Ngor-Khaki-The Potential of Phuket New Architectural Identity?

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Abstract

This research is a part of ARC 429 Architectural design 6, Faculty of Architecture, Rangsit university. The purpose of the research is to investigate what is a possibility for new architectural identity and propose it on the building design project afterwards. The project design was a new exposition center in Phuket. The study methods were to study documents, or web blogs, interview city mayor, onsite visit to collect contextual data such as city history, policy, site potentiality, site condition, existing architecture, and problems etc. Analyzing data discovered later, then researchers created a proposed new architectural character design, forthwith applied it to the building for evaluation.

Research found that there were some interesting objects that could become initial keys to create a new building identity. They were cassiterite, bat like ornament, 3rd development of row houses and Ngo-Khaki. Researchers manipulated those into a new identification by using random color characteristic from cassiterite and creating architectural mass and form with the combination of bat, Ngo-Khaki and the 3rd generation of row house. The result was impressive when applied the idea to the building project. It created the flexible space and originated a new identity with the proper mass that reflexed to its site context. It delivered fresh and modern character to the exposition project. Controversially, the class committees felt that the new design compromised the connectivity of inside to outside space unlike Ngo-Khaki character.

Keywords**:** *identity, Phuket, exposition center, architectural design, Ngo-Khaki, bat*

1. Introduction

Phuket is a southern island province in Thailand and famous tourist destination. The city was very well-known in beautiful beaches, good place for snorkeling with the best facilities supporting tourists (Phuket Provincial Office, 2014). Therefore, the economic prosperity came from tourism industry.

The city policy desires to elevate itself to global city. So, many projects occurred. After interview with Mr. Saroj Angkanaphilas, Phuket city municipality mayor, his desire was to increase the tourist number by adding more attractions and projects to the city. One of them were to add the exposition center into the main district called Phuket old town area. The purpose of the project was to elevate financial aspect of the area for both local people and tourists also.

As consequences, this design project was about evaluating the appropriate of the existing site and propose the new architectural character for becoming a new tourist attraction also.

Phuket is an island with only one airport and link to city by highway no.402. As seen on figure 1, the most growthiest part is Mueang district, and the second are Thalang district on the north part and Pa-thong on the west part of island. The city development plan will promote the 3 districts to be new CBD and sub-CBD consequentially. Old town Phuket is located in the Mueang district. It has many attractions and ancient buildings which well-known as Chino-European or Sino-Portuguese style. Additionally, the existing site of the old exposition is also in this area. Hence, researchers use this area as a target study area.

2. Objectives *(conflict comments, I agreed with one reviewer and prefered to keep it as it was)*

The objectives of the research are as followed

1) To study about Phuket policy
2) To study about project site context and potential

3) To study about Phuket architectural character and its history
4) To investigate potentials of new architectural identity
5) To apply the new character to new exposition building project

3. Materials and Methods

As mentioned above, the policy aimed to raise Phuket to global city by adding some projects for economic growth. The image below demonstrated the city growth according to policy. As seen on the left image, there were only 2 major red zone on the map; Tha-lang district on the north and old town district in the middle of the land. Right image show the growth of the city, those 2 spot become new sub CBD in orange spot and CBD in red spot respectively. The yellow spots are new nodes of the city.

