

DIPLOMA IN ARCHITECTURE  
CIVIL ENGINEERING  
DEPARTMENT

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THE  
ARCHITECTURAL  
PROGRAMME

A Guide To Understand Project Brief

ZURIKA . MAHANIM . QUSYAIRI

2023

**T H E**  
**A R C H I T E C T U R A L**  
**P R O G R A M M E**

**A Guide To Understand Project Brief**

**Mej (K) Dr. Ishak bin Mohamad**  
Director, Politeknik Port Dickson

**Abdul Rahim bin Ibrahim**  
Deputy Director (Academic), Politeknik Port Dickson

**Ts. Rustinda binti Abdullah**  
Head of Civil Engineering Department, Politeknik Port Dickson

**Zarith Sofia binti Abu Zahri**  
Head of Architecture Programme, Politeknik Port Dickson

**EDITOR**  
Badariah binti Daud  
Civil Engineering Department, Politeknik Port Dickson

**FACILITATORS**  
Che Azlina binti Che Norohoseni  
Zuliana binti Zainal Abidin  
Ahmad Qusyairi bin Ahmad Khairiri

**WRITERS**  
Zurika Amnah @ Salmi binti Mohtar  
Mahanim binti Abdullah Sadali  
Ahmad Qusyairi bin Ahmad Khairiri

# THE ARCHITECTURAL PROGRAMME

## A GUIDE TO UNDERSTAND PROJECT BRIEF

eISBN:978-629-7643-07-6

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Published by:

Politeknik Port Dickson,  
KM 14, Jalan Pantai, 71050 Si Rusa,  
Port Dickson, Negeri Sembilan.

September 2023



Cataloguing-in-Publication Data

Perpustakaan Negara Malaysia

A catalogue record for this book is available  
from the National Library of Malaysia

eISBN 978-629-7643-07-6

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# A C K N O W L E D G E M E N T

All praises be to Allah, the Most Gracious and the Most Merciful, on Whom we depend for sustenance and guidance, it is because of His blessing that it is possible for us to finish this e-book.

In particular, we would like to offer our heartfelt gratitude to Politeknik Port Dickson, Jabatan Pengajian Politeknik, and Kolej Komuniti for providing us with the opportunity to be a part of this e-book project as well as valuable assistance and guidance in finishing this e-book. They have aided our comprehension and cognitive processes.

Our heartfelt gratitude also extends to all of our colleagues and those who have assisted us on various occasions. Their perspectives and advice are really beneficial. Unfortunately, given the limited space, it is not feasible to mention all of them.

Finally, and most significantly, we dedicate this e-book to our dear students in the hopes that it will inspire and enable you to understand more on architecture programme - the detail breakdown of the building spaces and site, that will challenge students to explore design options to solve project and programme requirements.



*"The more that you read, the more things you will know, the more that you learn, the more places you'll go." — Dr. Seuss*

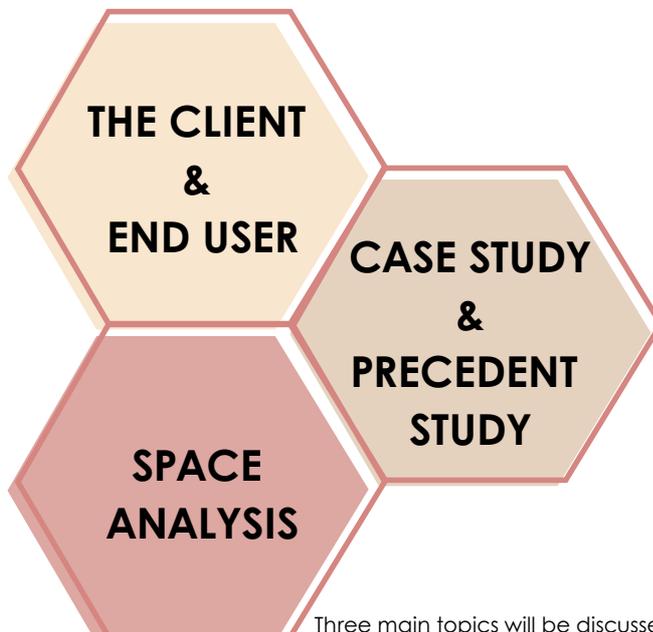


## HOW TO USE THIS BOOK

Design Studio courses emphasis on designing a building as a project. The explanation about the project were written in a project brief. After reading the project brief and highlight the important points, the next step is to fully understand what you are instructed to do. In order to help you develop your own programme, here are the most significant of design proposal that need to be discussed early in the design stage.

- **Know** your client and end user
- **Research** on related building such as case study and precedent study.
- **Conduct** space analysis.

So this book was design to help you building your own programme. The topic discuss precisely and clearly by providing examples for easy understanding. The step by step of making your own programme was explain and provide design tips as a bonus.



Interesting features  
in this book:

## USEFUL TIPS



Find a useful tips and follow the process.

## TASK

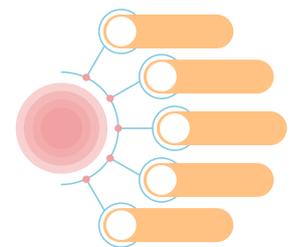


Guided activity help students experience the design process.

## Trivia

### ARCHITECT'S QUOTE

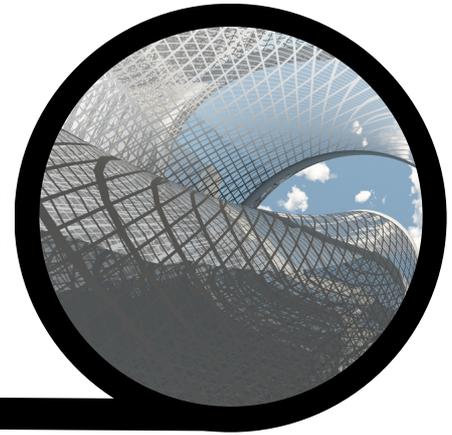
Quote by great architects according to the topic discussed.



## DIAGRAMS

Lot of diagrams help better understanding.

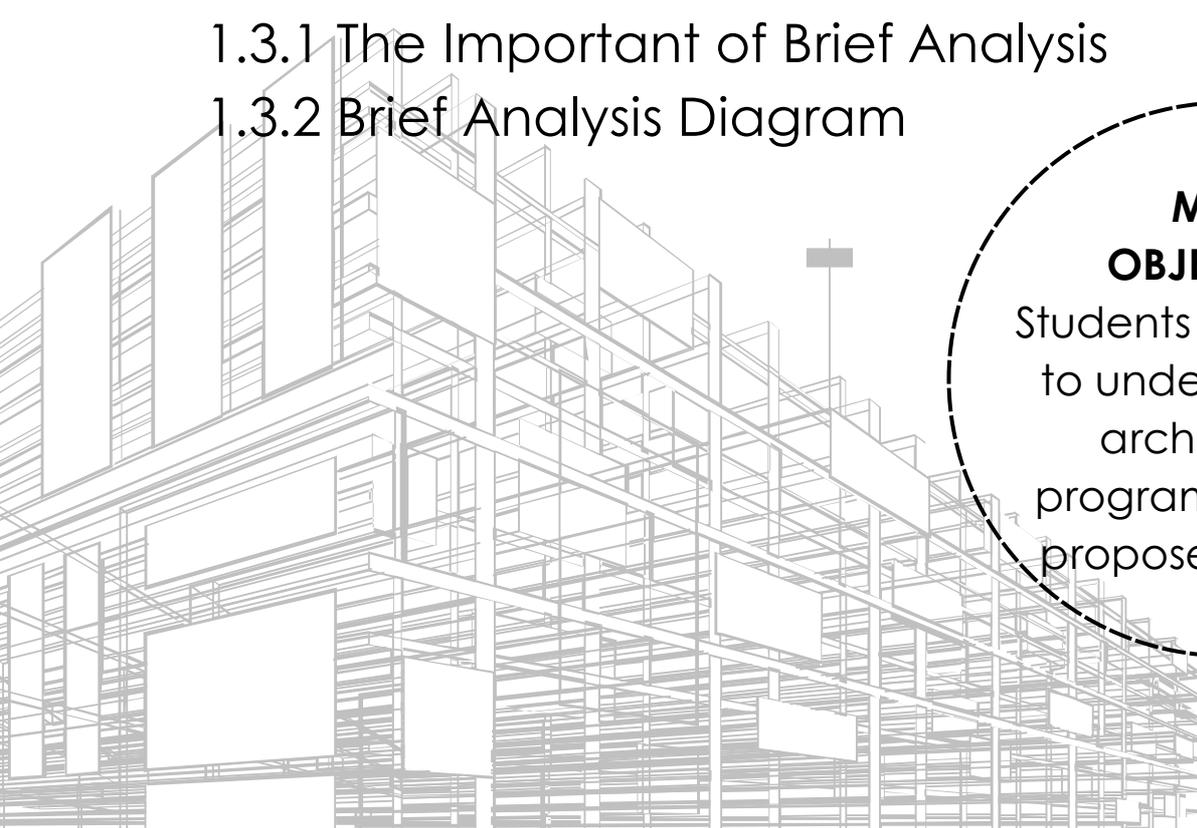
# THE PROGRAMME



- 1.1 Introduction to The Programme
  - 1.1.1 Architectural Programme: Establishing A Vision of Building Proposal
  - 1.1.2 Diagram of Build Programme
- 1.2 Project Brief
  - 1.2.1 Understand Project Brief
- 1.3 Brief Analysis
  - 1.3.1 The Important of Brief Analysis
  - 1.3.2 Brief Analysis Diagram

## MAIN OBJECTIVES

Students will be able to understand the architecture programme of the proposed project.

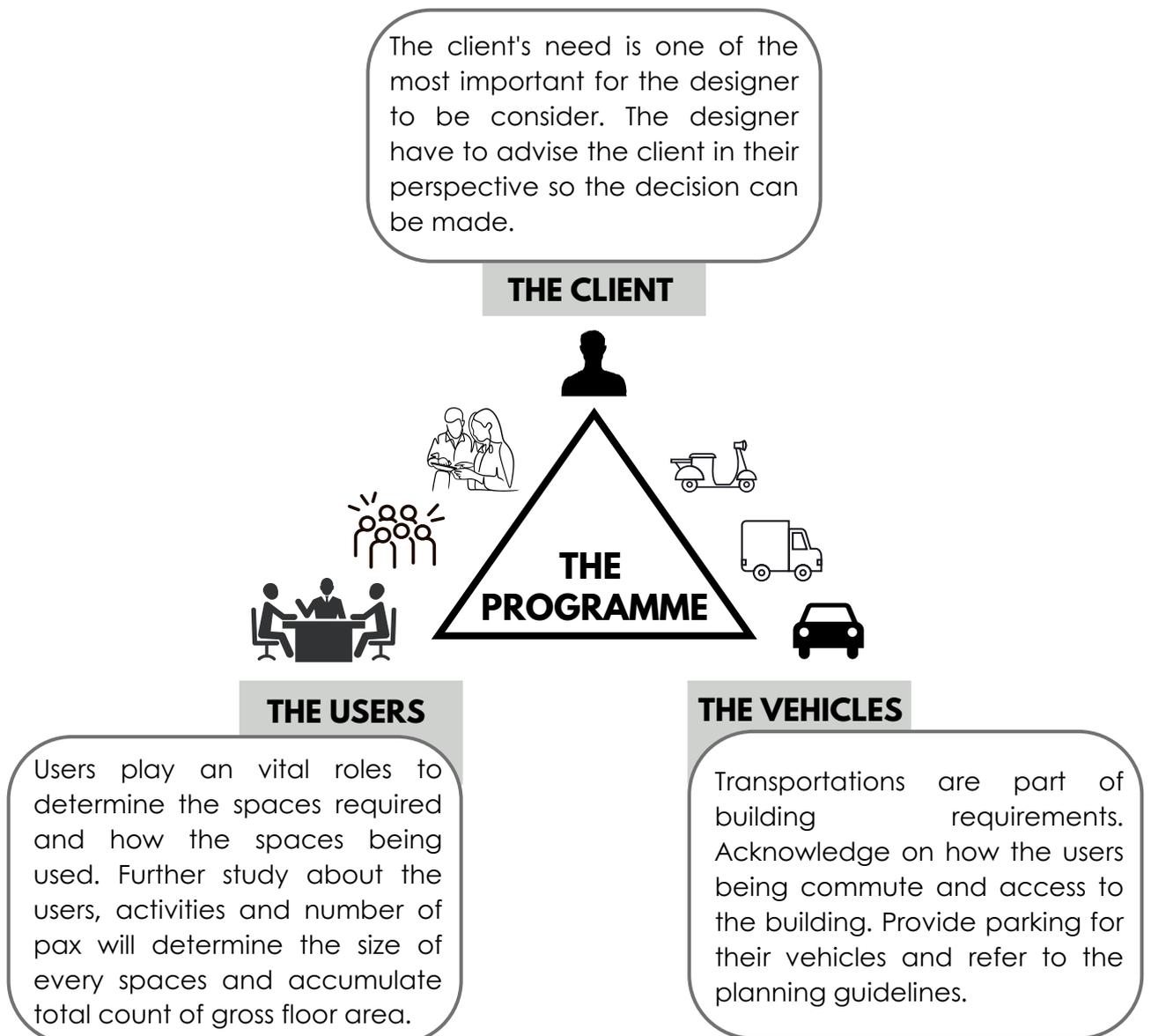


# 1 THE PROGRAMME

Every time students enter studio class, they will be provided with a brief project. A summary of what will happen in this class during semester. There will be a big question mark for the students. Where to start? What is the project? Who is the client? To be specific, this topic will discuss and guide students the very first step that they need to do after received the project brief, to understand the project brief.

## 1.1 INTRODUCTION TO THE PROGRAMME

In architecture, the programme is a preliminary design stage in a design process. It is an interpretation of project brief which explain detail how the building will be operated. Designing a building, first the designer needs to understand the project brief by develop an architecture programme. Three main elements in building the programme are the client, the users and the vehicles.

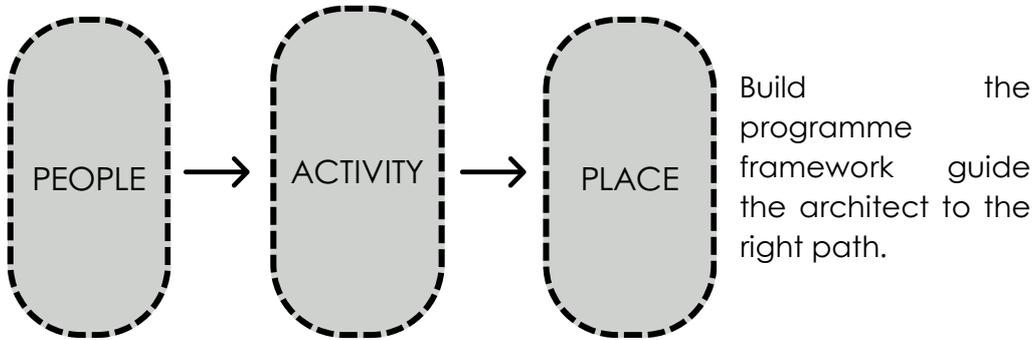


The elements of architectural programme.

source: <http://portico.space/journal//architectural-concepts-programme>

### 1.1.1 Architectural Programme: Establishing A Vision of Building Proposal

Briefly study about the project brief. Take note the three programme elements - the clients, the user, and the vehicles. List down all actions to be taken. The size and the spaces proposed base on the aspects studied. Proposed Schedule of Accommodation (SoA) and The Building Programme.



Example of social architecture programme framework.

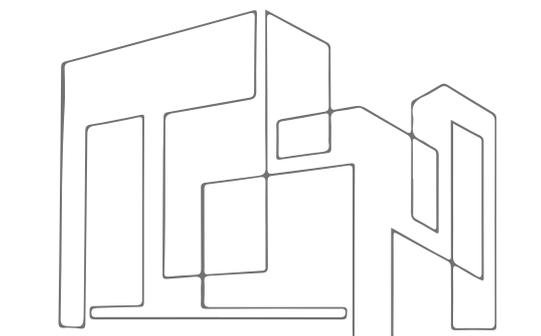
	Learning		Social
	INDIVIDUAL	COLLABORATIVE	
ACTIVITIES	<ul style="list-style-type: none"> <li>Studying</li> <li>Reading</li> <li>Doing a research</li> <li>Doing assignments</li> <li>Drawing</li> <li>Designing</li> <li>Modelling</li> </ul>	<ul style="list-style-type: none"> <li>Studying</li> <li>Doing a group-work research</li> <li>Doing group-work assignments</li> <li>Doing team-work design project</li> <li>Making physical models</li> </ul>	<ul style="list-style-type: none"> <li>Meeting up with peers and friends</li> <li>Discussing</li> <li>Brainstorming</li> <li>Other social and cultural activities</li> </ul>
SPACES	QUIET AND PRIVATE ZONES		BUZZ AND ACTIVE ZONES
	<ul style="list-style-type: none"> <li>Main reading area</li> <li>Magazine reading area</li> <li>Computer lab</li> <li>Private working area</li> </ul>	<ul style="list-style-type: none"> <li>Private team-work booked rooms</li> <li>Classrooms / Seminar rooms</li> </ul>	<ul style="list-style-type: none"> <li>Multipurpose hall</li> <li>Exhibition hall</li> </ul>
	<ul style="list-style-type: none"> <li>Open studio</li> <li>Common shared working spaces</li> </ul>		<ul style="list-style-type: none"> <li>Display areas</li> <li>Lounges</li> <li>Cafes</li> </ul>

Analytical framework to examine its effectiveness of a library for architectural education environment.

source: M Dennis et al 2020 IOP Conf. Ser.: Earth Environ. Sci. 426 012103

### HOW TO PRODUCE AN ARCHITECTURAL PROGRAMME

- Step 1:**  
Read project brief
- ↓
- Step 2:**  
Build the framework
- ↓
- Step 3:**  
Understand the users
- ↓
- Step 4:**  
Conduct Space Analysis
- ↓
- Step 5:**  
Produce Schedule of Accommodation (SoA)
- ↓
- Step 6:**  
Finalize the architectural programme



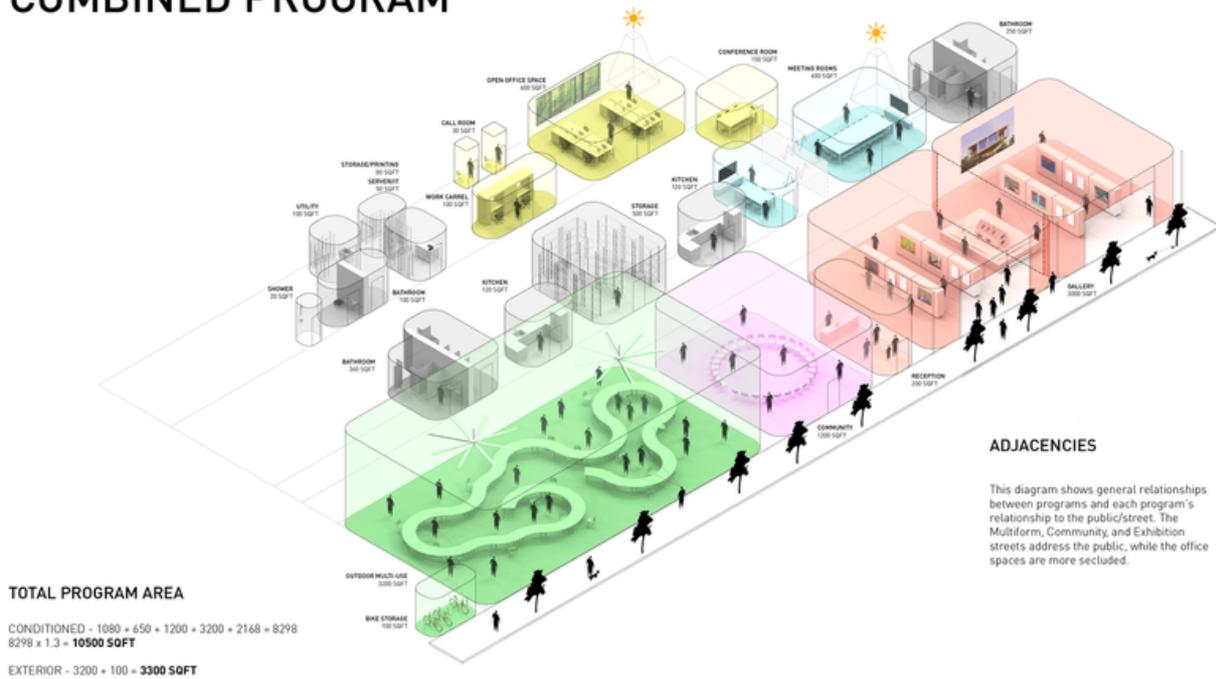
### Trivia

An architect is given a **program**, place and schedule. Sometimes the end product rises to art - or at least people call it that.

