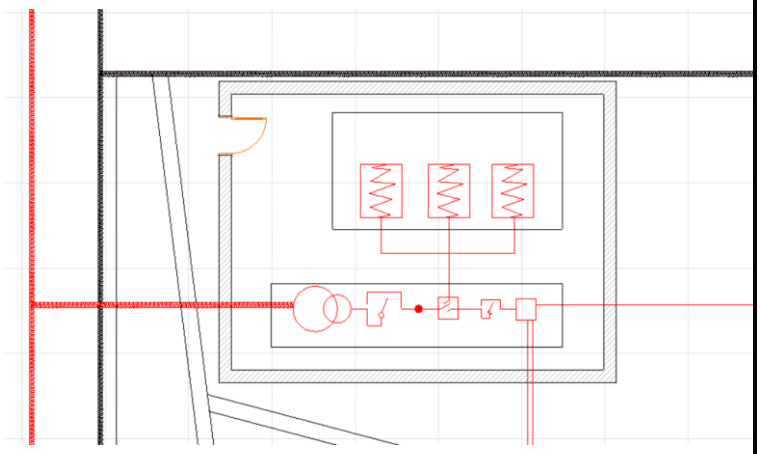
all green spaces as well as pond are fitted with over flow

trench to collect water exceeding need taking it to main trench

sewage



Electricity :



*From the main power room power lines are Connected to the different parts of the Project.

*the power room contains 3 backup Generator working together incase of Power Outage or emergency cases .

*it also contains a transformer decreasing Power from 11 kelo volt to 415 volt

*then there is the main switch then the main distripution Board which then sup lines are connected from to the different Parts of the building.

*There is also an electronic control panel For The pond dancing fountains and colored lights As well as an electronic control panel for the Outdoor display and graffiti area.

*light poles for the rest of the site is powered by sun light using separate solar panels for each pole .

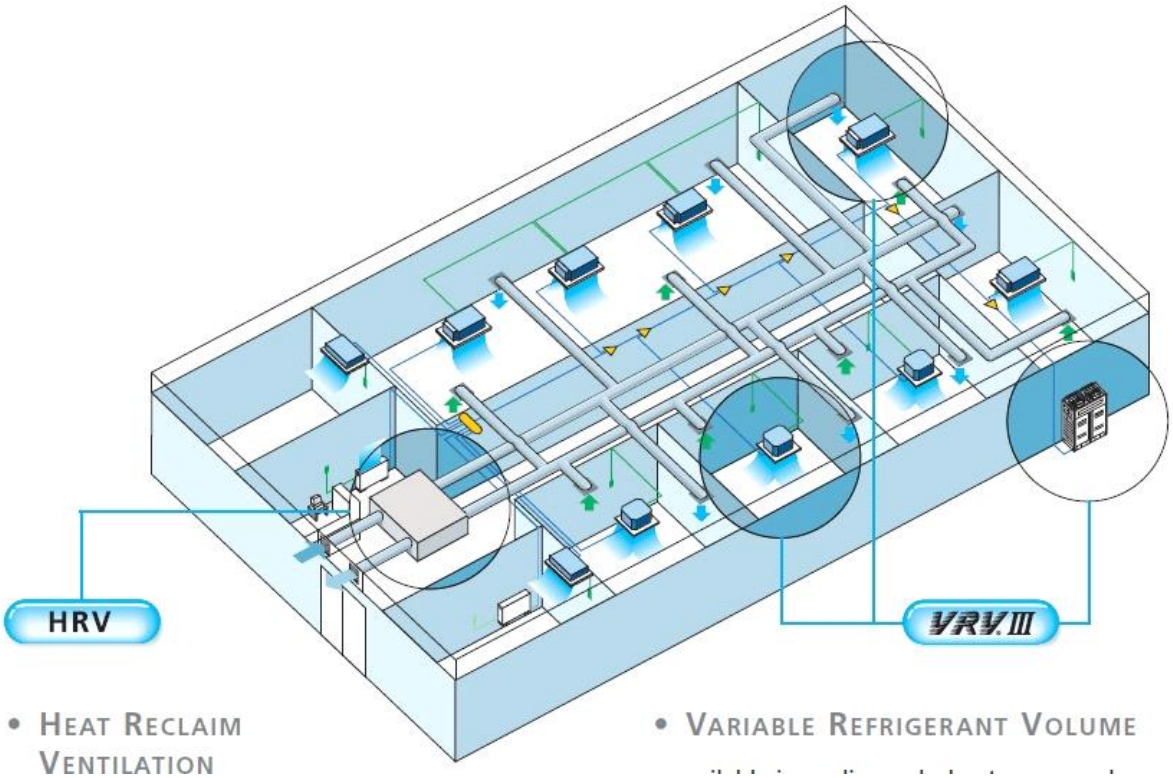
Air conditioning and fire system :