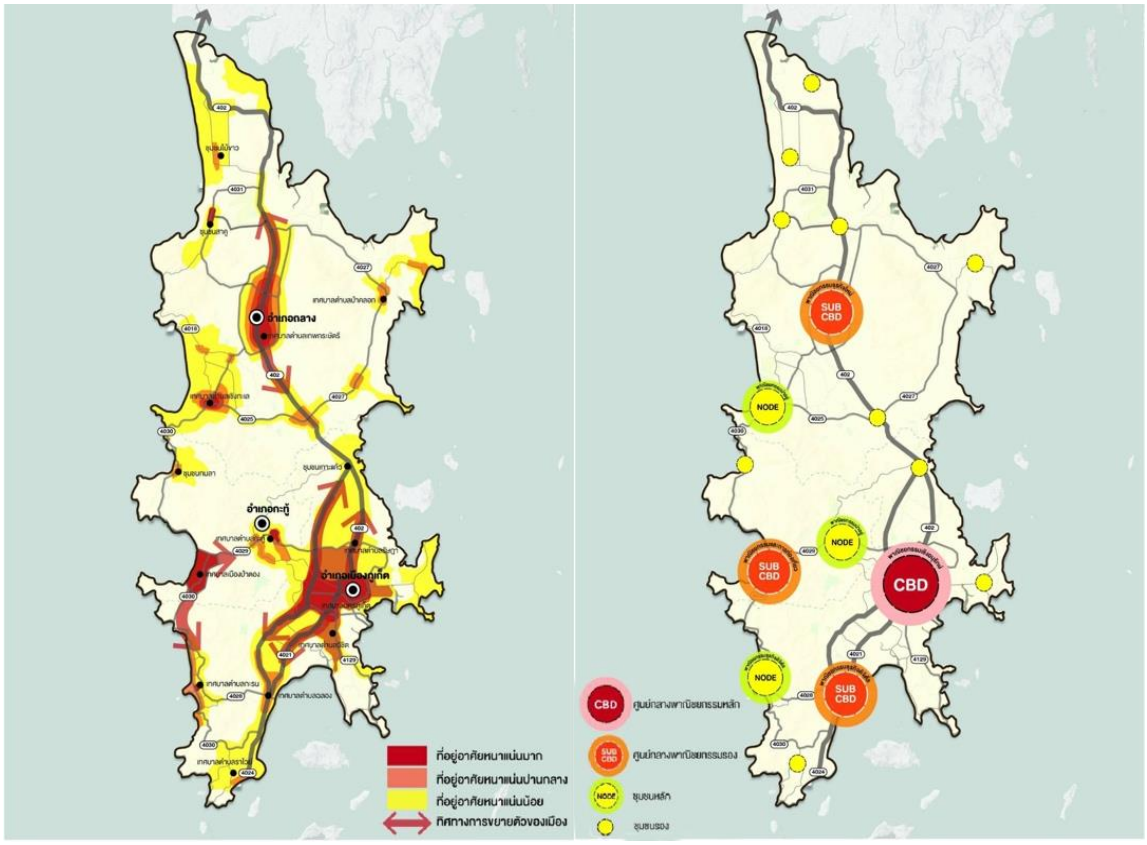

Figure 1 City growth by Phuket province

The site of the project was on the existing exposition center, it located near the old town and in the same Phuket CBD area show in map on Figure 2. The site surrounded by residential buildings along with small retail row houses and easily connect to airport and port. It has potential to raise the economy of this area when operate. It also connect to roads all directions which 3 out of 4 have potential to use as entrance of the project due to width and connection to other parts of the city. (See green spot on figure 2)

