

# Interior Design of AGHE Coffee & Resto with a Green Design Theme Through the Exploration of Sensory Experiences of the Five Senses

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## ABSTRACT

The interior design of AGHE Coffee & Resto, with a Green Design theme through the exploration of sensory experiences of the five senses, aims to create a unique design for AGHE Coffee & Resto that offers a distinctive experience to visitors through various stimuli received by the senses. The approach adopted in this design encompasses the themes of green design and industrial style as functional and ergonomic considerations. The design methodology employs Kurtz's programming method of orientation, base program, iterative programming, and design as feedback. The outcome is an interior design for AGHE Coffee & Resto that provides a novel sensation to space users through various stimuli the five senses receive. The scope of this design covers areas including the lobby and bar, guest waiting area, dining and drinking space, food storage area, employee space, kitchen, office, restroom, and prayer room. A distinctive advantage of this design is its focus on senses other than vision, which often gets sidelined in interior design projects.

## KEYWORDS

Interior design,  
green design,  
industrial style

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## 1. Introduction

The culture of "ngopi" (drinking coffee) is undeniably entrenched within our society. Referring to the Dutch East Indies administration, coffee emerged as a prime export commodity from Indonesia, reinforcing the profound connection between coffee and the Indonesian populace. Contemporary coffee shops have evolved into platforms for communication and social interaction. People often spend extended hours in coffee shops, a phenomenon not solely based on the allure of coffee (Pradini and Wempi 2019). These establishments are envisioned as a "third place," holding unique significance for their clientele (Novinka 2022). The research suggests that visits to coffee shops transcend mere consumption, fulfilling social needs alongside gustatory ones.

Today's coffee shops have diversified their offerings, presenting an array of beverages beyond just coffee and an assortment of hearty meals. One key enhancement in modern Coffee & Restos is their interior design, intended to amplify comfort and facilitate diverse activities. Additionally, proprietors strive to introduce novel or distinctive atmospheres, resonating with the intrinsic characteristic of restaurant-goers as "sensation seekers." It has been posited that customers often seek varied experiences when frequenting establishments (Wulandari 2014). Marsum contends that an exceptionally comfortable ambiance can significantly boost return visits (Marsum 2005).

AGHE Coffee & Resto, a fusion of a coffee shop and restaurant, is set to be established in Colomadu, Karanganyar Regency. Though situated in Karanganyar, its primary target audience comprises residents of Surakarta City, which is nearby. Growth data of coffee shops and restaurants in Karanganyar and Surakarta reveals an abundance of similar ventures. In 2019, Surakarta boasted 113 coffee shops

(Trianingsih 2021). By 2021, according to the Central Statistics Agency, there were 165 restaurants in Surakarta and 143 in Karanganyar. Given this competition, it is paramount for AGHE Coffee & Resto to offer a unique experience. Moreover, public structures like restaurants, office buildings, malls, cultural centers, transport hubs, and more serve as regional economic drivers. It should ideally encapsulate a universal cultural vision and function (Purnomo 2022).

To genuinely offer a distinct experience, the Green Design theme is conveyed through intricate interior design explorations, aiming to craft a sensory journey that engages patrons' many senses. Beyond just novel sensations and experiences, ensuring comfort remains the paramount objective. In the design of AGHE Coffee & Resto, the author seeks to formulate an interior design underpinned by the Green Design theme, articulated through sensory experiences elicited by various stimuli appealing to the five senses.

## 2. Method

The design process draws upon Kurtz's programming method. This approach begins by presenting a base program to the client. After the presentation, the client offers feedback, guiding the designer to refine and formulate a new program plan. This iterative presentation continues until the designer and client reach an agreement. A diagram derived from Kurtz's programming scheme illustrates this process (see Fig 1).