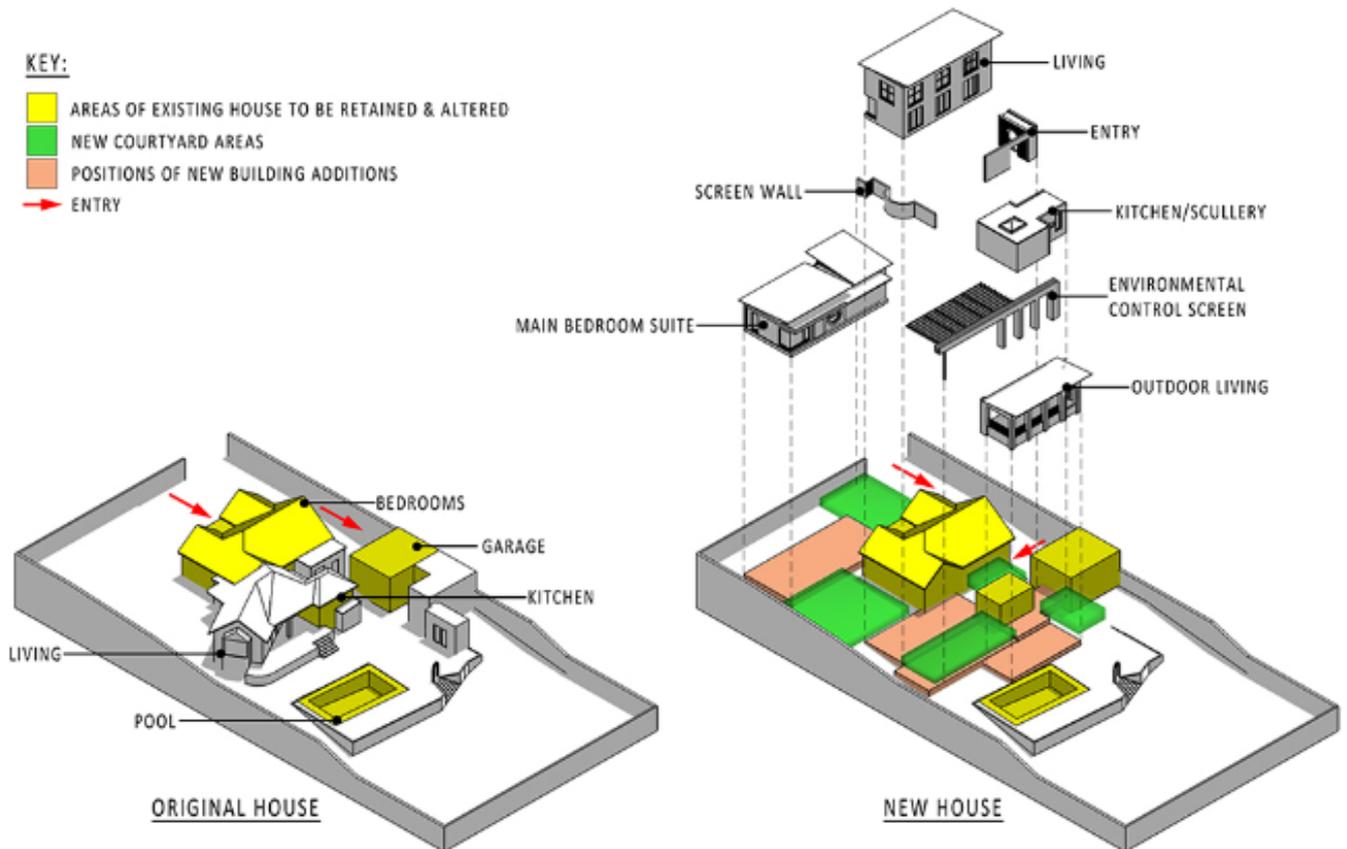
Frank Gehry  
source: blog.miragestudio7.com

## 1.1.2 Diagram of Build Programme

### COMBINED PROGRAM



source: <https://www.murraylegge.com/news/2018/9/14/center-for-architecture-programing>



source: <https://www.archidatum.com/gallery?id=9677&node=9684>

## 1.2 PROJECT BRIEF

Project brief is a document stated about the proposed project that you need to design. The information given is in general but specifically mention what you need to know as designer. You must do some research and further study about the project for you to understand the project brief.



Project brief was written by a person or team about a proposed project by answering the 5 Ws questions....Who, What, When, Where and Why.

**What is the meaning of the project?**

- **Who** is the client?
- **Who** will be the end users?
- **What** are the activities?
- **Where** is the site?
- Any special requirements to be considered?

➔ **Introduction:**  
Highlighted issues and proposed project. For example, this project is to design an accommodation for students.

➔ **Project Requirements:** Briefly explain about the project parameters.

### Sample of Project Brief

Brief Project DCA30114 DESIGN STUDIO 3 / SESSION 2 2022/2023

## STUDENTS POD

### Introduction

With the growth student's enrollment in our institution, the facilities provided is not enough. Students need to rent the nearest housing area and they will lose the opportunity to use facilities in the institution and campus life.

Apart providing only necessities, the psychological aspect must be considered. Student's perception on risk and belonging will affect their emotion thus will distract their focus on study.

The idea is to design a student pod that promote social interaction, flexible and usable space, build confident and personal character. The pod is not just a place to live but a place to remember.

### Course Learning Outcome (CLO)

**CLO1** Determine design ideas through appropriate presentation techniques for a small-scale building. (C5, PL02)

**CLO2** Construct architectural design and technical requirements that respond to the residential or retreat house. (P4, PL03)

**CLO3** Integrate autonomous learning and inquisitive mind for final project through presentation drawings, model(s) and verbal communication. (A4, PL07)

**CLO4** Organize work ethics and integrity for site analysis collaboratively in response to the project brief. (A4, PL08)

### Project Objectives

- To provide students solution to design a residential building with site context through critical and creative thinking.
- To prepare the students present the idea and capability to deliver the technical skills.
- Students show positive personality, engaged with the project and initiative to complete the drawings, model and present the idea.
- Practice work ethics and integrity in performing the site analysis related to the design proposal.

### Project Requirement

**THE TASK** Students are required to design a double stories STUDENTS POD for their institution. The idea is not just to perceive on how student design innovative space and reflect to the institution's mission but also functional and adaptable enough to stand up to the rapid pace of change in higher education. The propose building should include spaces for user to accommodate, study, socialize, meet and get the resources they need. The maximum number of users are 20 person.

### Design Requirements

Building typology	Student Pod
Type of building	People Habitat or Community
Number of user	5-20
Built-up area	150 - 200 sqm
Building height	2-storey
Construction material	Masonry / Concrete / Timber / Steel
Design aspects	Basic design process, idea development, design principles, human behavior study, basic principles of passive design - natural ventilation & lighting.
Site planning	Basic principles of site planning and landscape design, pedestrian and vehicular circulation.
Space planning	Inside- outside relationship, scale & proportion, spatial organization.
Technical aspects	Basic construction, introduction to UBBL requirements - toilet, staircase, fire requirement.
Services	Water supply, sanitary system (plumbing schematic and on plan)

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➔ **Learning Outcome:** Stated the task and as result what students will achieve after complete the course.

**Design Requirements:** Stated the specifications, design criteria and limits of the project.

## 1.2.1 Understand Project Brief

Project brief is a guide for you to develop your project. It is very important for you to meet the project requirements and be succeed in your design.

It is better for you to have a hard copy project brief. You can highlight the keywords or project requirements. Look at the design parameters to make sure your design is follow the requirements.

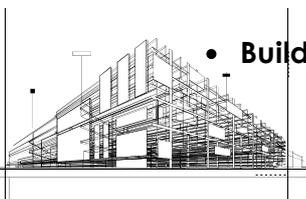
\* Basically these are information you can retrieve from project brief:



- Space Requirements



- Building Scope



- Building Typology



- Site Location



- Users/ Client



- Construction and Materials

\*<https://archimash.com/articles/architecture-project-brief/>

Brief Project DCA30114 DESIGN STUDIO 3 / SESSION 2 2022/2023

## STUDENTS POD

### Submission Requirements

Use appropriate presentation technique with basic proficiency. Compose all the required drawings in 3 to 4 nos of A2 size boards. (portrait orientation)

<b>CONCEPTUAL DIAGRAM</b>	I. Conceptual + Diagrams
	II. Design Inspiration and Idea
	III. Site Planning & Zoning
	IV. Bubble Diagrams - Space relationship (Connection of vertical and horizontal circulation)
	V. User activities (building program)
	VI. Building Form making process
Site Analysis & Design Synthesis	
Schedule of Areas (The Program)	
Min two (2) Case Studies, which are relevant to scheme ideally of similar case, materiality, spatial programming and response to context	
<b>MAIN DRAWINGS</b>	Key and Location Plans (Not To Scale)
	ONE (1) Site Plan (roof plan, hardscape & landscape with context) (1:200)
	Ground Floor Plan (1:100)
	First Floor Plan (1:100)
	TWO Sections + site context (1:100)
	ONE (1) Typical Section (1:25)
	THREE (3) Details of the structural joints - floor, wall & roof (1:10)*
	FOUR (4) Elevations - Front, Rear, Right & Left + site context (1:100)
	Perspectives:
	THREE (3) External Perspectives - showing the context of the STUDENTS POD and its surrounding (architecture)
TWO (2) Selected Interior Perspectives.	
Study Model or Mock Up Model. (1:50)	

*\*optional*

### Space Requirements

Private space	Bedroom complete with attached bathroom (WC) <ul style="list-style-type: none"> <li>• 3 nos for 2 pax</li> <li>• 2 nos for 4 pax</li> <li>• A dorm for 6 pax</li> </ul>
Shared space	Student Lounge (16 pax) Dining Area (10 pax) Musolla (5 pax) Kitchenette (4 pax) Laundry Area
Services	Vertical access <ul style="list-style-type: none"> <li>• Staircase</li> </ul>
Outdoor	Softscape & Hardscape Covered walkway
Additional space	Reception Lobby

### Assessment Criteria

The students must illustrate commitment through good discipline, hard work and continuous improvement. All design process will be compiled. Attendance and critique sessions are important. Originality of work will be doubtful if the students did not go through critique session and can be failed. Truancy will not be tolerated and those who do not fulfill Polytechnic's academic regulations on attendance for each project will not be assessed.

### Transferable Skills

- Problem Solving & Scientific Skills
- Values, Attitude & Professionalism
- Information Management & Lifelong Learning Skills

### Tools

- Computer/ Laptop with high specifications
- A3 size butter paper.
- Drafting tools - pen, colors etc

### Schedule

WEEK	SCHEDULE	CLO
1 - 2	Introduction Case Study/Precedent Study	1,2,3 & 4
3 - 4	Site Visit & Site Analysis	4
5 - 9	Design Process/Crit Session	1,2 & 3
10	Mid Term Portfolio	1
11 - 13	Schematic Design	1,2 & 3
14	Submission & Final Presentation	1,2 & 3
15	Revision Week	
16	Portfolio	3

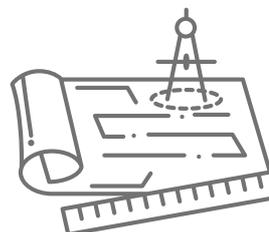
### 100% CONTINUOUS ASSESSMENTS

PRESENTATION	: 20%
CASE STUDY	: 10%
PROJECT	: 20%
DESIGN PROCESS	: 30%
MID TERM PORTFOLIO	: 10%
PORTFOLIO	: 10%

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## Sample of Project Brief

Do some research on the proposed project for better understanding of the project so you will get a clear picture what is all about.



### TIPS:

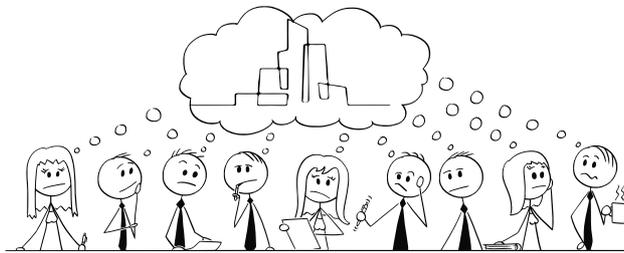
A good project brief provide project requirements need for the students to explore but sometimes if you have limited info available, start by questioning.

### 1.3 BRIEF ANALYSIS

Next step, you need to process the information. Brainstorming is a good practice for you to throw ideas and see possible opportunities. Briefly analyze the information will give you overview and broad perspectives on building design.



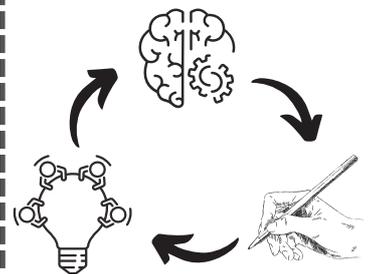
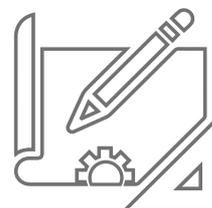
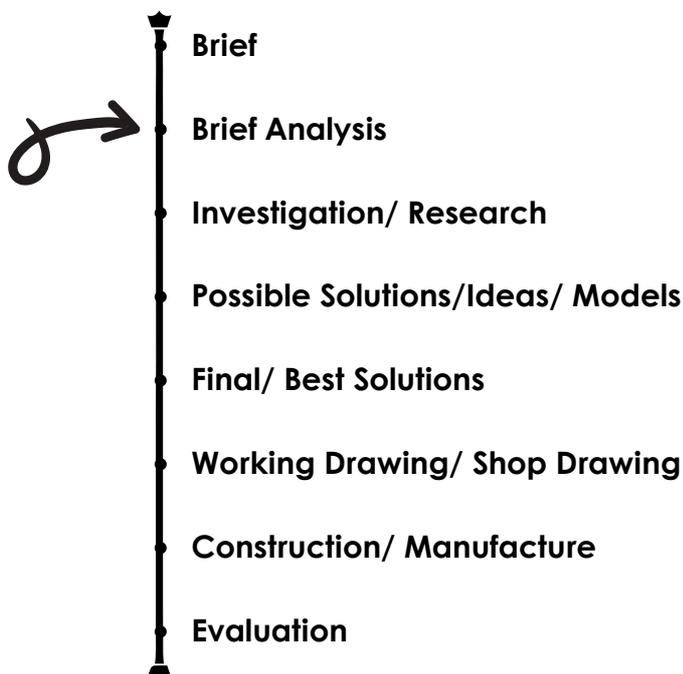
This is crucial to show you direction developing your own programme. Plan ahead what are the things you need to accomplish. Set the time, goal and objectives of every task. This process will help you on making decisions wisely.



#### 1.3.1 Important of Brief Analysis

Conducting brief analysis will inform you of the requirements and constraints of the project. It also avoids overlooking the crucial requisite that will waste your time and lead you to producing ideas which do not completely follow the brief. In other words, brief analysis provides you a clear route towards further investigation and research.

### THE DESIGN PROCESS



Brainstorming, discuss, analyze & repeat the process until you find a good solution.

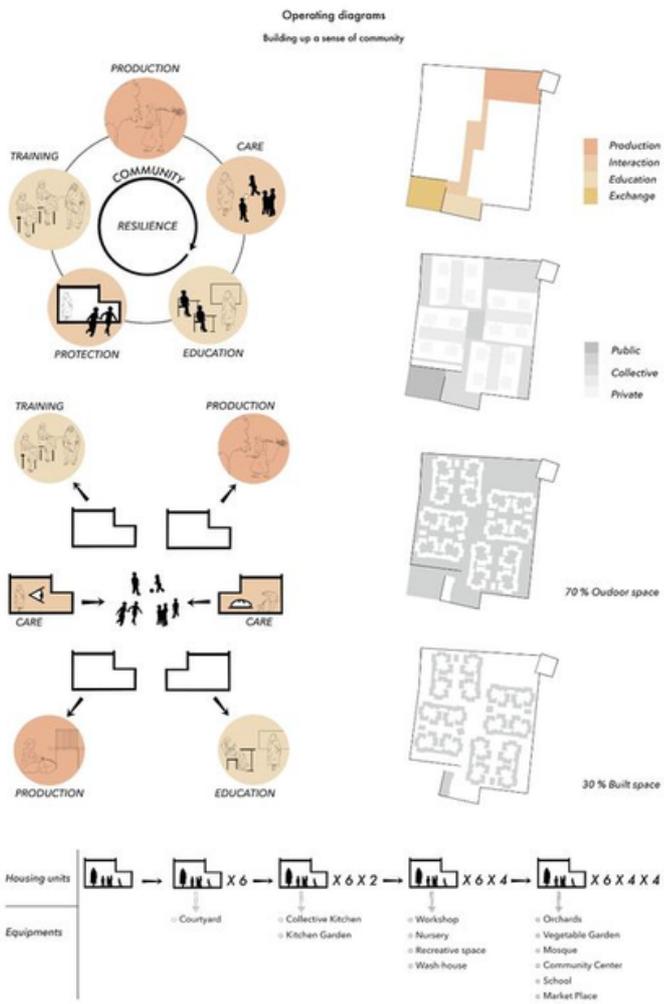
#### TIPS:

Follow the steps will ease you during the process.