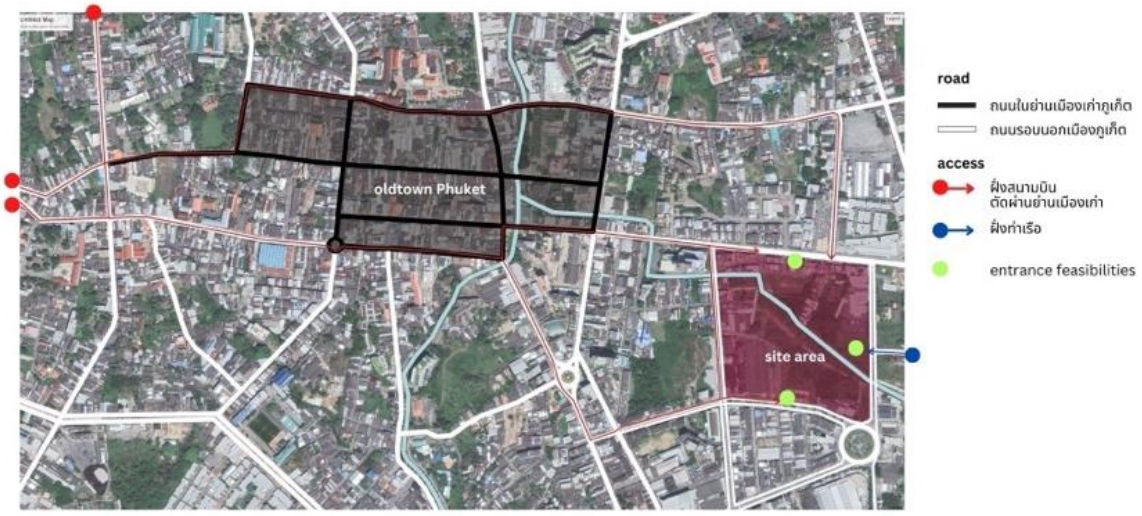

Figure 2 Project site and Phuket oldtown map by researchers

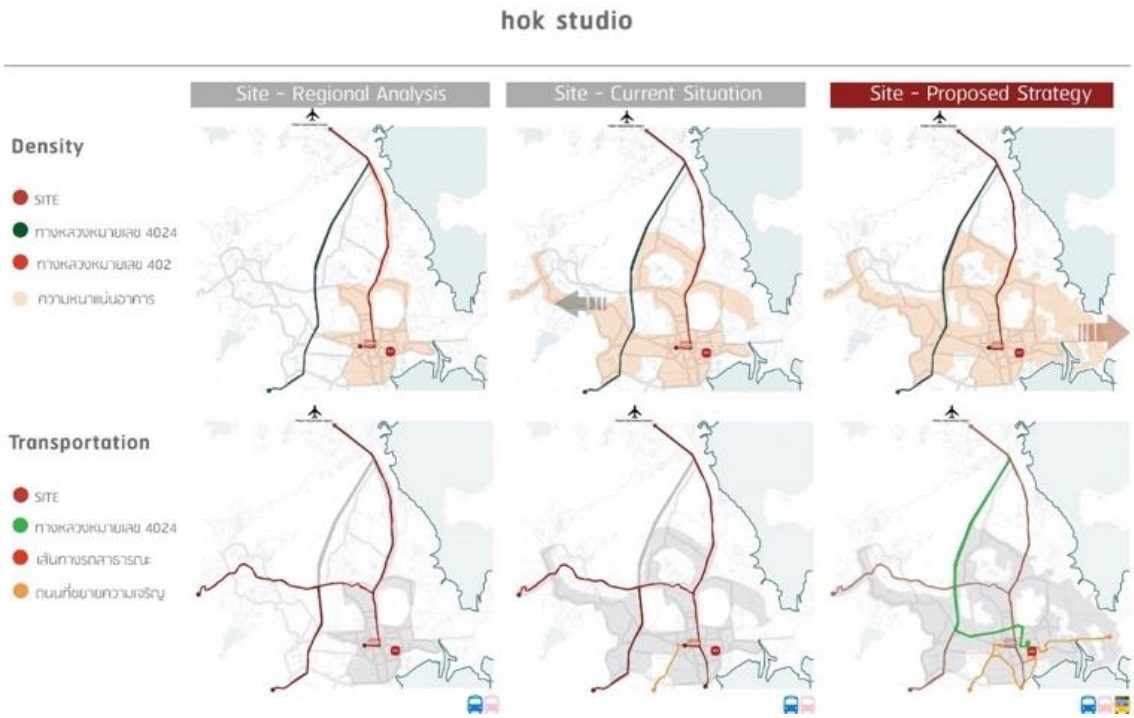

Figure 3 Analysis of density and transportation near the site by researchers

Researchers created 6 slot tables show in figure 3 to explain the density and related transportation with site by looking in 3 scenarios: the connection on site in regional picture, site in current situation and site with proposed growth. As seen on all 6 images the site was very approachable from airport and located in the growth of the city in the future, therefore the site was very suitable for the project.

The Project site located in the old town CBD which was not far from the main tourist attraction. It connected to airport and port conveniently with the major road and surrounded by city main roads also. It had

69.7 rai or 111,520 m^2 with a canal run through middle of the site. The density of the buildings around became massive.

Phuket is an equatorial climate with the influence of southwest and northeast monsoon winds. The weather is humid and hot. There are only 2 seasons in a year with 188 rainy days or 2,207.7 mm of rain water. (OSM Andamnan, 2012)

History of Phuket was a major tin mine in Thailand but end in 1986 because of tin mine concession dissension. When focusing on tin merely, It had an interesting character particularly on ambient grey color and its gloss (siamchemi, n.d.).

Figure 4 Tin image

The ancient of the building in Phuket was divided into 3 phrase (Phuket Provincial Office, 2018). The first phrase was about 1868 – 1900 A.D. which was a beginning of the city development. The building was a single floor row house. Its masses and materials were influenced by Chinese style. Its walls made of compressed soil. The main function was residence only.

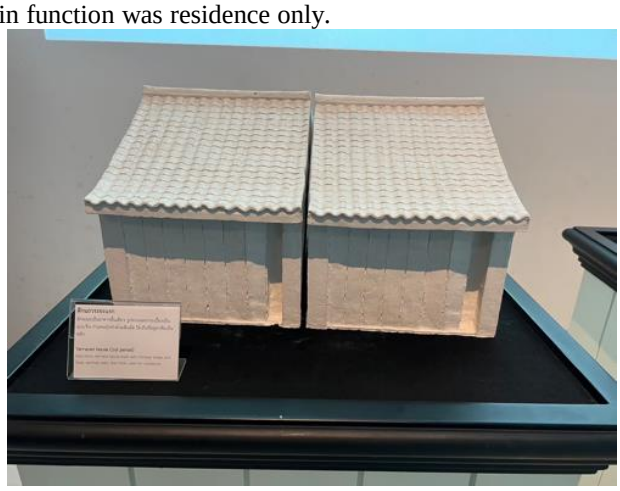

Figure 5 The 1st Phrase of row house in Phuket

The second phrase was 1901 – 1932 A.D. which was a blending culture period. It was a combination of Asian and Europe style. The building was one floor with a mezzanine which called “Lao Teng” due to more need of the usable space in the city.