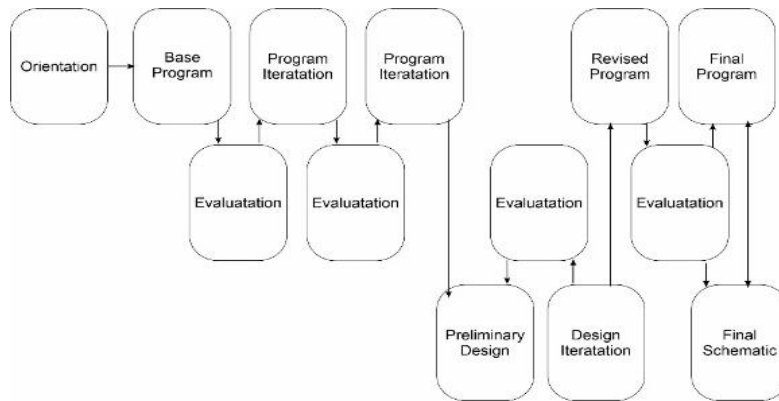


Fig 1. Kurtz's Proramming Scheme

Guided by Kurtz's approach, the design process initiates with the "Orientation" stage. Here, designers assess the client's philosophy, activities, and goals. Next, in the "Base Program Creation" stage, designers grasp the client's requirements, investigate supportive alternatives, and shape a preliminary program plan. This plan organizes the building, defines activity areas, and sets spatial relationships and dimensions. The subsequent "Iterative Programming" phase involves presenting the refined base program to the client, gathering feedback, and reshaping the program. This feedback-driven iteration continues until both parties achieve a mutual understanding. The process culminates with the "Design as Feedback" step, where designers develop a schematic design after the final iteration. Upon crafting this design, they present it to the client, incorporating their feedback into revisions until both parties reach a consensus.

Kurtz's programming method comprises four core stages, with the client actively participating as a user and an owner. The model emphasizes integrating client feedback directly into the design process during programming.

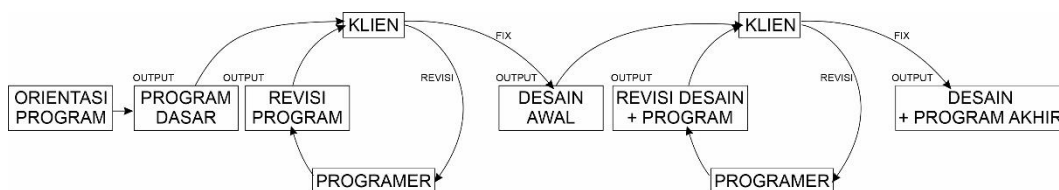


Fig 2. Analysis Scheme of Kurtz's Programming Method

Designers navigate these stages, aligning their expertise with the client's vision. They also mentor the client, steering discussions to remain productive and avoid unnecessary delays. The client, or owner, stands at the forefront of this process, supplying their vision, desires, and evaluations at each stage. The client needs to have a clear design goal. Prospective users of the design also influence this programming process. The final design can more precisely cater to its target audience by sourcing information about these users from the client. A notable strength of Kurtz's method is its iterative nature, which ensures the final design closely aligns with the client's vision. However, challenges can arise when clients need more clarity in their vision, potentially extending the design and feedback process and impacting the overall construction timeline.