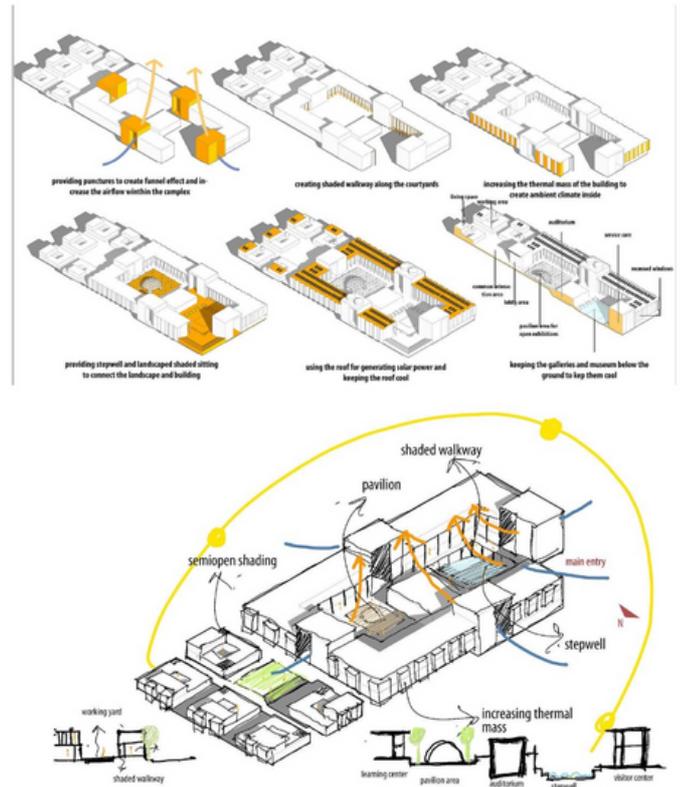
#### Task 1.1:

Read your brief project and write down important points. Ask questions and provide the answer. Draw an Artist's Impression of your initial idea.

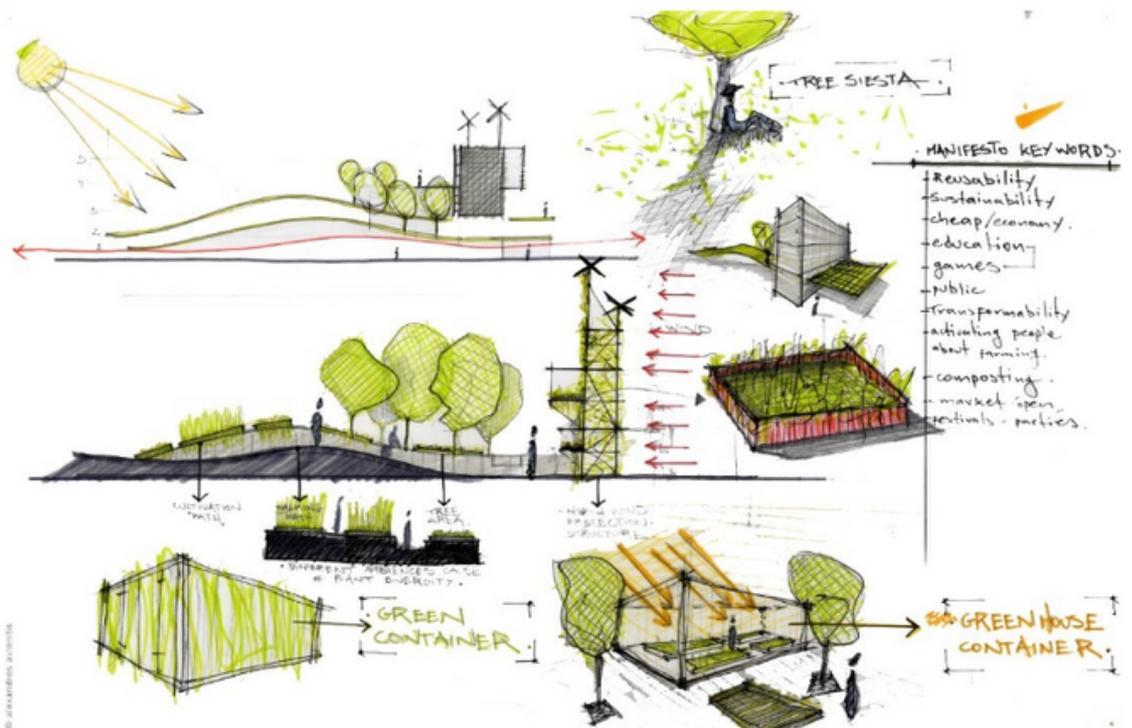
### 1.3.2 Brief Analysis Diagram



Architect mostly use diagram to demonstrate possible design solution to fulfill the project requirement and meet the programme.



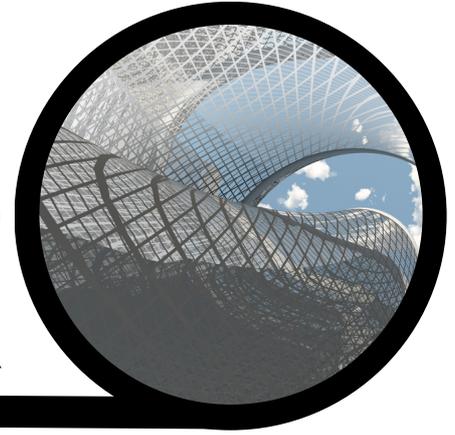
source: <https://uni.xyz/projects/zanabad-city-for-women-desc-the-project>



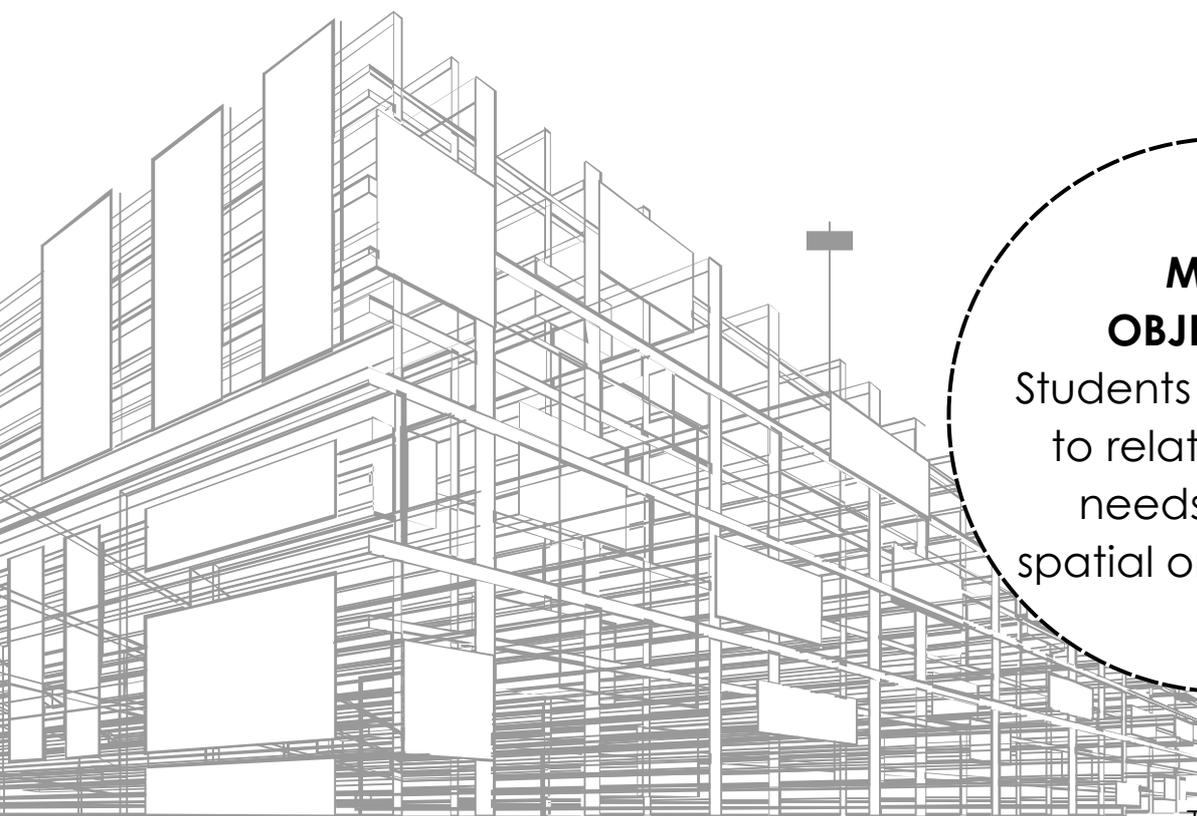
source: <https://www.linkedin.com/pulse/step-guide-develop-architectural-concepts-yamini-sejwal>

## TOPIC 2

# BRIEF ANALYSIS: THE CLIENT & END USER



- 2.1 The Client vs End User
- 2.2 Understand End User



### MAIN OBJECTIVES

Students will be able to relate the user needs into the spatial organization.

# 2 THE CLIENT & END USER

In designing a building and space layout, designer must in the first hand to understand the client and also the user. In the context of architecture, the terms "client" and "end user" refer to distinct roles that play important roles in the design and development of a project, whether it's a building, software application, or another kind of product.

## 2.1 The Client vs The End User



### Client:

The client is the individual, organization, or entity that initiates and funds a project. They are essentially the ones who commission the work and have a vested interest in the successful outcome of the project.

Clients provide the requirements, goals, and often the budget for the project. They are responsible for setting the overall vision and direction and ensuring that their needs and expectations are met.

In architecture, the client could be a property developer, a company, a government agency, or an individual homeowner, depending on the type of project.

### End User:

The end user, on the other hand, is the person or group of people who will ultimately use and interact with the finished product. They are the ones who will directly benefit from the project and whose needs and preferences must be taken into account during the design and development process.

In architecture, the end users could be the residents of a building, the employees of a workspace, visitors to a public space, or any other group of individuals who will experience the designed space.



Thus, it is very important to understand the client and the end-user so as to be used for its designed purpose.

For instance, a common residential building end-user is a person or a family, that is accommodate the building as a residence on a permanent or long-term basis.

### TIP:

Get to know your client/ end user by interview, observation or questionnaire



### Task 2.1:

Students need to gather information and identify the client and end user of the propose building.

### **User Profiles and Demographics**

Identify the different types of people who will use the building. Consider factors such as age, gender, occupation, cultural background, and any specific needs or preferences they may have

### **Functional Requirements**

Determine the primary functions and activities that the building will support. For example, a residential building will have different functional requirements compared to a commercial office space or a healthcare facility

### **User Needs and Goals**

Understand the specific needs, goals, and expectations of the end users. What are they looking to achieve by using the building? What features or amenities are important to them?

### **User Experience**

Focus on creating a positive user experience. Consider factors such as comfort, convenience, accessibility, and safety. Design spaces that are intuitive to navigate and promote a sense of well-being.

## **2.2 Understand The End User**

**Understanding the building end user is crucial in architecture and design to create spaces that meet their needs, provide a positive experience, and fulfill the intended purpose.**

### **Cultural and Social Context**

Take into account the cultural and social context of the end users. Different cultural norms and social interactions may influence how spaces are used and experienced.

### **Accessibility and Inclusivity**

Ensure that the building is accessible to all users, including those with disabilities. Consider universal design principles to create spaces that are inclusive and welcoming.

### **Flexibility and Adaptability**

Design spaces that can accommodate different uses and future changes. Flexibility allows the building to adapt to evolving needs over time.

### **Safety and Security**

Prioritize the safety and security of the end users. Design features that mitigate risks and create a sense of security within the building.

#### **Task 2.2:**

List down spaces required based on client's need and project brief. You will get some idea after you know your client.

### User-Centered Design

Understanding the needs, preferences, and behaviors of the end users allows architects to design spaces that are user-centric and meet the practical and aesthetic requirements of the people who will inhabit or use the building.

### Improved User Experience

Designing with the end user in mind leads to spaces that are more comfortable, intuitive, and enjoyable to use. This enhances the overall user experience and satisfaction.

### Optimized Functionality

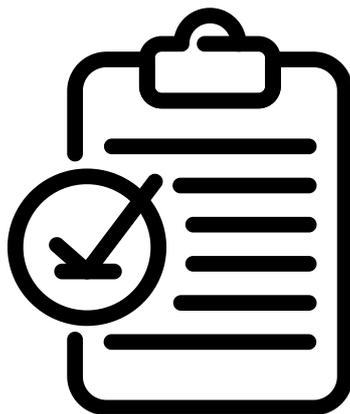
In-depth knowledge of the end user's activities and workflows helps in designing spaces that optimize functionality. This ensures that the building's layout and features support the intended uses effectively.

### Psychological Well-being

Designing spaces that consider the psychological well-being of end users, such as incorporating natural light, views, and comfortable environments, can have a positive impact on mental health and productivity.



**Benefit in understanding the end user in the field of architecture is essential for the success of architectural projects**



**In summary**, understanding the end user in architecture goes beyond aesthetics and functionality; it's about creating spaces that enhance the quality of life for those who use them.

By considering the needs and preferences of end users, architects can design buildings that are not only visually appealing but also **functional, comfortable, and meaningful** to the people who occupy them. This approach leads to architecture that is not just beautiful but also highly functional and purposeful.



## TOPIC 3

# BRIEF ANALYSIS: CASE STUDY & PRECEDENT STUDY



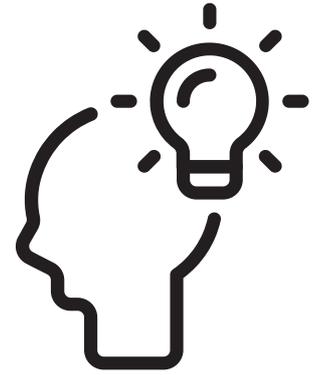
- 3.1 What is an architectural case study?
- 3.2 How to select a case study?
- 3.3 Why we need to do a case study
- 3.4 Elements of case study
- 3.5 Example of case study

### MAIN OBJECTIVES

Students will be able to evaluate issues and problems systematically through critical and creative thinking within architectural context and recommend appropriate technical strategy and design solutions.

## 3.1 WHAT IS AN ARCHITECTURAL CASE STUDY ?

An architecture case study is an in-depth analysis, investigation, and understanding of an existing structure. While students consider a case study in architecture to be a starting point for any project, it may also be used as a reference to help them progress through the complexities of a project.

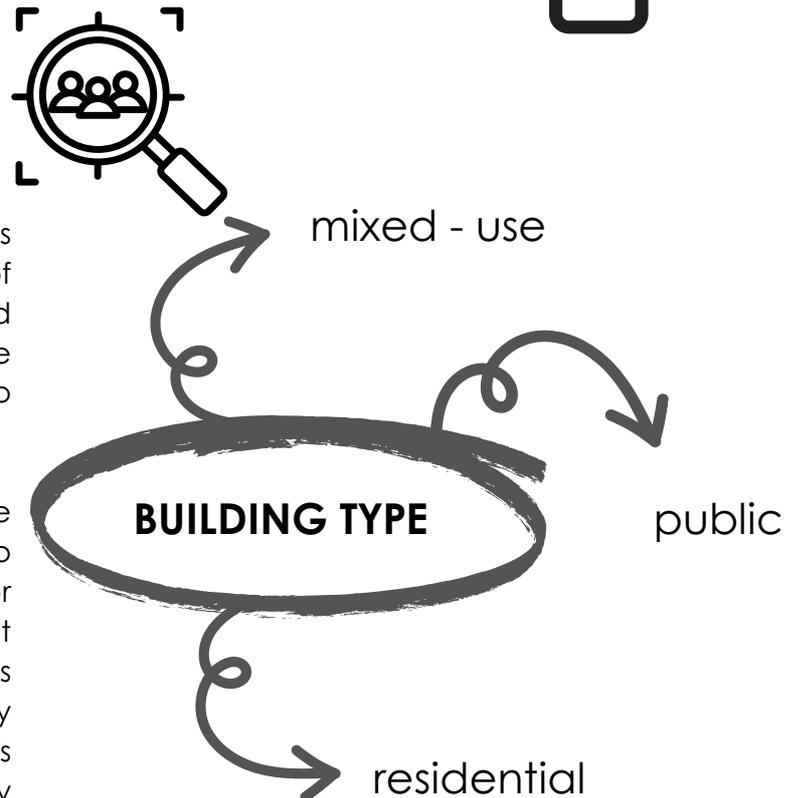


## 3.2 HOW TO SELECT A CASE STUDY ?

Selecting a building for case study involves various factors as there are plenty of amazing buildings around. Students should select a building that is similar to the building/structure that they need to design.

For example, students must consider the types of building/structure they need to design whether it is residential, public, or private mixed-use - in other words, what category the project falls under. This allows students to restrict their search and identify projects that follow the same outline as theirs. This is not to say that a wholly unrelated structure will not be useful. Parts of a structure may be more essential than its purpose.

Selected building/structure for case study should give sufficient material to be analyzed, meet the learning objectives and be interesting. By selecting a structure that is interesting, students will be more motivated to examine its design, context, and impact, eventually boosting their understanding in architecture.



### TASK



**Task 1.1.3 :** Find a building related with your building typology. Identify the preferable architecture style and characteristics.



### 3.3 WHY WE NEED TO DO A CASE STUDY?

Case studies in architectural design serve several important purposes:

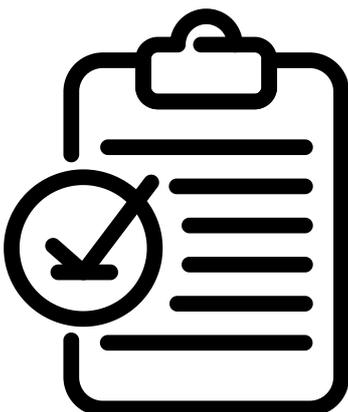
**Learning from precedent:** By studying past architectural projects, designers can learn from successful and unsuccessful design solutions. Case studies show the importance of the design process, materials, construction techniques and spatial planning. They help architects understand how different design decisions impact the functionality, aesthetics, and user experience of a building.

**Design inspiration:** Case studies demonstrate a variety of architectural styles, building typologies and innovative design approaches. They expose architects to new ideas, concepts, and design possibilities.

**Contextual understanding:** Architecture is firmly embedded in its context, which encompasses environmental, social, cultural, and physical elements. Case studies provide students the chance to look at how a building responds to its context/specific environment. Architects may gain a greater understanding of how to produce designs that are responsive, sustainable, and relevant to their environment by studying in various locations and contexts.

**Technical knowledge and innovation:** Architecture is a multidisciplinary field that requires a solid understanding of various technical aspects, such as structural systems, building codes, materials, energy efficiency, and construction methods. Case studies allow architects to explore innovative technical solutions and learn from the challenges and successes of previous projects.

**Problem-solving and critical thinking:** Analyzing case studies promotes critical thinking and problem-solving skills in architects. Architects may improve their capacity to detect design challenges and provide solutions. This procedure contributes in the development of a more strategic and analytical design approach.