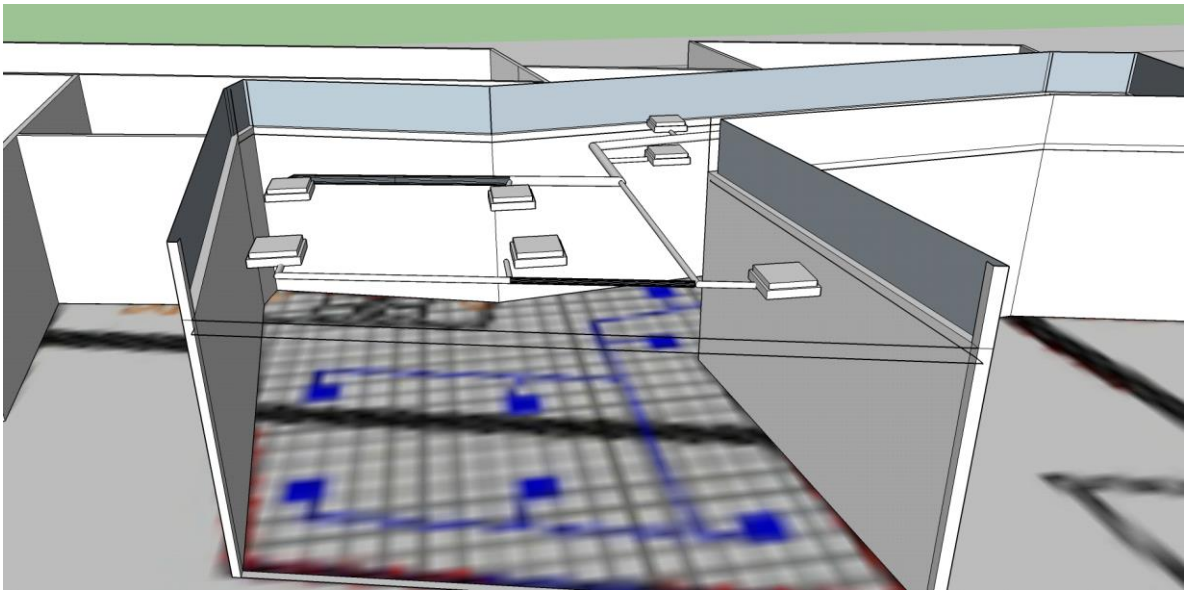
For AC System used is VRV air conditioning system (Variable Refrigerant Volume Air Conditioning)