### 3. Results and Discussion

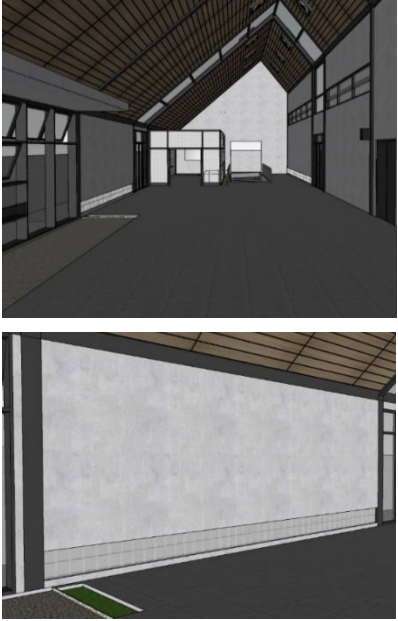
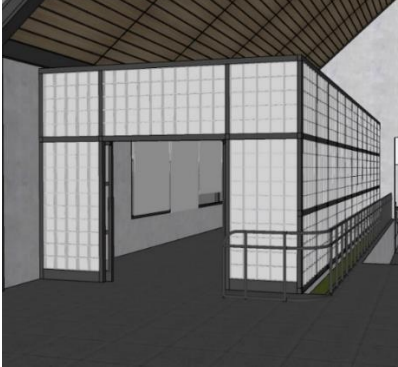
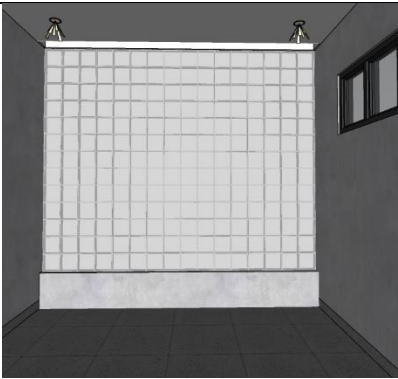
The design theme for AGHE Coffee & Resto revolves around Green Design. As previously mentioned, Green Design serves as an embodiment of sustainable or long-lasting design. The central focus of sustainable design is to align our current needs with the resources for upcoming generations, particularly concerning natural resources. There are several methods to achieve a sustainable design, with at least four main approaches highlighted: Reduce, Reuse, Recycle, and Regenerate (Lechner 2015). In the design of AGHE Coffee & Resto, the Green Design concept particularly emphasizes the Reduce and Reuse aspects.

Lechner posits in his book that instead of merely aiming to diminish a building's size, a more practical approach would be to curtail the energy consumed within a structure. This energy reduction can be efficiently applied to ventilation and lighting. Implementing basic design strategies, such as orienting the building correctly and selectively using specific colors, reduces the energy required for a structure (Mulyati 2015). AGHE Coffee & Resto's design targets energy reduction, specifically in lighting and ventilation systems. At the same time, the design implements the reuse principle by choosing reclaimed mahogany wood from pallets as the primary material. This repurposed mahogany wood features extensively in the furniture pieces within AGHE Coffee & Resto.

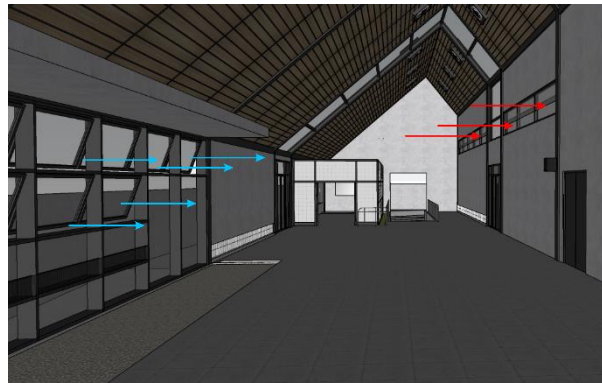
From the early design stages of AGHE Coffee & Resto, energy reduction for lighting was a priority. The building's southern-facing orientation ensures that the warmer afternoon sunlight does not directly penetrate the interior via the façade. This design choice allows for a more extensive glass installation on the façade, enabling sufficient natural light while offering a clear view for potential visitors passing along Jl. Adi Sumarmo. Another measure to decrease energy consumption in lighting includes incorporating abundant window openings for sunlight entry. Additionally, glass block materials, which efficiently transmit light into spaces, are integrated into the design. The following sections will detail the application of energy-reducing lighting techniques across various rooms.