**In summary,** case studies play a crucial role in architectural design by providing a rich source of knowledge, inspiration, and learning experiences. They enable architects to learn from the successes and failures of past projects, develop a deeper understanding of contextual factors, enhance technical knowledge, sharpen problem-solving skills, and foster professional growth.

### 3.4 ELEMENTS OF CASE STUDY

#### Project Overview

1

Provide a brief description of the project including building's Name & Year, Architects involved, Location & Area, Building size & function and any relevant background information

#### User

2

Analyze how the design responds to the requirements and experiences of building inhabitants or users.

Evaluate the functions, ergonomics, spatial features, social interactions, and accessibility of the buildings.

#### Space Planning

3

Understand the layout plan, Identify the distribution of spaces, their sizes, and their relationships to one another.

Analyze the flow of movement within the space. Consider how people navigate through the site, both indoors and outdoors, and identify potential obstacle or areas of congestion.

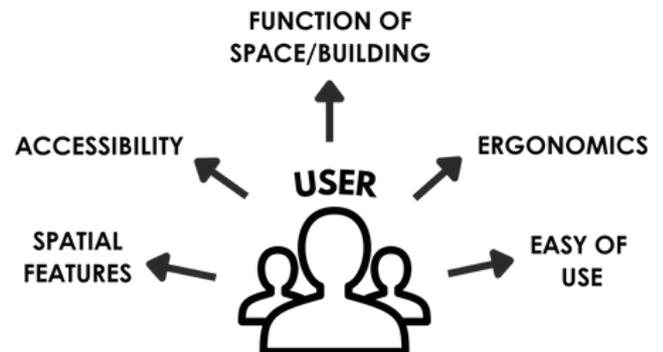
Evaluate the utilization of space. Assess how effectively the existing layout meets the functional requirements and if there are any areas that are underutilized or overcrowded

#### Design & Idea

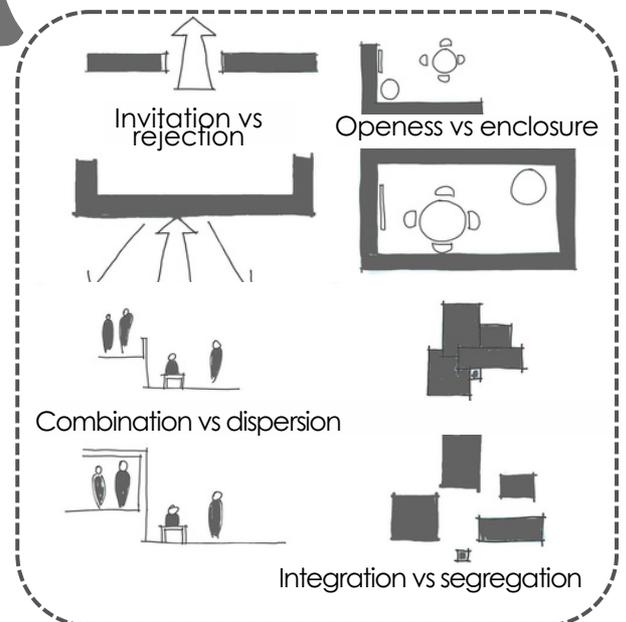
4

Interpret the idea of the façade design – architectural characteristic, material and design principle apply etc. What is the function? It's practical?

How does the façade design reflect the function of the building



**Interpret requirements** – build the brief. When we look at how to create spaces and accommodate humans in those spaces we can consider some universal concepts relating to how people interact with their environments.



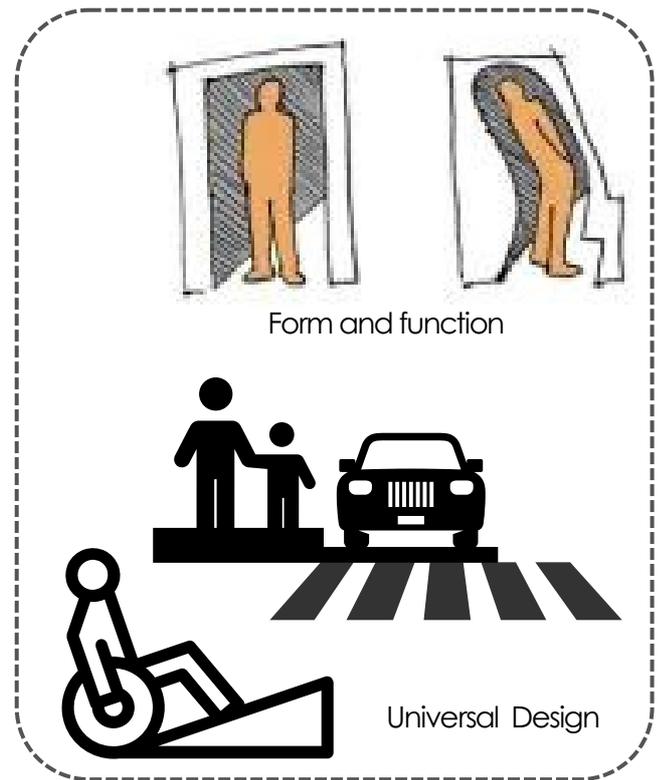
### 3.4 ELEMENTS OF CASE STUDY

5

#### Form and Function

Analyzing the basis for the design of that specific structure and how it integrates with the surroundings environment. Form and function are related. Buildings should be able to convey their purpose through their form.

"Form follows Function"- Louis Sullivan's famous axiom became a reference point for many architects. For instance, a hospital shouldn't look like a museum or disco. That philosophy might not agree with those of other Architects. They would contend that while a building's purpose may change often, it is impossible to alter the building's form on a regular basis. A "Universal Design Scheme" should be adopted.

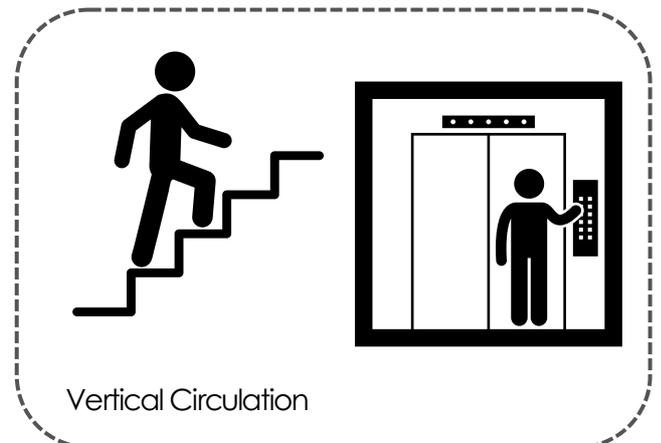


6

#### Horizontal and vertical circulation

Define the horizontal circulation includes components like corridors and lobbies.

Define the vertical circulation such as elevators, staircases and ramps. The effectiveness of these services should be analyzed.



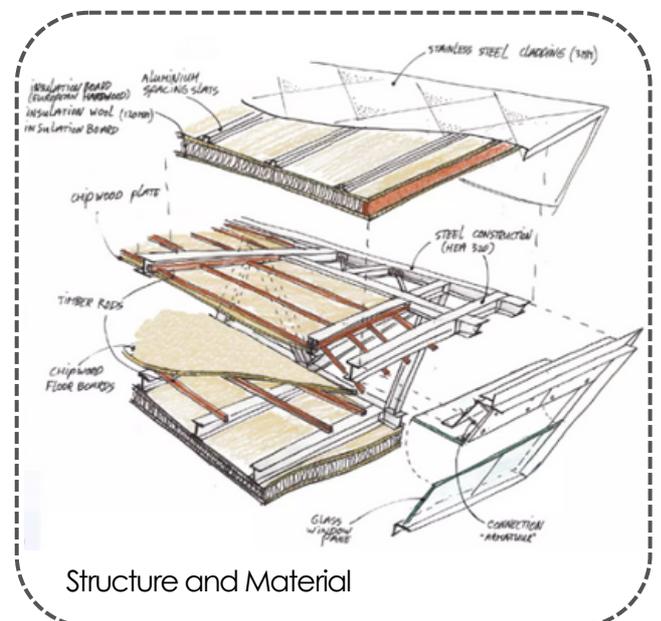
7

#### Structure & Materials

Define unique structural components. Used details to explain. What are the dimensions of these components? Of what material are they made?

How each of these component assemblies joins to the others in the architecture to form a whole?

The materials used should easily available and mostly used.



## 3.5 EXAMPLE OF CASE STUDY

### 1. Project overview

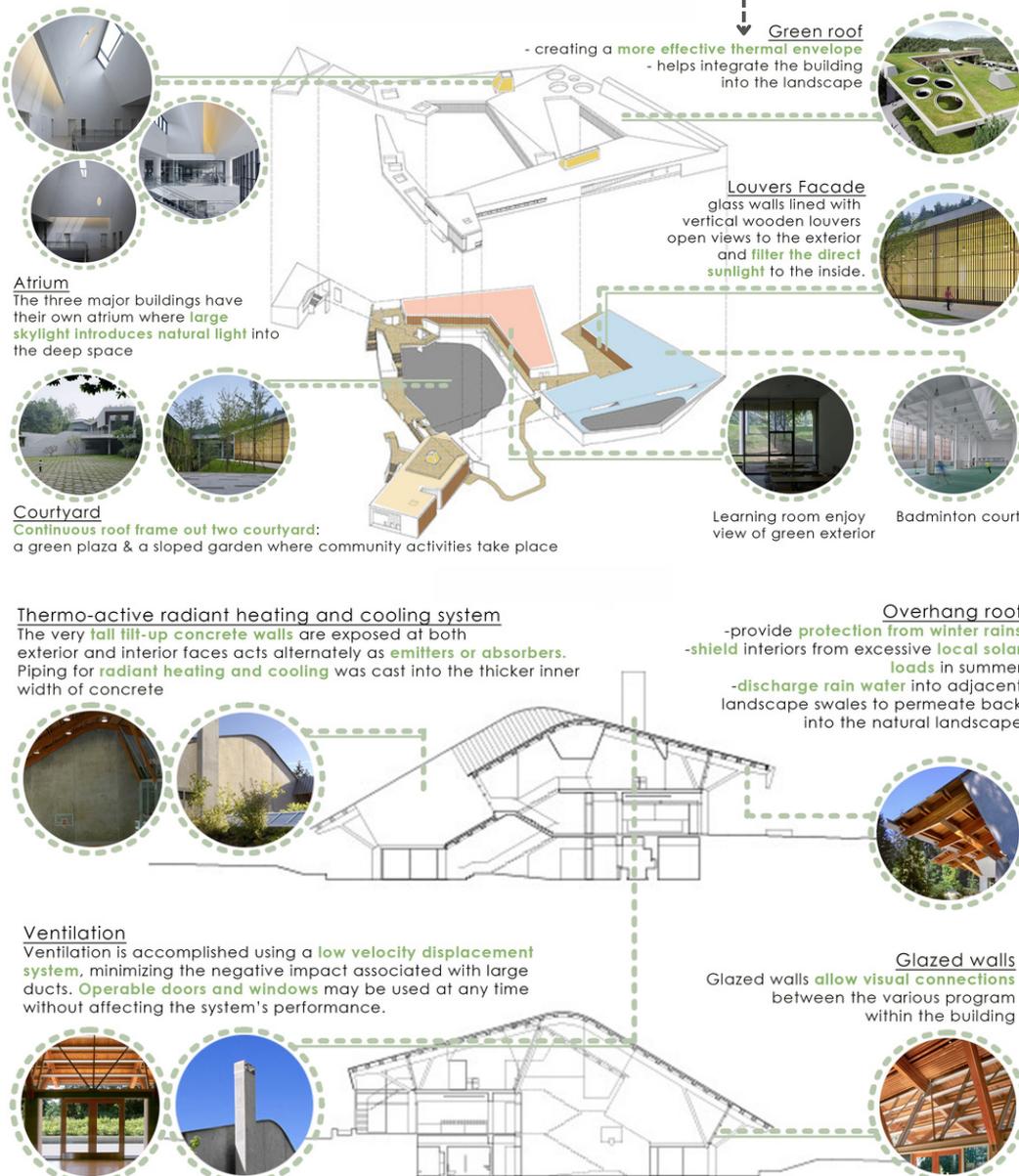


Location : Chongqing, China  
 Area : 10000m<sup>2</sup>  
 Year : 2015  
 Architects : Vector Architects

The community center is located in the mountains of Taoyuan Park in Chongqing. The starting point is attempting to merge new building outline with the existing wavy topography. Instead of building an "object" in the field, we hope to create an imagery of fusing architectural form and hilly landscape together.

Brief explanation of the building's information such as the location, site area, year being build, etc. It also explain the building function.

### 2. Analysis of Passive Design strategies



The elaboration and analysis of the passive design strategies are being divided into few categories:

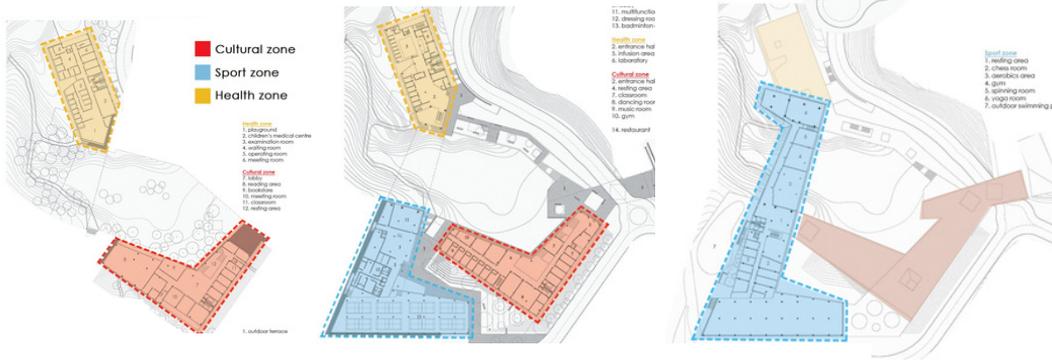
1. Natural Ventilation
2. Thermal comfort
3. Natural ventilation

**TIP:**  
 Refer to Green Building Index for a certified building

source: Case study for RAS204: Design Studio 2

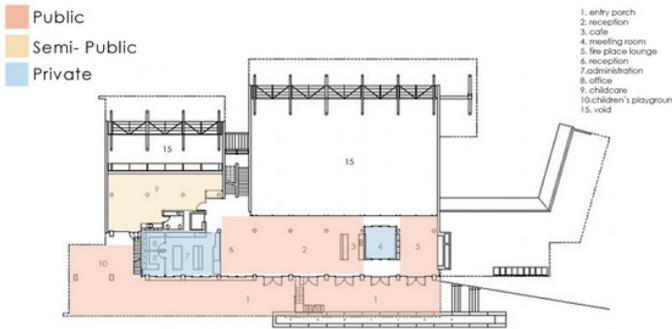
### 3.5 EXAMPLE OF CASE STUDY

## 3. Space Planning

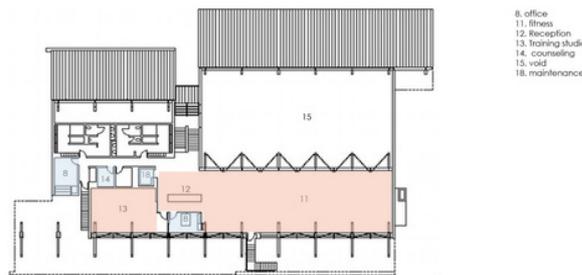


By subtly **reshaping the cross-sectional topography of the site**, the lower level and the intermediate level are both accessible from grade. The **intermediate level** is entered from a generous porch along the street and contains a community reception, café, meeting room, administration and child care facilities

An analysis of building volumes that indicate difference zone and serves difference function and usage.



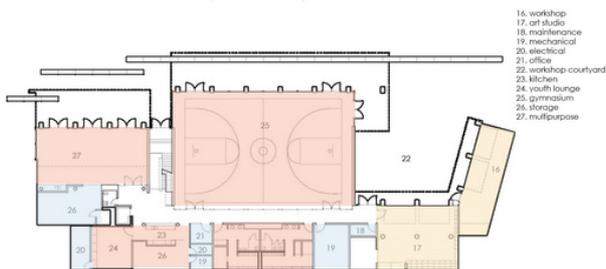
**Ground Floor Plan**  
The **upper level** accommodates fitness facilities



**First Floor Plan**

The **lower level opens** on the opposite side of the building to the covered terraces and courtyard spaces adjacent to the golf course and includes a gymnasium, multipurpose room, arts room, youth room and outdoor specialty area

An analysis of the site topography resulting various level that serves different function of building.

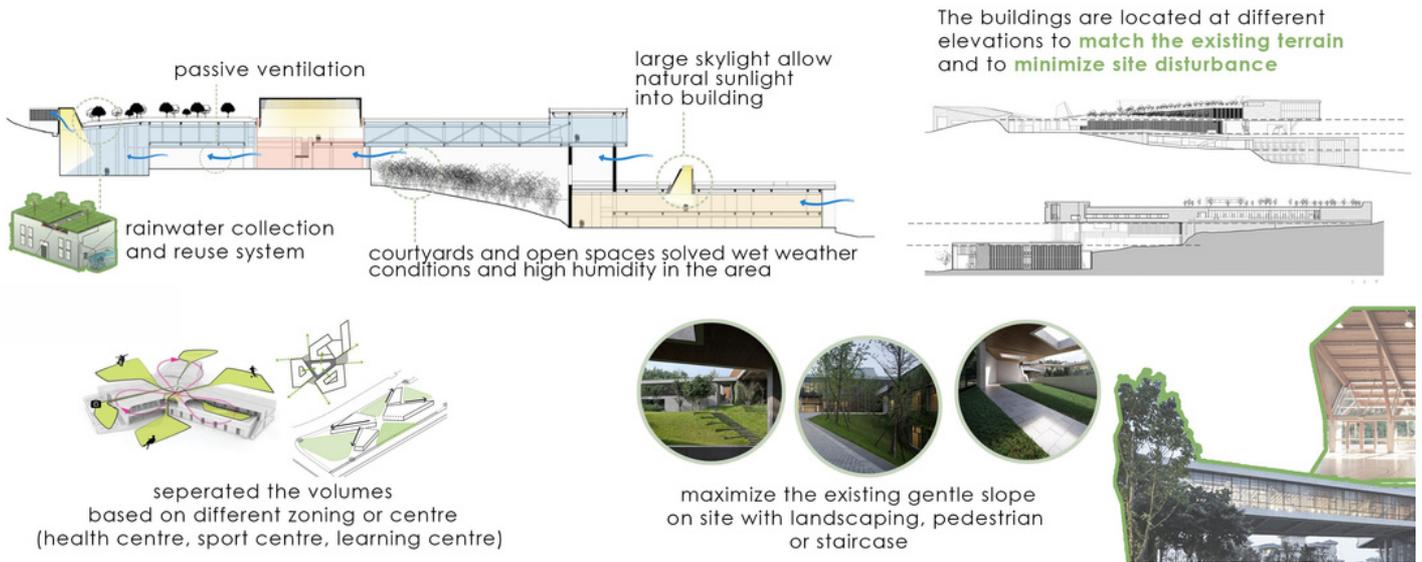


**Lower Floor Plan**

source: Case study for RAS204: Design Studio 2

### 3.5 EXAMPLE OF CASE STUDY

#### 4. Synthesis

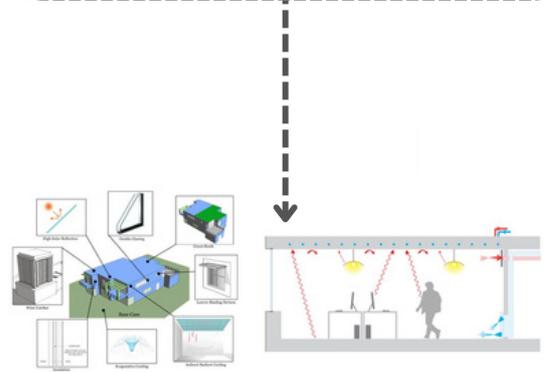


A case study synthesis is a process of analysing and integrating data from case studies in order to derive conclusions or patterns. It involves comparing and contrasting findings, identifying common themes or trends, and synthesizing the insights gained from individual case studies to develop a broader understanding of a particular topic or issue.