It consists of two main parts

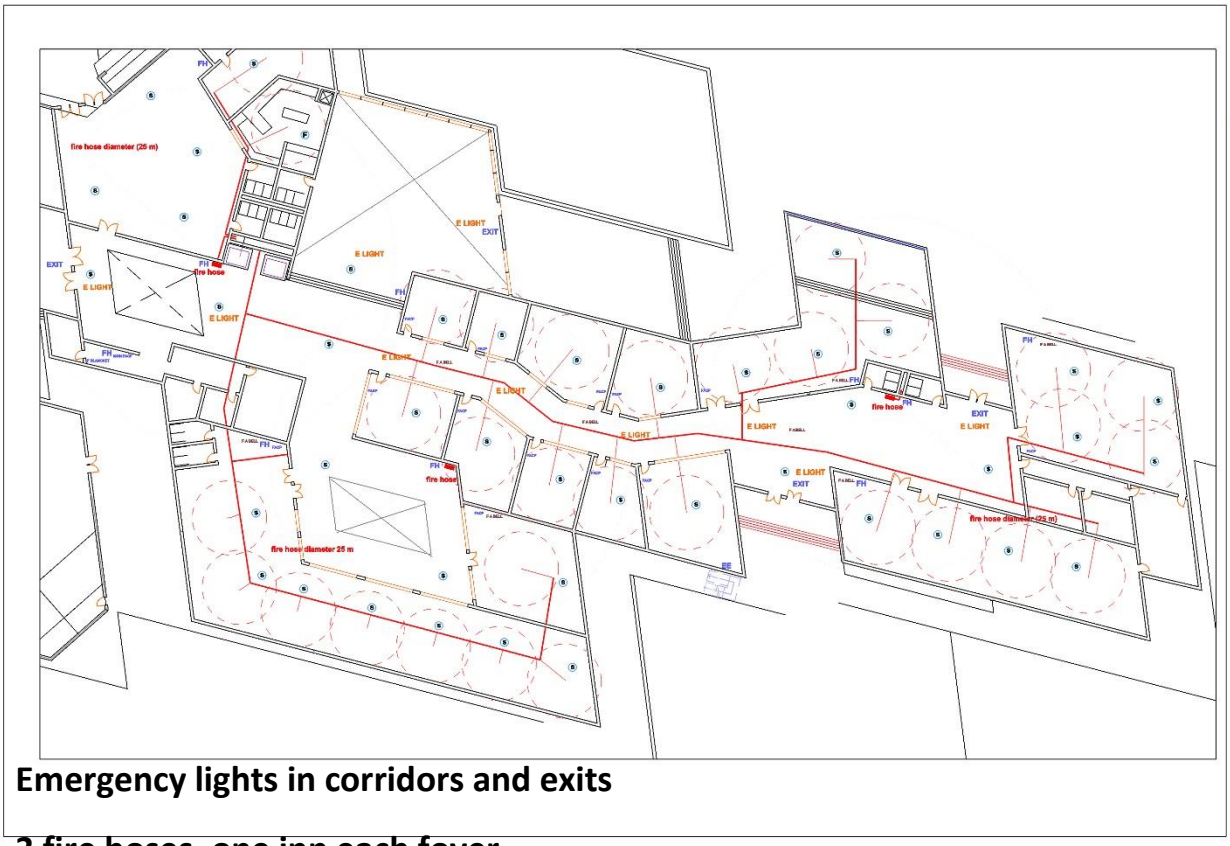
*outdoor unit

*(Cassetee)or in door unit


HRV
VRV III
• HEAT RECLAIM VENTILATION
• VARIABLE REFRIGERANT VOLUME



Fire fighting :



Emergency lights in corridors and exits

3 fire hoses ,one inn each foyer

Fire hydrant in each space

Sprinkler system as shown on plan

Fire alarm as shown on plan

Fire alarms and smoke detectors control panel located

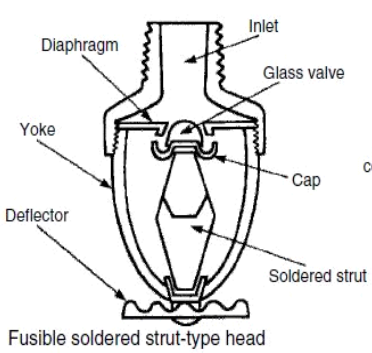
On the security offices

Smoke detectors were used because they suited the

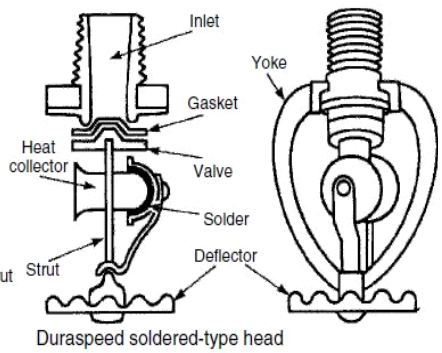
Nature of the project

every column is covered with insulation

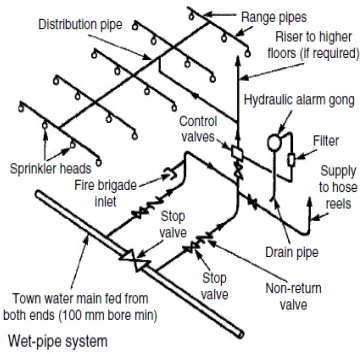
coating.



Fusible soldered strut-type head



Duraspeed soldered-type head



Wet-pipe system

References

1.Field visits to site

2.Sudan university of science and technology .college of the fine and applied arts

3.Time saver architectural standards , fourth edition 2001

4.zamil steel buildings guide , January 2001

5.gallary design Smithsonian guide , 2003 eddition

6. , Architecture: design notebook ,Peter Fawcett Second edition 2003

7.form, space and order , francis d,k ching 1979

8.www.archdaily.com