- **Table 1.** Analysis Table of Lighting Energy Reduction Application at AGHE Coffee & Resto

Image	Description
	<p>For the building façade, large windows aim to admit sunlight into the bar and lobby areas.</p>

	<p><b>Indoor Dining Room</b></p> <p>The use of skylights, windows on both the western and eastern sides of the building, and the application of glass block materials on particular walls ensure ample lighting for the indoor dining space, extending even to the VIP Dining Room.</p>
	<p><b>VIP Dining Room</b></p> <p>Including glass blocks materials in partitions allows light from the windows to filter into the room.</p>
	<p><b>Office</b></p> <p>Using glass bloc materials on the southern wall lets in sufficient light for the space. Curtain fabrics will be added to modulate the lighting.</p>

The AGHE Coffee & Resto design implemented cross ventilation to reduce ventilation energy. Cross ventilation operates on the principle that warm air rises. Openings were placed at the top of the building to allow warm air to exit, ensuring cooler air remained inside the room. Cooler air was introduced through openings at the lower section of the room to facilitate the exit of warm air.



**Fig 3.** Implementation of Cross Ventilation in the Indoor Dining Area of AGHE Coffee & Resto

Wind aids air exchange, driven by differences in air pressure within a space. A difference in air pressure was established within the room to harness the wind. Turbine ventilators were utilized to create this air pressure difference. The rotation of these turbine ventilators is driven by external wind and the upward flow of warm air. This rotation creates an air pressure difference inside the room, generating wind or aiding in expelling warm air.



**Fig 4.** Implementation of Turbine Ventilators at AGHE Coffee & Resto

Upon deciding to use reclaimed mahogany wood from wooden pallets, the pallets were disassembled to obtain individual mahogany wood planks. These planks were then smoothed and assembled according to design requirements. A distinctive approach in the AGHE Coffee & Resto design was the decision to retain the uneven wood texture during the smoothing process. The residual uneven mahogany texture was considered valuable in the design, providing aesthetic appeal and tactile sensation.

### **1. Sensory Exploration of Five Senses**

To effectively convey the Green Design theme and offer a unique experience to visitors, this theme undergoes presentation through sensory exploration, influenced by the work of the five senses in capturing stimuli. When engaging in activities, humans tend to respond to or perceive the environment in which they operate. The five senses — sight, hearing, touch, smell, and taste — capture sensory data, then channel it through the sensory nervous system to the brain for processing, culminating in a perception as the output. These senses aid humans in understanding their surroundings. Each sense processes and directs individual sensations to the brain (Pradjonggo 2018).

Considering the varied educational levels of visitors, not all aspects of the Green Design theme might resonate with everyone. Consequently, the Green Design theme may adjust its meaning and content. To make it more accessible and distinguishable, the conveyed Green Design theme to the visitors undergoes simplification. This process aims to evoke green, natural, and organic feelings across all public spaces. The aspiration to provide an experience of enjoying a meal in a verdant environment forms a distinctive feature of AGHE Coffee & Resto. Here, an exploration follows the potential roles and sensations each human sense may produce in understanding an environment.

## 2. Visual Analysis and Capability

The visual aspect is crucial in human cognitive response. Visuals influence how humans analyze their surroundings among all sensory systems, especially concerning information. In interior design, visuals determine how long individuals stay within a space. Intricate details in interior elements often captivate many. Given the role of the visual sense in the viewing process, lighting becomes fundamental in setting the mood and ambiance. This is because the sense of sight relies on the reflection of light waves bouncing off object surfaces and subsequently captured by the eyes as sensory data (Wulandari 2014).

At AGHE Coffee & Resto, the visual sense encounters various plants to evoke green and natural impressions in the space. Such natural and green themes span all AGHE Coffee & Resto public areas.



Fig 5. Green Ambiance Throughout the Dining Area of AGHE Coffee & Resto

Introducing natural materials like wood and stone further stimulates the visual sense. This combination complements the green sentiment expressed earlier. The stimuli provided to the visual sense need strength to attract and create a robust perception in the brain. Other senses enhance this by offering aligned stimuli to ensure perceptions are genuine.