Specific parts, ideas, or concepts from precedents can be adapted and integrated into their own designs. Incorporating spatial layouts, material, lighting effects, circulation patterns, and even formal gestures may all be part of this. Students may infuse their designs with the successful and important components of the precedents they have been researched by carefully picking and reinterpreting these characteristics.



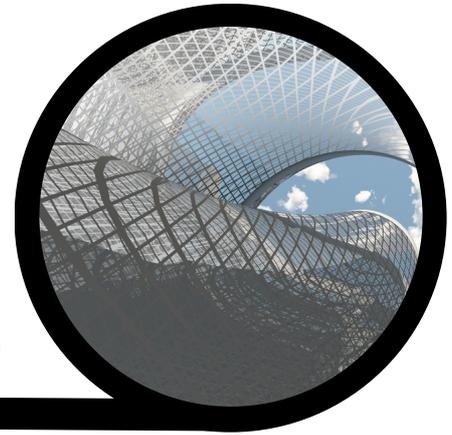
apply overhang roof that multifunctional and suitable for tropical climate



using passive cooling strategies to improve thermal performance in a building

source: Case study for RAS204: Design Studio 2

# BRIEF ANALYSIS: SPACE ANALYSIS



- **4.1 The Space**

- 4.1.1 Space Function & Form

- 4.1.2 Zoning

- 4.1.3 Type of Spaces: Exterior & Interior

- 4.1.4 Circulation

- 4.1.5 Space Elements

- 4.1.6 Space Quality

- **4.2 Size Estimation**

- 4.2.1 Anthropometric

- 4.2.2 Ergonomic: Basic Human Dimension

- 4.2.3 Space Analysis

- **4.3 Schedule of  
Accommodation**

- 4.3.1 Information in Schedule  
of Accommodation

- 4.3.2 Gross Floor Area

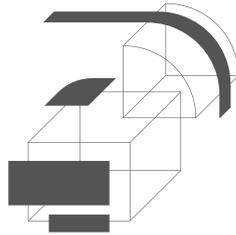
**MAIN  
OBJECTIVE**

Students able to produce schedule of accommodation and calculate gross floor area.

# 4

# SPACE ANALYSIS

**S**pace is one of design elements in architecture. Basic design elements start with point, it becomes a line when two points are joined. Connecting lines produce plane and assemble the planes will create form. So what is the space? Space may refer to the area create by plane or volume in a form. Here we will explain detail on space in architectural context.

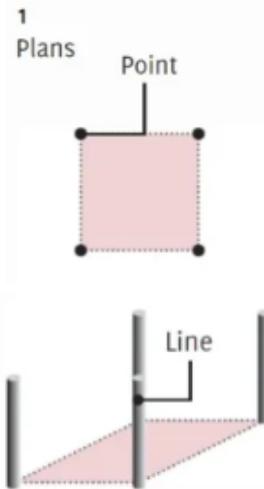


## 4.1 THE SPACE

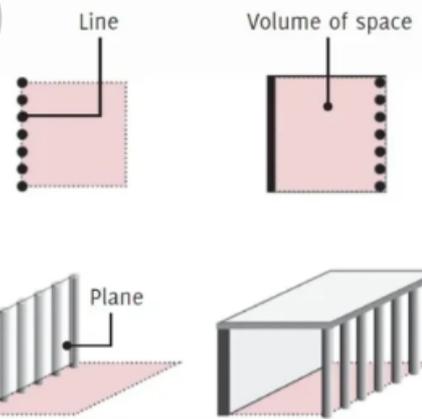
We living in this world bound by time and space. Time refer to the period of when the event happen and space is where the event take place. In architecture, space was created according to the function and activities of man as the user.



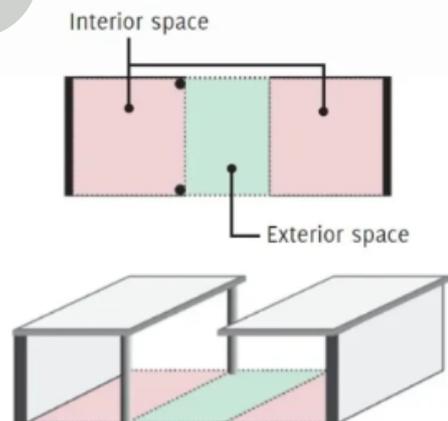
1



2



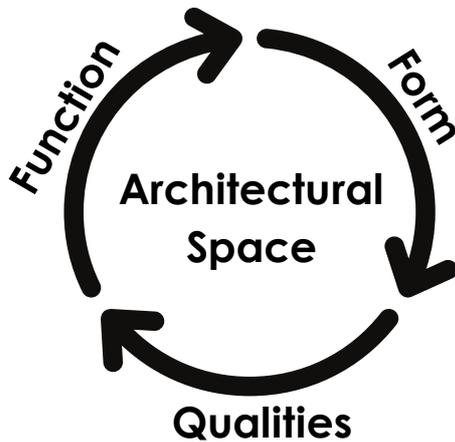
3



Space formation in architecture.  
source: <https://archi-monarch.com/form-and-space-in-architecture/>

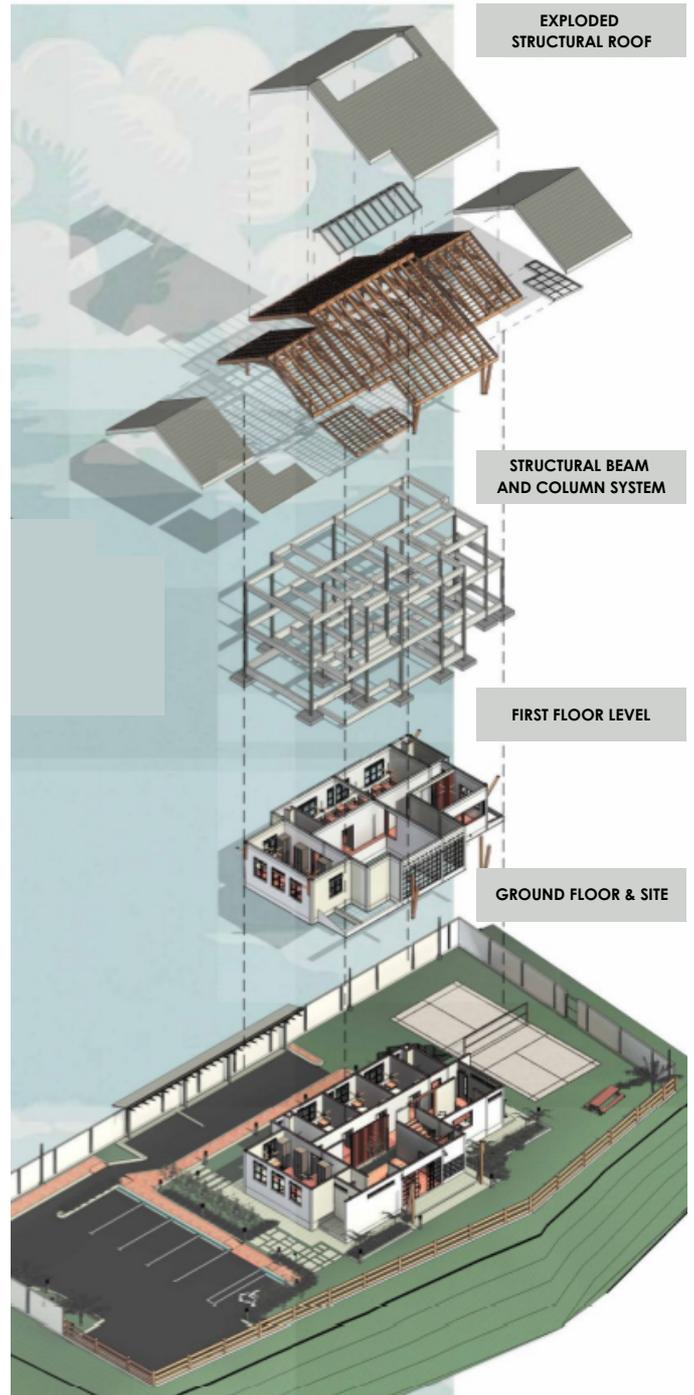
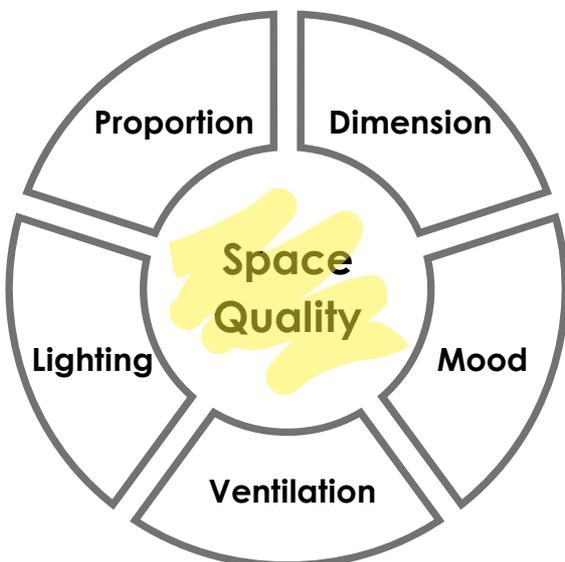
### 4.1.1 Space, Function & Form

Architectural space shape by building form and support by structural system. The form itself is the interpretation of the programme which functional space as the main criteria for the building (form) to take place.



Design elements that shape the architectural space.

The space qualities can be measured when the user (human) comfortable and feel pleasant with the space they live in. The aspects of physical quality such as proportion, scale, dimension was taken into consideration by an architect together with spiritual quality such as psychology (mood) to create not only practical but also expression of value in architectural language. Lighting and ventilation were also the main elements for the space to become 'alive'.



Exploded view and spaces inside a building. The form shape the space supported by structural system. source: DCA30114 Design Studio 3



Frank Lloyd Wright source: blog.miragestudio7.com

**Trivia**

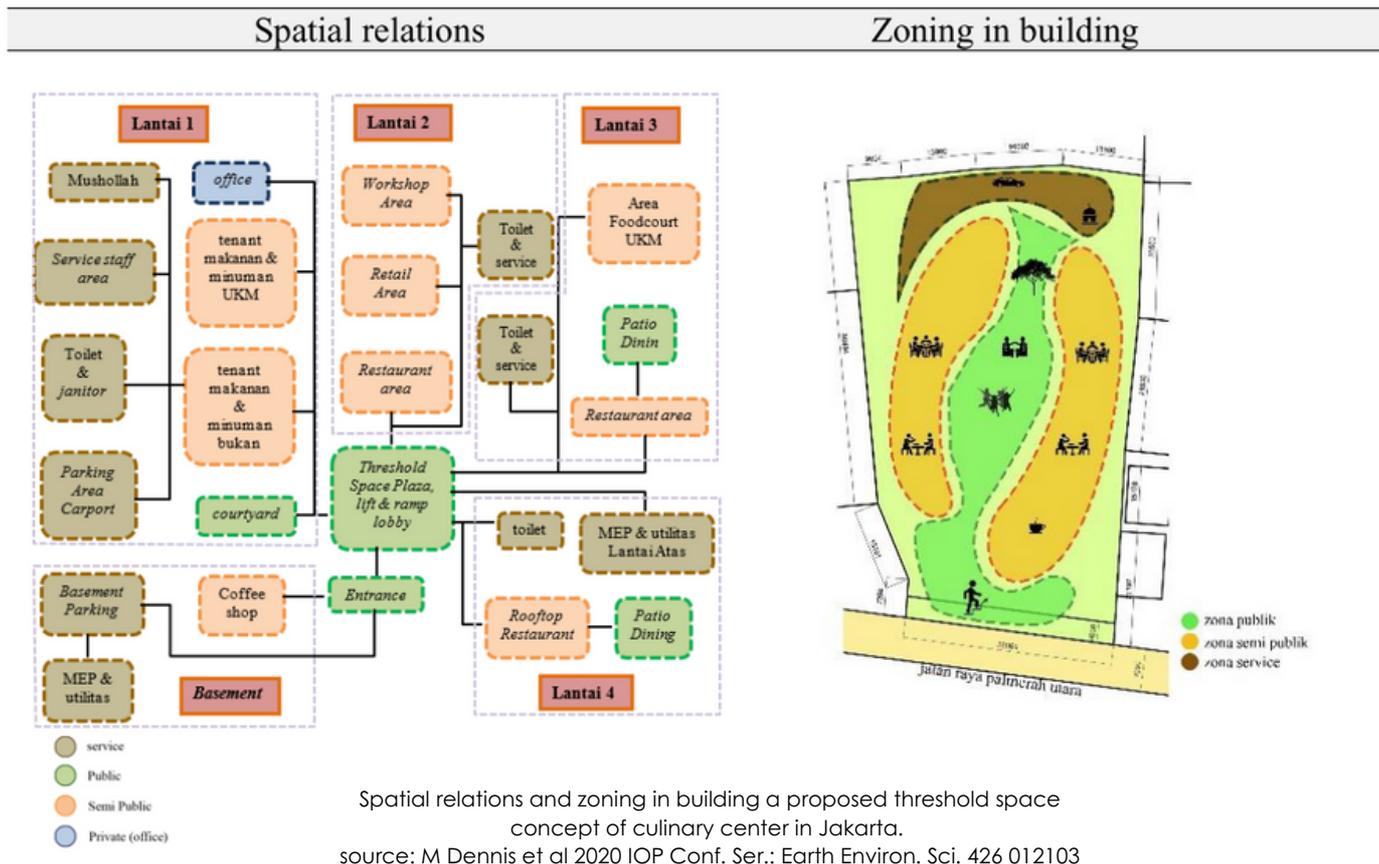
The **space** within becomes the reality of the building

## 4.1.2 Zoning

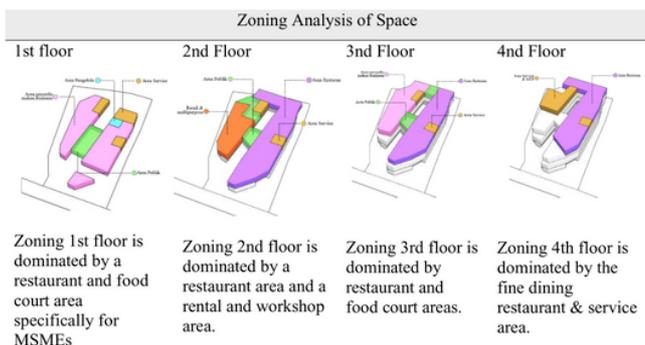
One of the most practical solutions in space planning is zoning. Spaces were classified into zone using diagram. Start with matrix diagram, the designer examines every spaces and the relation with other spaces. Then the designer categories the spaces according to its function or purpose.

To achieve the purpose of zoning, the designer needs to set the objectives. Identify the main objectives of zoning and focus on the aspect that will help your design proposal. Spatial zoning will be beneficial for creating a conducive room, better structural design topology, reduce energy consumption and better building performance.

In the process of space making, zones are the essential part of design analysis. The key factor on determines how well your designs is by develop effective zones. A zone is a group of spaces classify according to their functions, relation, or other specific analysis approach. These spaces sometime have strong relation in term of internal organization. For example, a kitchen might have an area for pantry, storage, furniture etc. These functional areas define as different zone within the space. We can work with zoning from a small scale like a space (example a house) to large scale like urban planning.



Spatial relations and zoning in building a proposed threshold space concept of culinary center in Jakarta. source: M Dennis et al 2020 IOP Conf. Ser.: Earth Environ. Sci. 426 012103



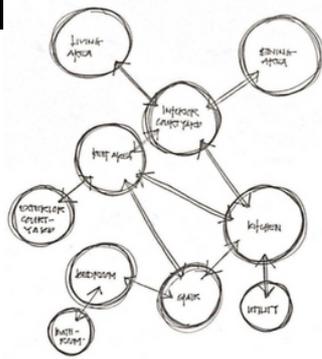
The result of zoning analysis of the proposed building - threshold space concept of culinary center in Jakarta. source: M Dennis et al 2020 IOP Conf. Ser.: Earth Environ. Sci. 426 012103

# How Zoning Essential in Building Design

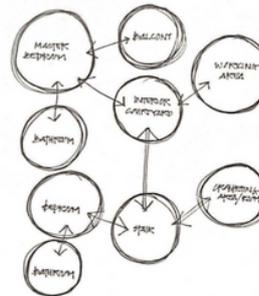
## The Programme

GROUND FLOOR		FIRST FLOOR	
SPACE	AREA SQM	SPACE	AREA SQM
LIVING AREA	30	MASTER BEDROOM + MASTER BATHROOM	24
DINING AREA	16	BEDROOM + BATHROOM	22
ENTRANCE COURTYARD	6	WORKING AREA	18
KITCHEN	17	CHAIRMAN ROOM	6
AUXILIARY ROOM	16	BALCONY	14
BREAK AREA	10	STAIR	4.8
UTILITY ROOM	8		
INTERIOR COURTYARD	9		
TOTAL	109.64M	TOTAL	74.754M
TOTAL AREA			184.39M

## The Building Proposal

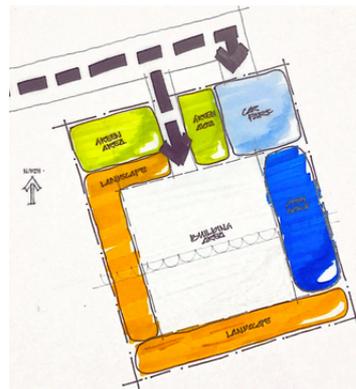
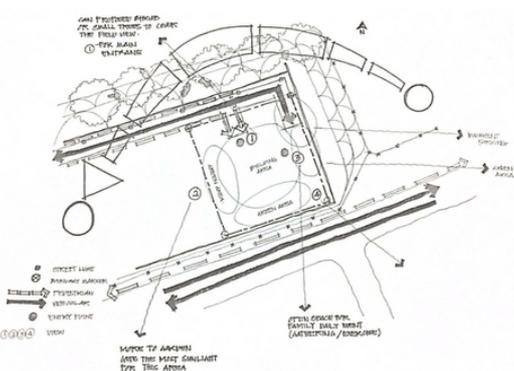


GROUND FLOOR

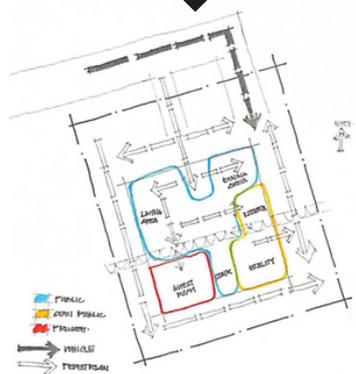
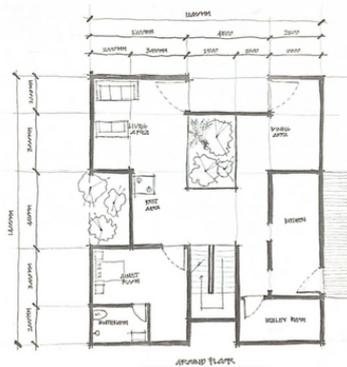


FIRST FLOOR

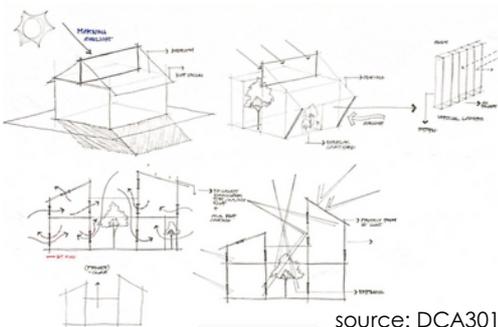
## Space Planning



## Zoning



## The Building Design

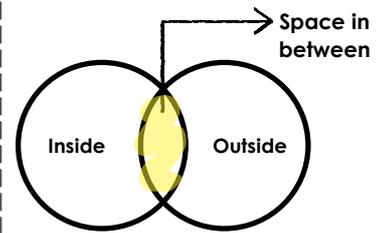


source: DCA30114 Design Studio 3

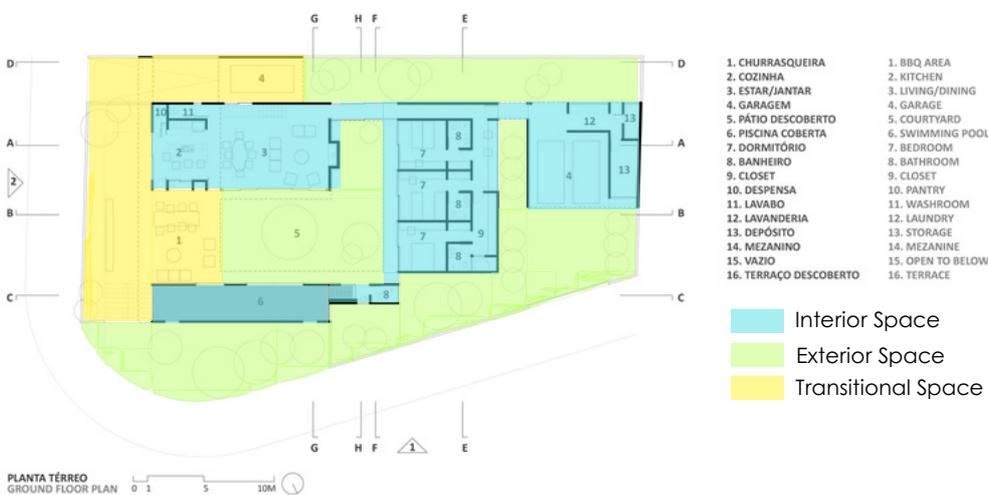
### 4.1.3 Type of Spaces: Exterior & Interior

In architecture we always define space type as interior and exterior space. The interior spaces are the area or rooms inside a building and the area outside the building we identify as exterior space. The area between interior and exterior may refer to a transitional space.

The interior space has the boundary marking by building elements such as wall, door, windows, floor, column, and roof as it limits. Exterior space was not bound with building element and the sky is the limits. Meanwhile area between interior and exterior intersect and creating spatial correlation. This interaction establish characteristic by controlling level of transparency and privacy in the space within the space.



The concept of spatial correlation in a building.



**TIP:**

Zoning is important step in design process. It help you plan the space.

This plan show the interior spaces were arrange and enclose the exterior space to create a courtyard. The transitional space such as barbeque area, garage, and terrace mark the segregation of space clearly.

source:<https://www.dezeen.com/2022/02/21/shieh-arquitetos-courtyard-house-two-boys-sao-paulo-brazil/>

The architect try to incorporate the nature inside the building by creating a courtyard. This courtyard not only provide a green space in the building but also natural lighting and ventilation.

source:  
<https://www.dezeen.com/2022/02/21/shieh-arquitetos-courtyard-house-two-boys-sao-paulo-brazil/>



The barbeque area was place between interior and exterior spaces with no wall.

source:  
<https://www.dezeen.com/2022/02/21/shieh-arquitetos-courtyard-house-two-boys-sao-paulo-brazil/>



**Task 4.1:**  
Explain the relation of space planning and landscape design in the zoning context.

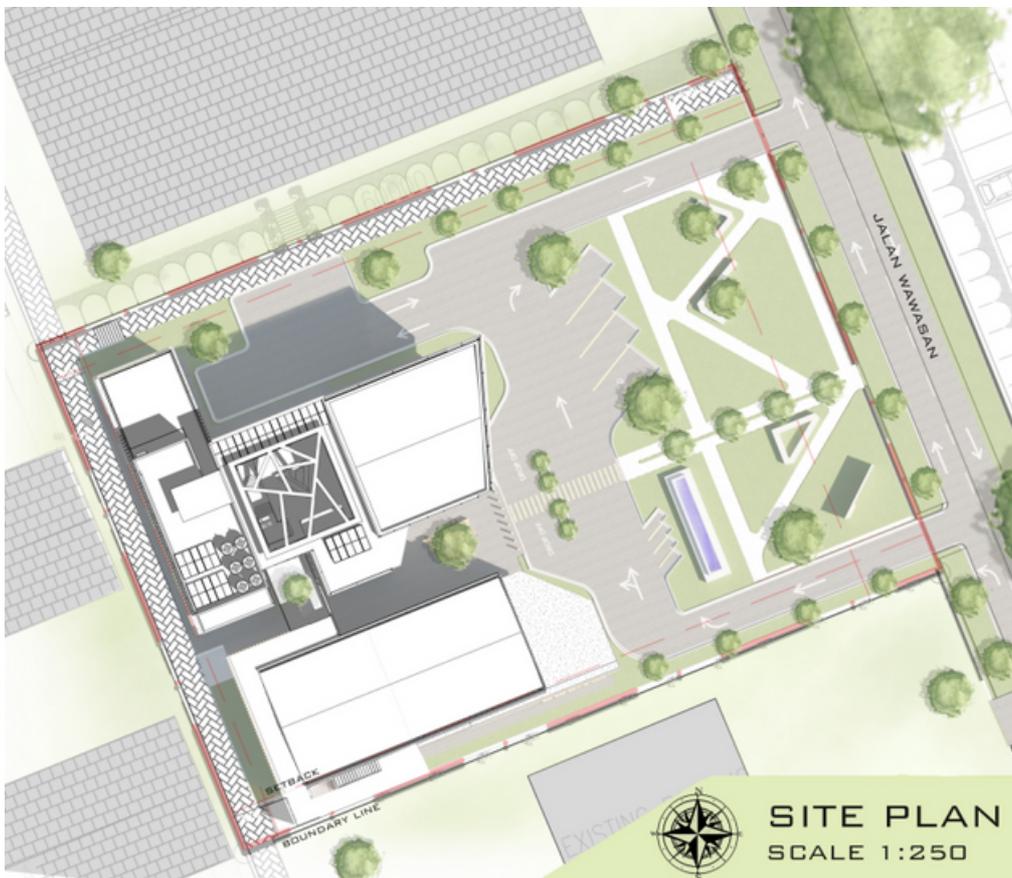
## 4.1.4 Circulation

Spaces in a building connected and configured by path. Circulation inside a building determine by how the spaces being used. Zoning and spatial relationship are the factors contribute to a good space planning and circulation. We can control accessibility to the space depending on level of privacy through a good circulation design.

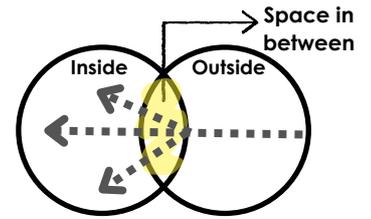
### External Circulation

Vehicular and pedestrian represent external circulation. During design stage, designer refer to the programme - the number of parking to be provided, drop off, loading/ unloading, services etc. Designer also need to design the external circulation – how the user approaching the building, the parking layout, access road not only for the public but also for maintenance & services transport. Not to forget the access and circulation of fire-fighting equipment must be well plan for efficient operation.

For pedestrians, they generally prefer to walk in direct and straight lines. Walking distance from the main building entrance to the parking area, driveway and street may refer to the local planning guidelines. It is important to plan for easy and direct movement of vehicles and pedestrians. Convenience of circulation and safety must be considered and planned together in the early design stage.



Clear and direct external circulation planning. Parking area located in front of the building and easy access from the main street. Pedestrian walkway as a link from buildings surrounding.  
source: DCA5226 Design 5



Circulation connect the spaces.



External circulation planning in the early design stage.  
source: DCA5226 Design 5

#### TIPS:

Refer to local authority for planning and parking guidelines.

#### Task 4.2:

Find the numbers of parking requirement that you need to provide for your building.

## Internal Circulation

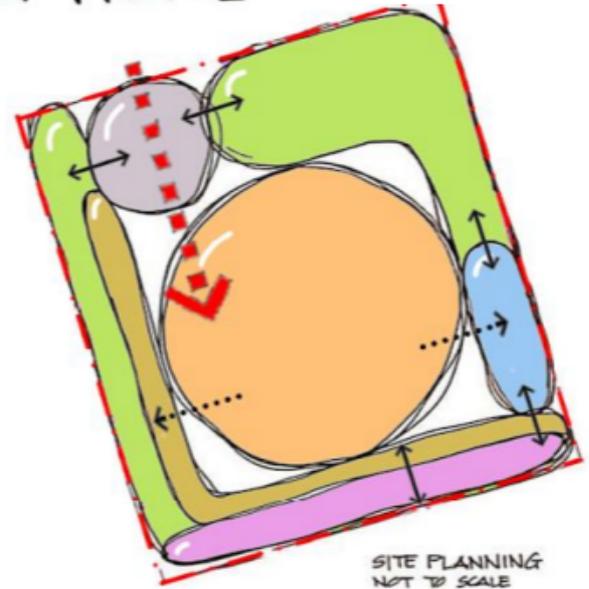
Internal circulation guides the user to access a building by follow the visible direction design by the architect. It connecting spaces based on the spatial relationship. Spaces were zone into a public, semi-public, or private area. The zones help the architect design the circulation inside the building.

## Connectivity of Space

Architect carefully design how the user approach the building, from outside to the inside. Entrance highlight the building frontage. Various approach gives options for designer to choose. For example, in designing entrance foyer for a house. You can choose to design a central entrance, adjacent to hall or adjacent to kitchen depending on your layout.

Plan your layout using bubble diagrams. The diagram help you visualize the connection. Configure the path inside the building, from entrance as the starting point to the specific area. Use staircase or lift as vertical circulation to reach upper floor for multilevel building.

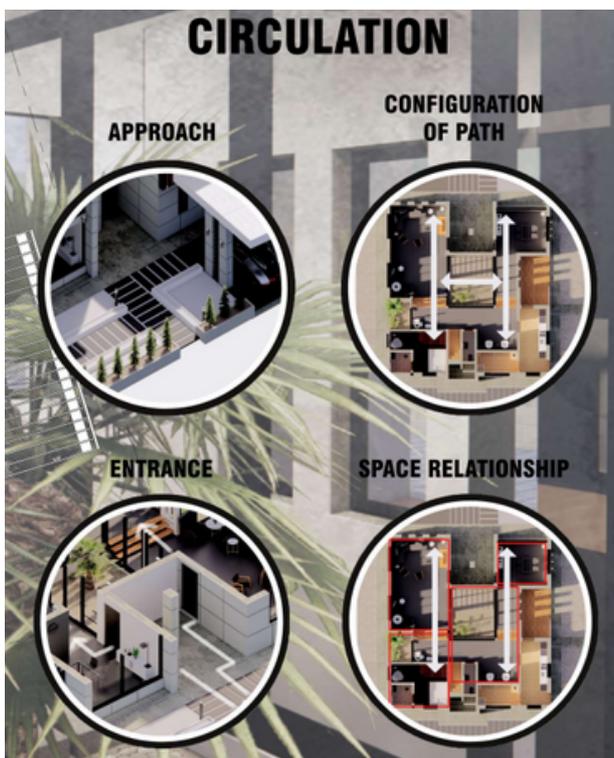
## OPTION 2



### LEGEND

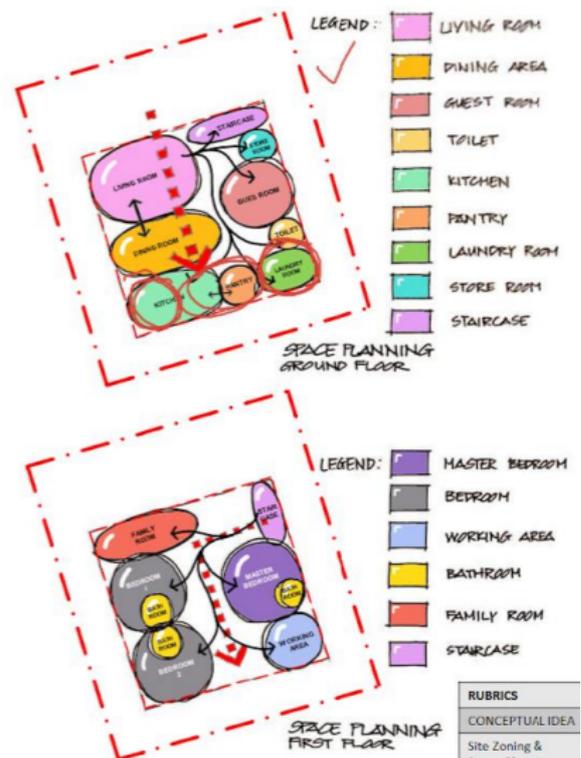


Zoning



Circulation elements help the architect design the space connection.

source: DCA30114 Design Studio 3



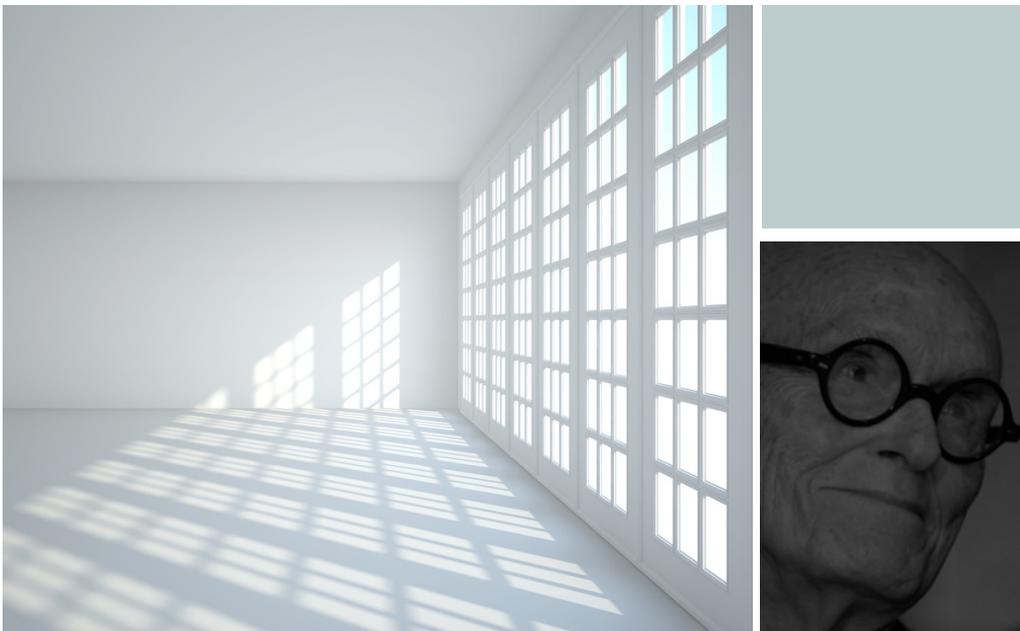
Spatial relationship determine the circulation inside the building.

source: DCA30114 Design Studio 3

## 4.1.5 Space Elements

Architects use elements like wall, floor and roof as space boundary. These elements not only for aesthetic value but also for practical purposes and functional reasons. Architects try to manipulate these building elements to design the space and achieve human comfort.

Two aspects in design a space which are form and interior/exterior properties give character to the space. Visual and human perception will reflect the mood and feeling in a space. The building design will speak by itself but the sense of place will emerge when the architecture fully understood. This is the challenge for all young designers to think in different perspectives.



Design elements as space boundary.



Exposed structure, large openings and high ceiling purposely design to make the room feel spacious.

### TIP:

Space planning is very crucial, inside and outside space relation to each other.

## Trivia

Architecture is the art how to waste space.