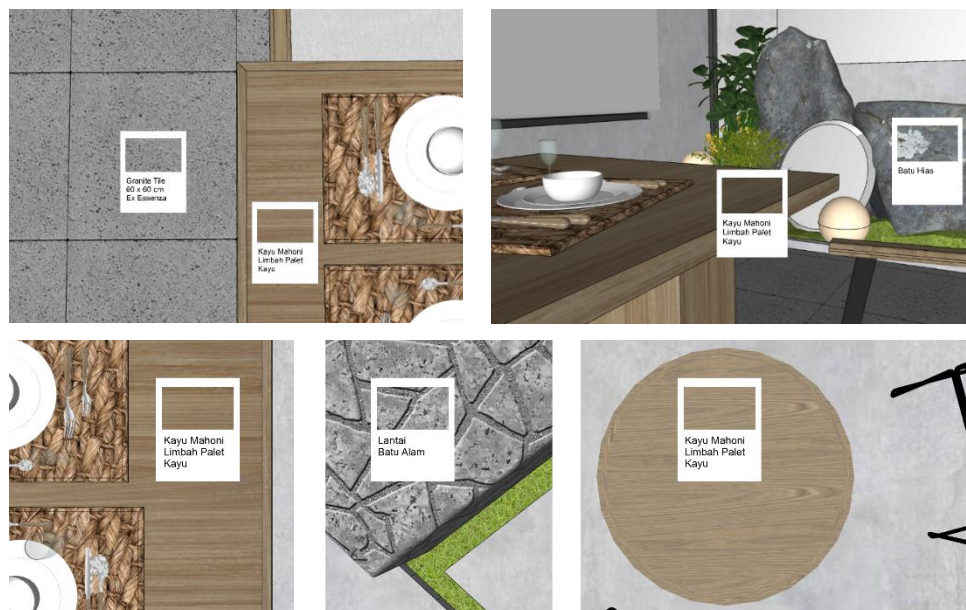


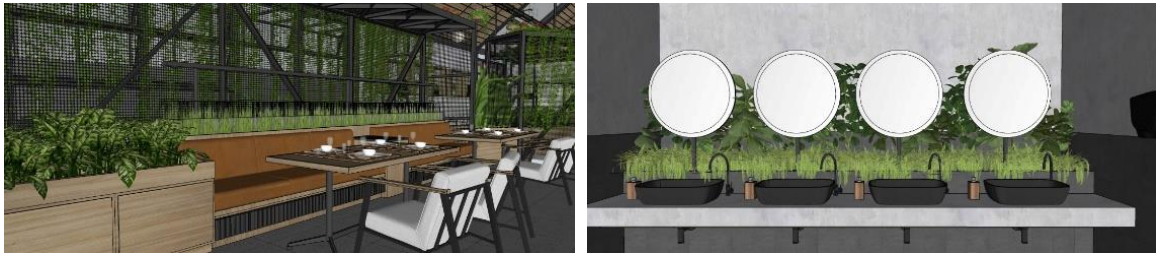
Fig 6. Use of Stone and Wood Materials in the Dining Area of AGHE Coffee & Resto

## 3. Olfaction and Memory

The olfactory sense, stimulated by scents, has a profound relationship with recall and memory retention. Scents serve as primary motivational factors in human behavior and play an essential role in behavioral patterns. Scents influence brain areas associated with emotions, feelings, memory, and motivation, leading individuals to exhibit specific responses (Wulandari 2014).

At AGHE Coffee & Resto, the olfactory sense receives stimulation from the Rosemary plant (*Salvia Rosmarinus*). Recognized widely, Rosemary stands as a spice that enhances appetite. This reason drives its frequent use in culinary seasonings, especially for steak. The natural scent of Rosemary provides a fresh and natural stimulus to the brain via olfaction. Moreover, the distinct natural aroma of the Rosemary plant

can imprint AGHE Coffee & Resto's identity in visitors' memories, as such a unique scent is rare in similar establishments. The following section discusses the placement of Rosemary plants within AGHE Coffee & Resto.