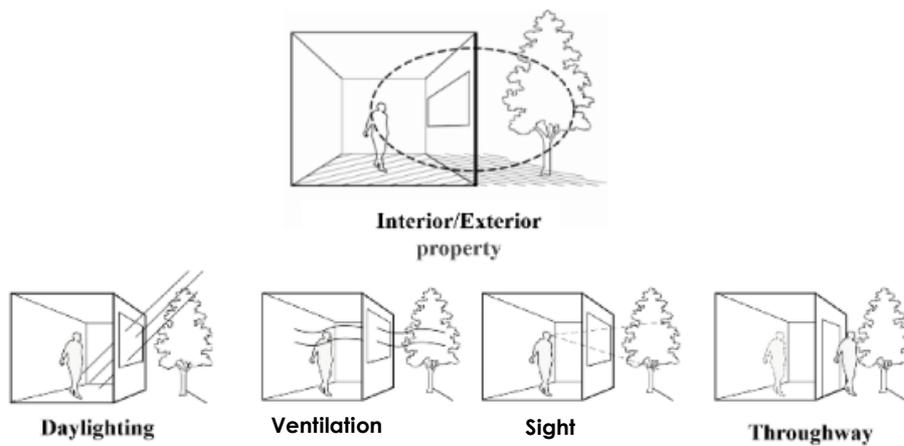
Philip Johnson  
[blog.miragestudio7.com](http://blog.miragestudio7.com)



## 4.1.6 Space Quality

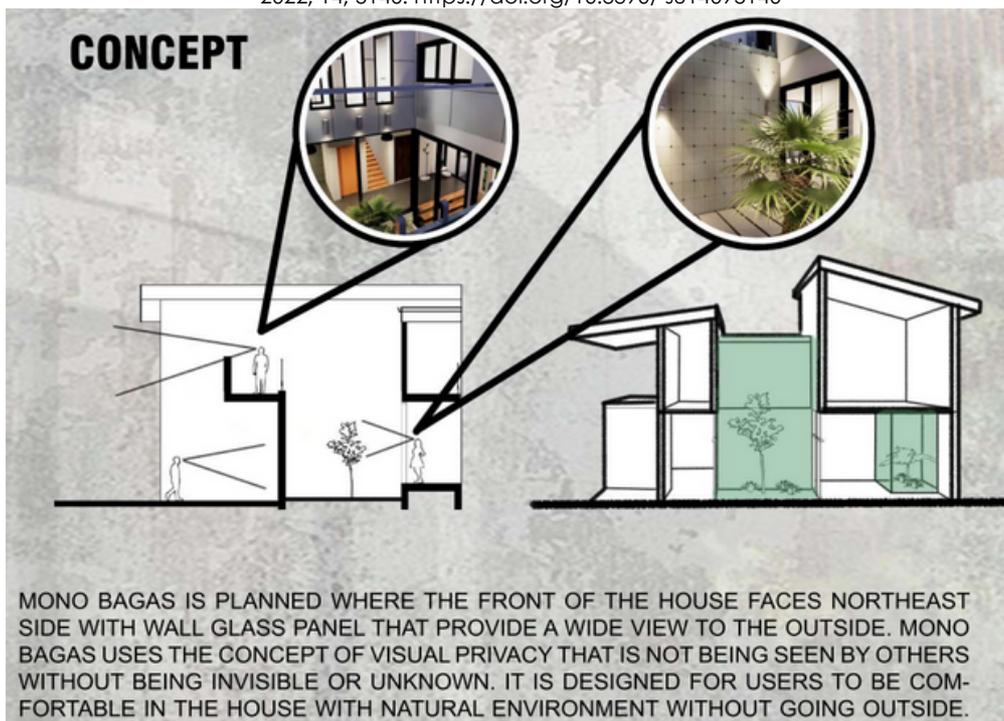
Design a space is not simply put it on a paper. Designer needs to take into account the space properties - ventilation, lighting, accessibility and sight. Indigenous and vernacular architecture show how man interact with nature and it surrounding. It is a reflection of human creation on earth and yet the best guru for us to refer until today. It is a try and error practice and evolved through time.

The space properties will allow the designer to design the openings - door for entry, window either to allow natural lighting for daylight or filter the light intensity when dealing with sun from the west and also to promote cross ventilation in a building. The architect stand on the design and try to find the best solution for the building work for it maximum potential.



Boundary elements of space properties.

source: Yan, D.; Xu, M.; Chai, B.; Chen, Z.; Bai, C. Interior/Exterior Form and Property Research on Wu-Style Residential Houses from the Perspective of Sustainable Development. Sustainability 2022, 14, 5140. <https://doi.org/10.3390/su14095140>



MONO BAGAS IS PLANNED WHERE THE FRONT OF THE HOUSE FACES NORTHEAST SIDE WITH WALL GLASS PANEL THAT PROVIDE A WIDE VIEW TO THE OUTSIDE. MONO BAGAS USES THE CONCEPT OF VISUAL PRIVACY THAT IS NOT BEING SEEN BY OTHERS WITHOUT BEING INVISIBLE OR UNKNOWN. IT IS DESIGNED FOR USERS TO BE COMFORTABLE IN THE HOUSE WITH NATURAL ENVIRONMENT WITHOUT GOING OUTSIDE.

The concept of the building space.  
source: DCA301 14 Design Studio 3



### TIPS:

Spatial relationship is vital to realize quality design as a result.



### Task 4.3:

Assemble site inventory data and study about passive design. How can you promote passive design in your proposal with the site condition?

## Space Design Concept

### Spatial Relationship

Spatial relationship can be designed in following manner:

- Space within a space
- Interlocking space
- Adjacent space
- Spaces link by a common space.

The picture show an example of space within a space arrangement.



This view clearly show visual privacy concept that give a sense of freedom and openness inside the house.

### Space Boundary

Interior and exterior space has it boundary and design either to blend and create unity of spaces or to separate or block the spaces depending on the design intention.

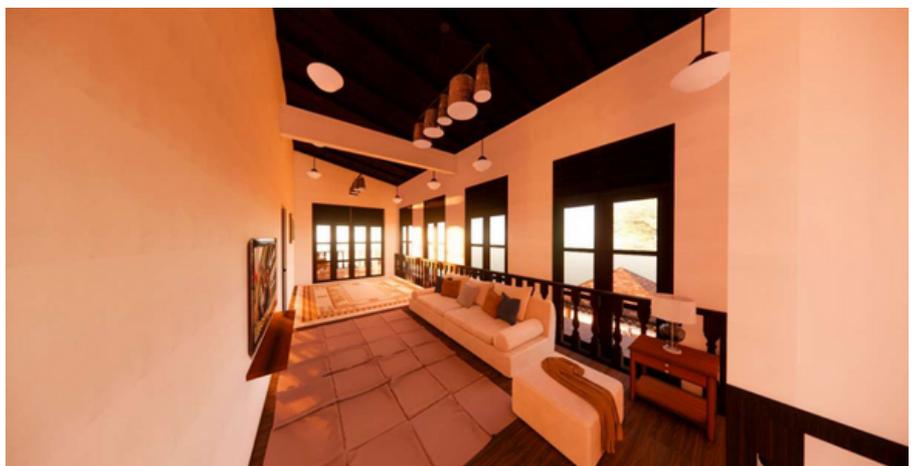


The interaction between outdoor and indoor space create calmness in this dining area.

### Spatial Organization

Here are the common space arrangement methods:

- Linear organization
- Radial organization
- Cluster organization
- Grid organization etc...



Linear organization with straight path towards balcony.

## 4.2 SIZE ESTIMATION

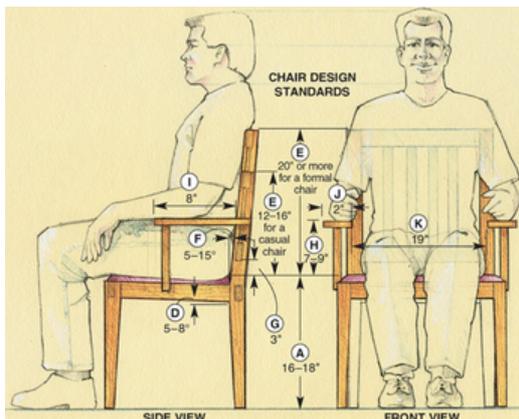
The area of space practically determine by number of pax, user activities, and the equipment/ furniture use to support the activities happen inside the space. For example a bedroom design for a single person basically has a single bed for sleeping, wardrobe for keeping clothing, make up table with mirror, or study table. User needs space for movement and interact with the furniture like sitting at the table, laying on the bed or using the wardrobe. All these have to be measured and put into document as reference to assign appropriate size of the space.

### 4.2.1 Anthropometric

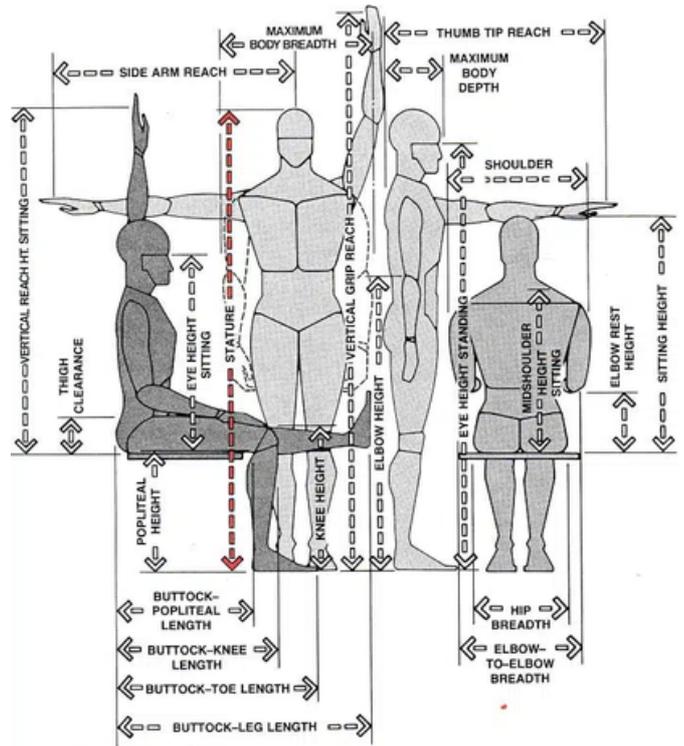
Mostly spaces were designed for human being. The spaces design derived from man interaction with environment. Human body is unique and works within a ratio and proportion. The scientific study of human body measurements named as anthropometric widely used as reference for size estimation of spaces.

### 4.2.2 Ergonomic: Basic Human Dimension

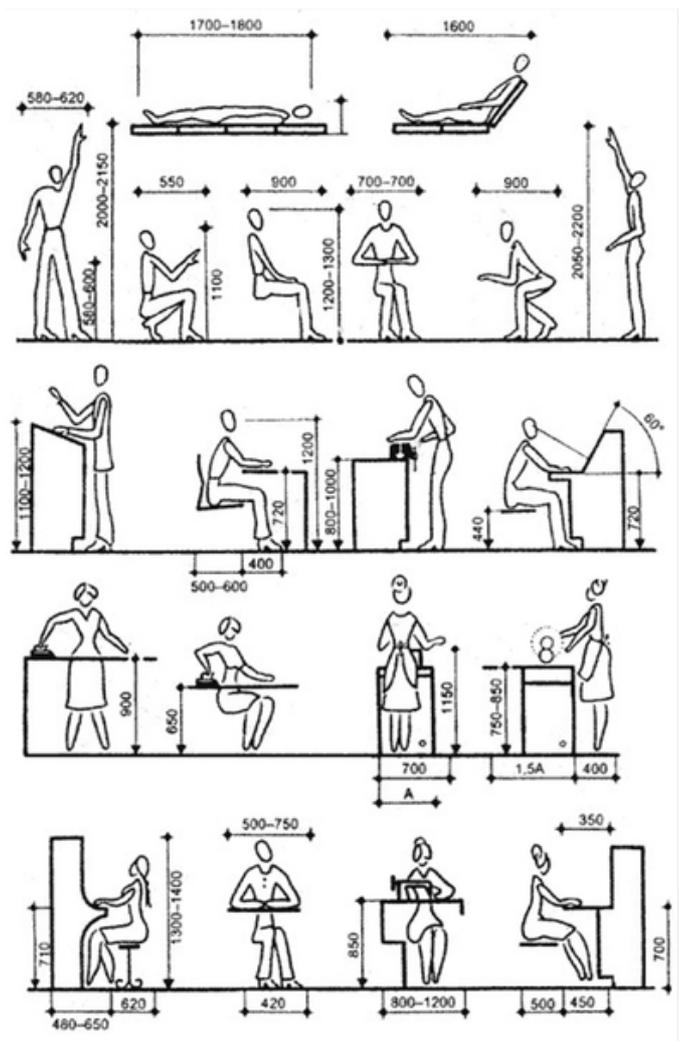
Man usually move around like walking, standing, running, sitting and kneeling. Ergonomic is a study about basic human dimension measured based from how man use the product such as furniture. For example the dimension of a seat is between 450mm to 500mm.



source: <https://www.core77.com/posts/43422/Reference-Common-Dimensions-Angles-and-Heights-for-Seating-Designers>



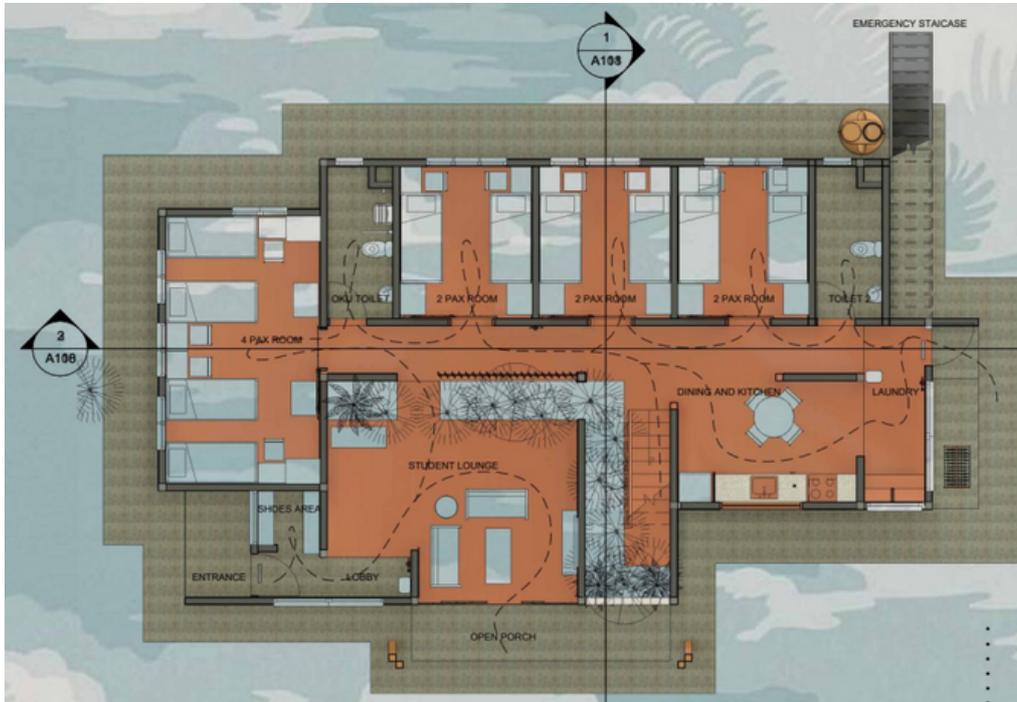
Basic human measurement.  
source: <https://jdinstitute.co/anthropometrics-and-ergonomics/>



Basic dimension based on human activities.  
source: <https://gharpedia.com/home-designs/>

## 4.2.3 Space Analysis

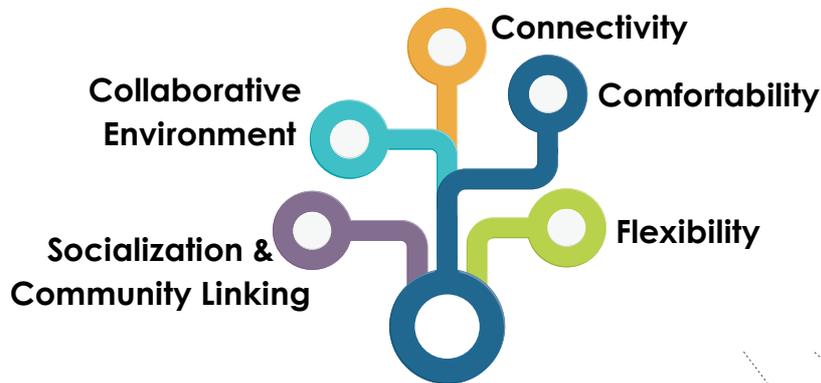
Space analysis is a tool for architect to understand how the user use the space. It will helps architect assign measurements of the proposed spaces and design the space practically, functionally and infuse aesthetic. Three aspects in space analysis are the layout plan, activity and circulation.



Analyse circulation inside a building will show us how the user uses the space.  
source: DCA30114 Design Studio 3

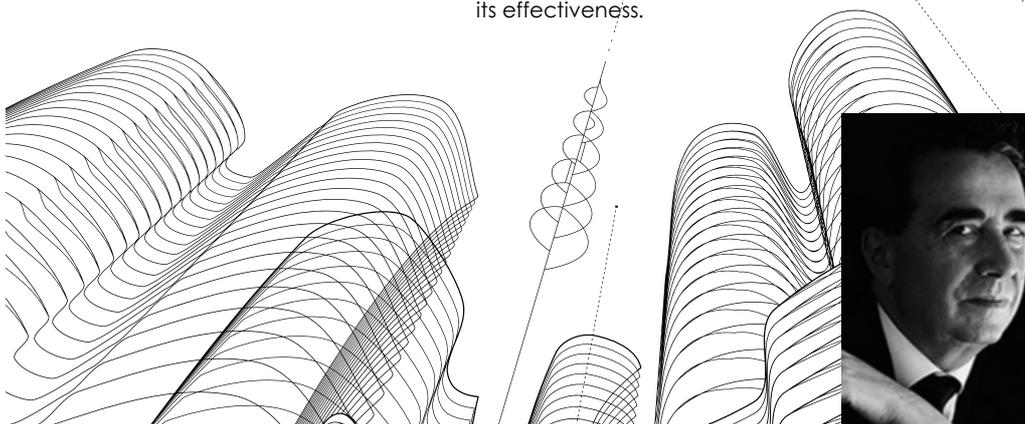


Examine the space to make sure the size proposed is sufficient.



The criteria of designing a space using analytical study to examine its effectiveness.

**TIPS:** Study about this three aspects of space analysis: the layout plan, activity and circulation that will help you estimate the area of a space.



**Trivia**

I'm always searching for more light and space.

Santiago Calatrava  
source: blog.miragestudio7.com

## Step By Step On How to Conduct Space Analysis

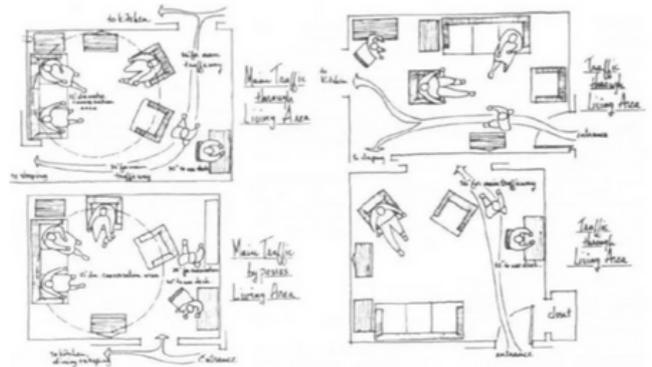
**1** List down the spaces required for the building proposal. For example you want to design a house. The common area like living area, dining area, kitchen, bedroom, toilet etc.

**2** Select a space. Get information about the space. Study the layout plan, defining the space, furniture available, circulation etc.

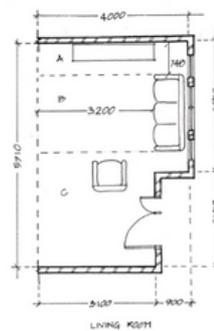
**3** Measure the furniture, the area for movement (how the user interact/ use the furniture or space).

**4** Take the dimension according to the examples. The size of furniture, the circulation space and the total area of the space.

**5** From the study and measurement, you can estimate the appropriate size of your space. All the sizes and dimensions will be later put in a schedule name Schedule of Accommodation.



source: [https://issuu.com/yogitagairola/docs/group\\_housing\\_lib\\_study.pptx/s/12319135](https://issuu.com/yogitagairola/docs/group_housing_lib_study.pptx/s/12319135)

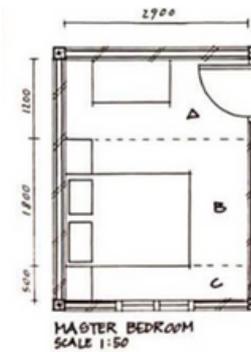
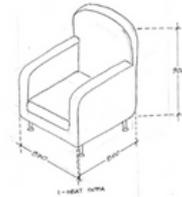
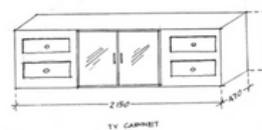


### FURNITURE FOR LIVING ROOM

NAME	DIM (m)	AREA (m <sup>2</sup> )
1-seat sofa	0.89 x 0.8	0.712
3-seat sofa	2 x 0.8	1.6
Tv cabinet	2.15 x 0.47	1.0105
<b>TOTAL AREA (m<sup>2</sup>)</b>		<b>3.3225</b>

### CIRCULATION OF SPACE

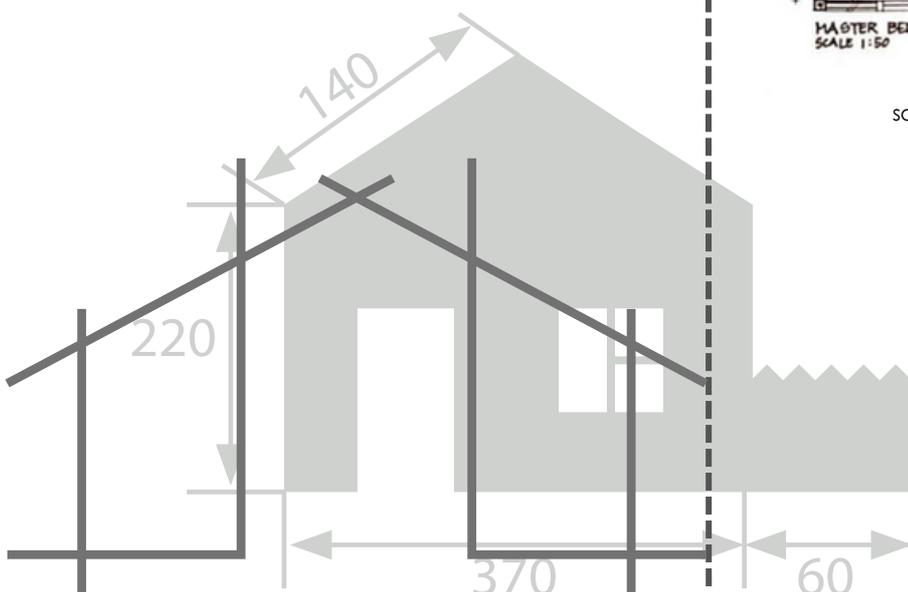
SPACE	DIM (m)	AREA (m <sup>2</sup> )
A	(4 x 0.748) - 1.0105	1.9815
B	3.2 x 2	6.4
C	(3.1 x 2.415) + (4 x 0.748)	10.4785
<b>TOTAL AREA (m<sup>2</sup>)</b>		<b>18.86</b>



FURNITURE FOR MASTER BEDROOM			
NO	NAME	DIM(mm)	AREA(sq)
1.	CABINET 1	500 x 400	0.2
2.	CABINET 2	500 x 400	0.2
3.	BED	1350 x 1900	2.57
4.	WARDROBE	1200 x 600	0.72
		<b>TOTAL:</b>	<b>3.69</b>

CIRCULATION SPACE			
NO	NAME	DIM(mm)	AREA(sq)
1.	A	2900 x 1200	3.48
2.	B	2900 x 1800	5.22
3.	C	2900 x 500	1.45
		<b>TOTAL:</b>	<b>10.15</b>

source: DCA30114 Design Studio 3



### Task 4.4:

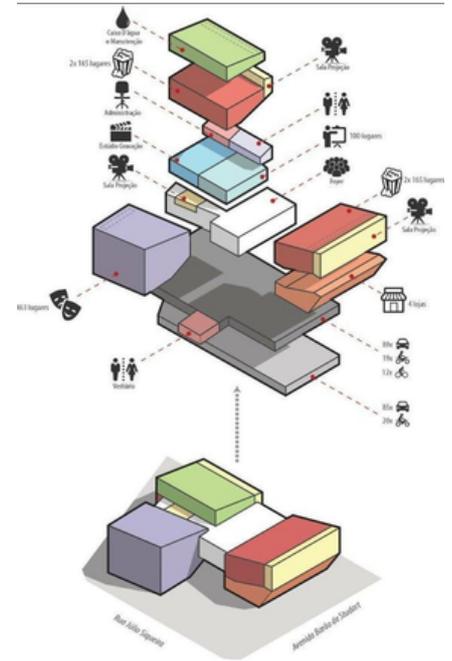
Conduct space analysis. You may refer to your case study or analyze spaces based on the requirements.

### 4.3 SCHEDULE OF ACCOMMODATION

All the accommodation facilities and provisions required by the end user of a building project listed in a schedule of accommodation. It is usually developed by architect during preliminary design stage. Schedule of accommodation is important for architect to know the minimum space requirements for the building.

Refers to a document or drawing that provides a detailed breakdown of the total floor area within a building or a specific space. It outlines the measurements and areas of various rooms, spaces, and components within the building.

This schedule is typically used for many purposes including design, planning, cost estimation, and legal documentation.



SCHEDULE OF ACCOMMODATION (ECO HOUSE)			
NO.	SPACE	DIMENSION (mm)	AREA (sqm)
1.	LIVING AREA	5000 X 5000	25.00
2.	MASTER BEDROOM	4000 X 3500	14.00
3.	BEDROOM 1	3000 X 3000	9.00
4.	BEDROOM 2	3000 X 3000	9.00
5.	DINING AREA	3000 X 4000	12.00
6.	KITCHEN	2300 X 2400	13.50
7.	PANTRY	4000 X 3200	5.52
8.	STUDY / WORKING AREA	3000 X 2500	12.00
9.	REST AREA	2100 X 1500	7.50
10.	BATHROOM	1800 X 1500	3.15
11.	TOILET 1	1800 X 1800	2.70
12.	TOILET 2	3000 X 1800	3.24
13.	LAUNDRY	3000 X 4500	5.40
14.	STOREROOM	1800 X 1800	3.24
15.	PORCH	6000 X 6000	36.00
TOTAL AREA (sqm) :			161.25

**INTRODUCTION:**  
The Centre of Technology for Architecture (COTA) is proposed as a platform to build public awareness of architecture role in society... the proposed site located at Politeknik Port Dickson... The site which covered about 2082sqm and it is very strategic as it close to educational of Politeknik Port Dickson... The Centre of Technology for Architecture in Politeknik Port Dickson are measured drawing (KAWANS) and building information modelling (BIM) - the scenic high kender just within walking distance from site.

**AIM:**  
To propose a design of Centre Technology for Architecture which provide zero emission and carbon neutral based on viable concept to attract user to the building.

**OBJECTIVES:**  
-To apply carbon neutrality and energy cascade to the building to reduce the carbon emission  
-To apply unweaving and undulating motifs inspired by dynamic movement & free flowing interiorly and exteriorly to enhance peace mood and lively atmosphere  
-To utilize the blended cement and stabilize mind blocks for masonry to reach low carbon.  
-To provide daylight atrium to optimize daylighting & solar control

**ISSUES:**  
-Among of vehicle use near the site on Politeknik Port Dickson that produce the carbon monoxide that cause bad health to user.  
-Site area characterised as hot & humid weather  
-Site exposed directly to the sunlight.  
-Lack of green / sustainable building near the site

**IDEA DEVELOPMENT**

The form split by two to utilize cross ventilation  
The flow comes soften and create smooth edges  
Drag an enclosed the additional form to make a functional space.  
The facade were tilt to minimise direct sunlight  
Form were pulled up to create daylight atrium to maximize natural lighting and thermal comfort  
The atrium were pulled up based on viable concept

**KEY PLAN**  
N.T.S

**LOCATION PLAN**  
N.T.S

**SITE ANALYSIS**

**WIND:** Provide an open plaza in the center of building to maximize natural ventilation

**SUN:** Approaching use of maximum sunlight to reduce energy consumption

**NATURAL PHYSICAL:** Provide green element to reach zero carbon emissions

**SITE PLAN**  
SCALE 1:250

**Task 4.5:**  
Produce your schedule of accommodation based on your space analysis.

## Room Names and Numbers

1

Each room or space within the building is labeled and assigned a unique identifier.

## Dimensions

2

The dimensions of each room, including length, width, and sometimes height, are specified in the schedule.

## Floor Area

3

The total area of each room is calculated and presented. This can be important for various reasons, including determining the building's overall size, calculating material requirements, and assessing building regulations.

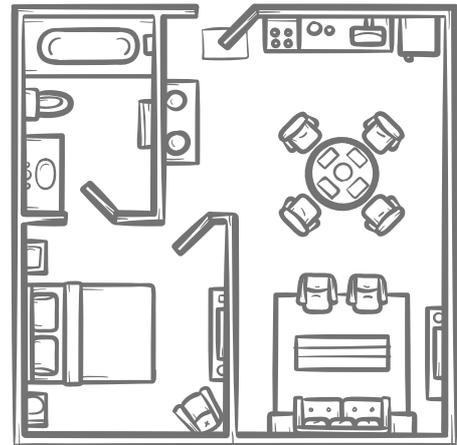
## Notes and Special Features

4

Any special features, fixtures, or notes related to specific rooms may be included in the schedule.

### 4.3.1 information in Schedule of Areas

The Schedule of Areas can be an essential tool for architects, designers, builders, contractors, and other stakeholders involved in a project. It helps ensure accurate planning, allocation of space, compliance with regulations, and efficient use of resources. It also aids in cost estimation and budgeting, as well as legal and lease agreements in cases where the building is being leased or sold.



## Use or Function

5

The intended use or function of each room or space is often indicated. This helps in understanding the purpose of different areas within the building.

## Total Area

6

The schedule typically provides a summary of the total floor area for the entire building or for specific sections.

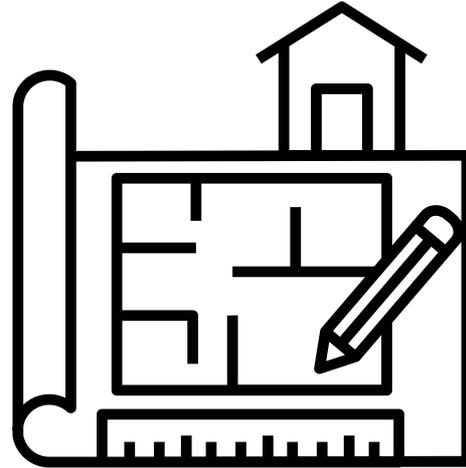
In summary, Schedule of Areas provides a comprehensive breakdown of the dimensions and functions of spaces within a building, serving as a valuable reference for various stages of a construction project.

### 4.3.2 Gross Floor Area

Gross Floor Area (GFA) is the **total floor area within a building**, typically measured from the exterior faces of the exterior walls.

It includes all floors, including basements, mezzanines, and any other habitable or usable areas.

Calculating the Gross Floor Area involves summing up the individual floor areas of all the levels of the building.



#### Here's how you can calculate it:

Measure Individual Floor Areas



Calculate Floor Area for Each Level



Sum Up Individual Floor Areas



Include Basement and Mezzanine Areas



Total Gross Floor Area

For each level of the building, measure the length and width of each habitable or usable area. Measure from the exterior faces of the walls. Exclude non-habitable spaces like mechanical rooms, stairwells, and utility closets from your calculations.

Multiply the length by the width for each habitable or usable area on a particular level to calculate the individual floor area of that space.

Add up the floor areas of all the levels to get the total sum of individual floor areas.

If the building has a basement or mezzanine, make sure to include the floor area of these levels as well by following the same measurement and calculation process.

Once you have calculated the floor area for each level, including basements and mezzanines, add them all together to get the Gross Floor Area of the building

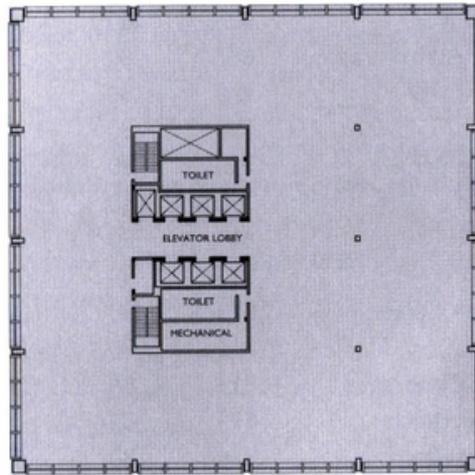


**Gross Floor Area (GFA) =**  
Floor Area of Level 1 + Floor Area of Level 2 + ... +  
Floor Area of Basement + Floor Area of Mezzanines + ...

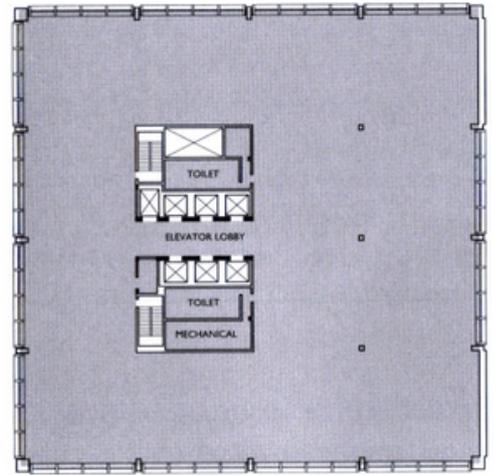
## Space Calculation Example

Picture here show the area based on the space standards for different purposes namely architect, facilities manager, real estate professional & quantity surveyor.

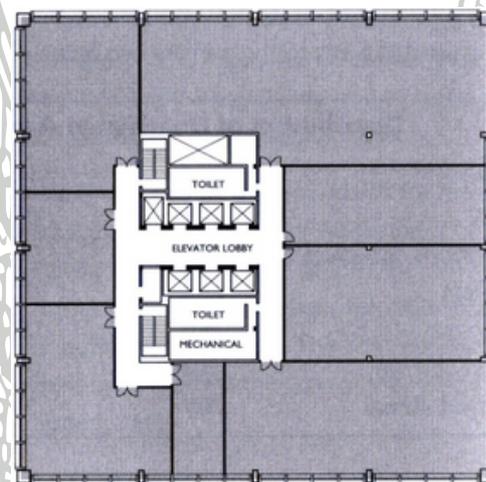
The grey color indicate the spaces being calculate according to the function ability.



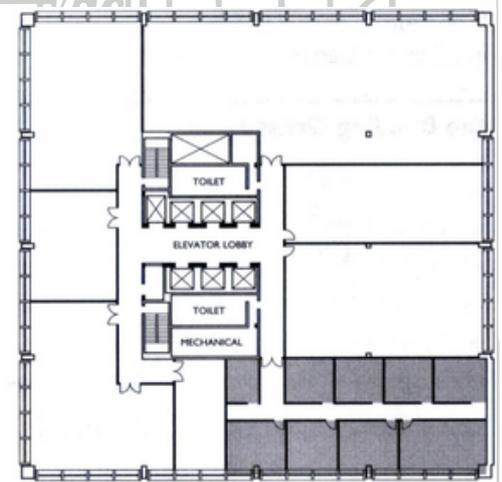
Gross Area



Rentable Area



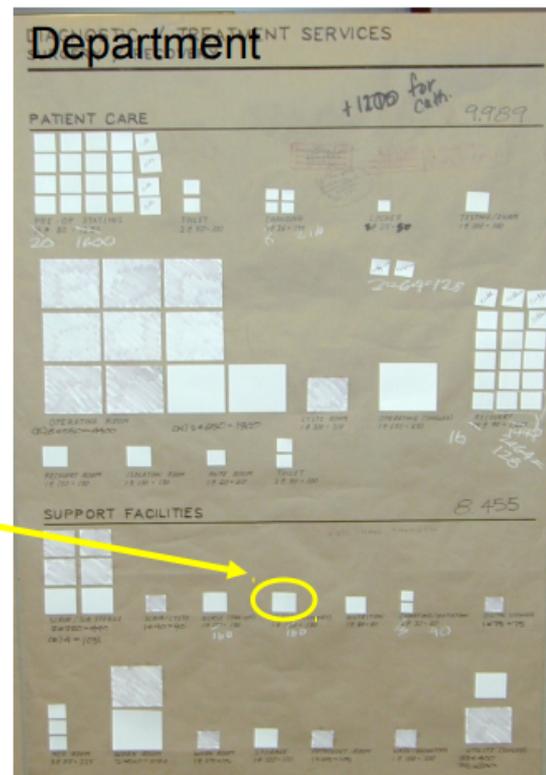
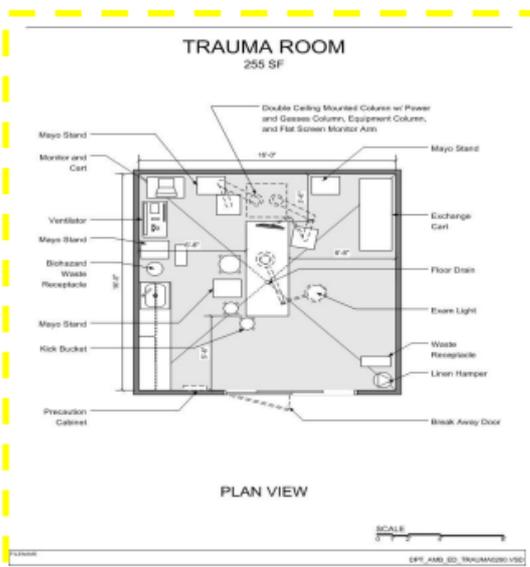
Useable Area



Net Area

## Programme Synthesis

The size of a room must be reasonable based on the function, furniture provided, circulation, scale and proportion.



## R E F E R E N C E S

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# T H E W R I T E R S



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ZURIKA AMNAH @ SALMI MOHTAR

Pensyarah  
Jabatan Kejuruteraan Awam  
Politeknik Port Dickson  
zurikaamnah@polipd.edu.my



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MAHANIM ABDULLAH SADALI

Pensyarah  
Jabatan Kejuruteraan Awam  
Politeknik Port Dickson  
mahanim@polipd.edu.my



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AHMAD QUSYAIRI AHMAD KHAIRIRI

Pensyarah  
Jabatan Kejuruteraan Awam  
Politeknik Port Dickson  
qusyairi@polipd.edu.my

# THANK YOU

The Architectural Programme A Guide To Understand Project Brief

e ISBN 978-629-7643-07-6



POLITEKNIK PORT DICKSON

(online)