**Fig 7.** Placement of Rosemary Plants Throughout the AGHE Coffee & Resto Area

#### **4. Taste and Various Other Aspects**

The sense of taste establishes a strong connection with other aspects, such as color (Wulandari 2014). Due to its association with the color spectrum of light, the sense of taste influences the lighting choices in AGHE Coffee & Resto. Natural lighting is the primary light source within AGHE Coffee & Resto's space. This natural illumination is complemented by artificial lighting, employing warm white bulbs, ensuring dishes are presented in an appealing light, and simultaneously creating a relaxed and comfortable ambiance for visitors.

#### **5. Hearing and Spatial Intelligence**

Sound profoundly influences an individual's mood. Additionally, sound aids the brain in discerning one's location and pinpointing the origin of a particular sound. According to Moylan, sound carries direction, elevation, distance, and character information. Interestingly, sound offers a more enhanced perspective than sight. This superior capability arises because sound reaches from all directions and remains perceptible to our hearing (Wulandari 2014).

In AGHE Coffee & Resto, the auditory sense will be indulged with various bird sounds to reinforce the Green Design theme. These bird sounds will emanate from multiple bird sound boxes throughout the space. These boxes capture ambient noises, which they translate and reproduce as bird chirps.

However, in outdoor areas, these bird sound boxes might prove ineffective due to their sensitivity to the distance of sound sources. Therefore, different auditory stimuli are introduced in these outdoor zones: an outdoor stage that will feature live, simple acoustic music. Such minimalistic acoustic music ensures it neither disrupts nor undermines the established natural ambiance.



**Fig 8.** Provision of Auditory Stimuli in the Dining Area of AGHE Coffee & Resto

#### **6. Touch and Affection**

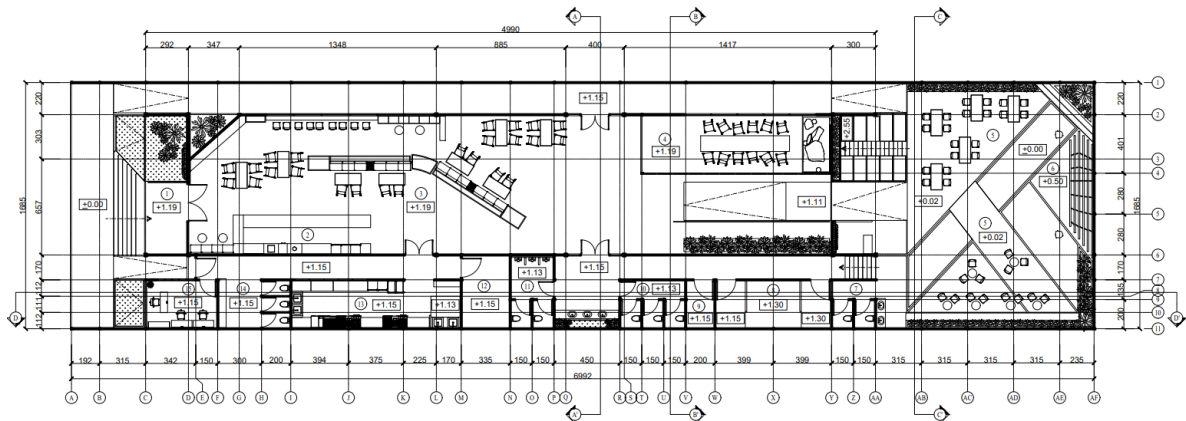
The information derived from touch plays a pivotal role in understanding the world around us. In interior design, the sense of touch can be guided to experience various textures, enriching sensory information. Lindstrom (2007) asserts that the ambiance of a space is crucial in shaping the perception of

its users (Wulandari, 2014). The tactile sense informs individuals of their surroundings based on the surfaces they come in contact with. Adequate sensory stimulation can enhance someone's appreciation for a design work (Gunawan, Yong, and Rakhmawati 2020).

At AGHE Coffee & Resto, the tactile sense will be stimulated through various raw materials laden with diverse textures. The use of natural stone, rich in texture, combined with natural wood and specific wood textures, aims to create a pleasant sensation. Various natural plants spread across the entirety of AGHE Coffee & Resto also offer potent stimuli to the sense of touch. Some plants are deliberately placed to ensure they quickly come into contact with or brush against visitors.

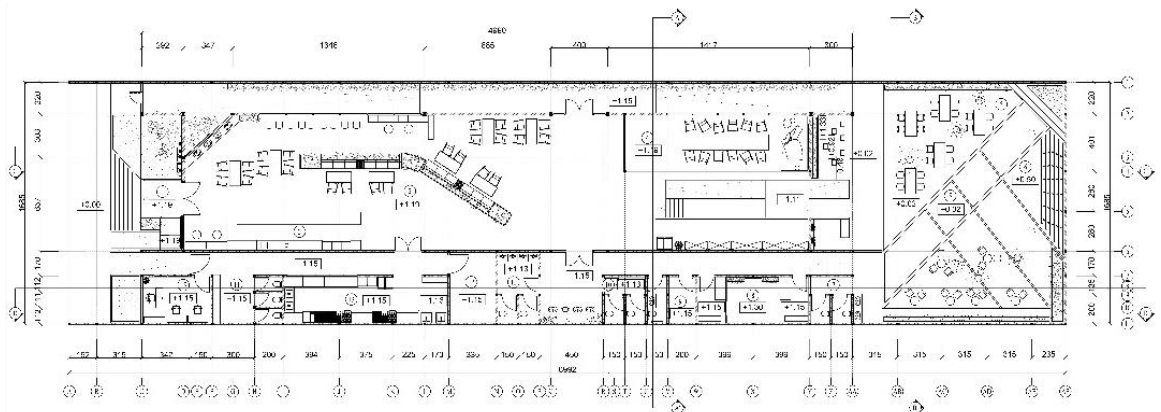
### 7. Layout

The layout, or the arrangement of furniture, is organized and tailored to the space's requirements, the number of users, and circulation patterns to facilitate the activities of its occupants. Here is the furniture layout for AGHE Coffee & Resto.



**Fig 9.** AGHE Coffe & Resto Layout

The initial layout provided to the client required revisions as it lacked a garden along the exit road and additional storage space for outdoor dining equipment. Below is the approved version of the layout.



**Fig 10.** AGHE Coffe & Resto Layout (Revised Version)





Fig 11. Ruang Makan Indoor



Fig 12. Ruang Makan Indoor



Fig 13. Ruang Makan VIP



**Fig 14.** Ruang Makan Outdoor dan mushola



**Fig 15.** Kantor dan Ruang Karyawan

#### 4. Conclusion

The design concept for AGHE Coffee & Resto emphasizes a green theme, integrating sensory exploration of the five senses. This approach seeks to shape a public interior space that recognizes the senses' integral roles in experiencing varied stimuli, culminating in distinct experiences and sensations. Visual, olfactory, auditory, and tactile senses are targeted to align with the essence of green building concepts. The gustatory sense, or sense of taste, is sidelined due to the inherent challenges it presents within the interior design domain. Vision is engaged by incorporating genuine and decorative plants complemented by wood motifs sourced from HPL materials. Olfactory sensations arise from cultivated Rosemary plants. Auditory stimuli come from the chirping sounds produced by bird sound boxes. Tactile sensations are evoked using the textured finishes of cement and wood derived from HPL.

In developing AGHE Coffee & Resto with its green theme, the strategies of style, function, ergonomics, and color are employed as foundational pillars. These pillars ensure a design that resonates aesthetically and weaves the theme seamlessly, ensuring user comfort and space optimization.

Incorporating the green design theme through a sensory exploration, combined with an industrial aesthetic, results in a harmonious blend of cement and iron - hallmarks of industrial design - with natural elements like plants and wood. This synthesis introduces a fresh and unique perspective to the often-encountered industrial design, offering a distinctive experience for visitors.

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