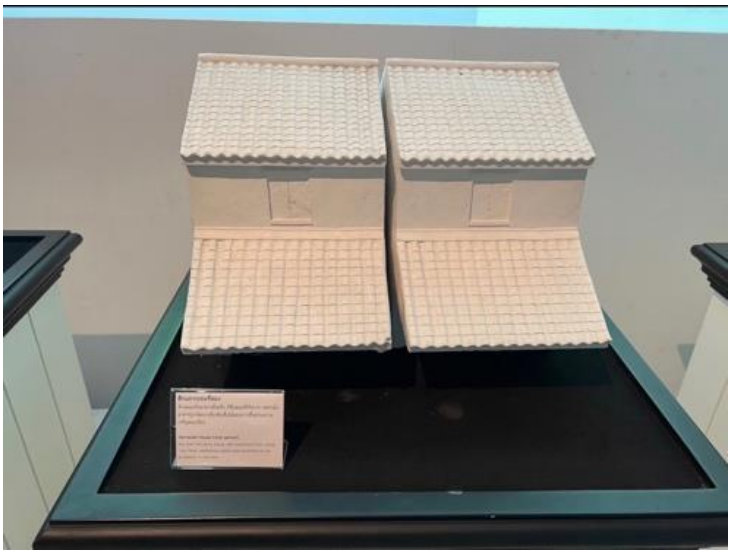

Figure 6 the 2nd Phrase of row house in Phuket

The third phrase began in 1933 – 1956 A.D. which was an architecture movement so called “Modern Era”. It was a proud moment of Phuket. It became Phuket cultural heritage. It was 2 story row houses which amalgamated the Chinese architecture with European architecture. it was also called “Tiam Chu” or “Tiam Lai”.

Figure 7 the 3rd phrase of row house in Phuket

During site visit, researchers also discovered 2 interesting elements on Phuket architecture that were Bat air vent and Ngor-Khaki.

Bat was one of the Chinese auspicious animals. It would bring good luck, wealth to that person. Therefore, it appeared on most of the house in Phuket in form of bat air-vent.(Thailand museum, 2023) see figure 7

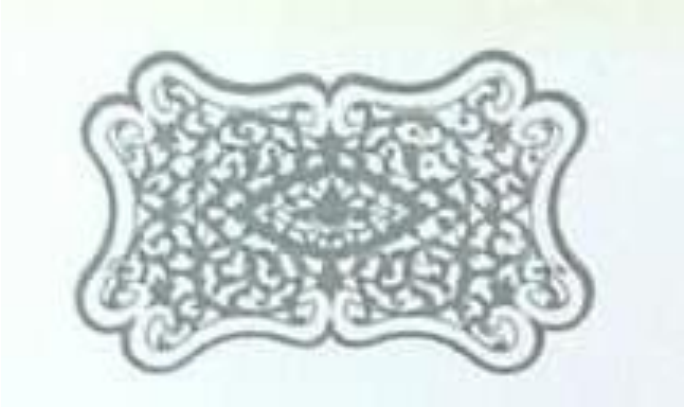

Figure 7 Bat air-vent

Ngor-Khaki was a building law issued by a British man who was a Singapore founder named Thomas Stamford Bingley Raffles. It was a 5 feet width terrace on ground floor and in front of each house. This character had become an identity of building in Malaysia and Singapore. Since Phuket was on the Malay Peninsula and speculated with Malaysia and Penang. People and culture were exchanged. So Ngor-Khaki was transferred to Phuket also.

Figure 8 Ngor-Khaki by researcher

Therefore, researchers used tin, bat air-vent and Ngor-Khaki as inspiration and proposed procedure for creating the new characteristic. The framework of the research was to study on the look and color of tin, decode bat air-vent to build up mass, form, and basic elements and finally reinvent the spirit of Ngor-Khaki. Design method of the projects were divided into 2 parts: exterior and interior. Researchers decoded bat air-vent and simplified then applied the symmetrical balance technique to create building mass. On the other hand, Researchers used the opposite tools such as, asymmetrical balance, contrast, and harmony to create the inside space or interior, please see figure 9 and 10.

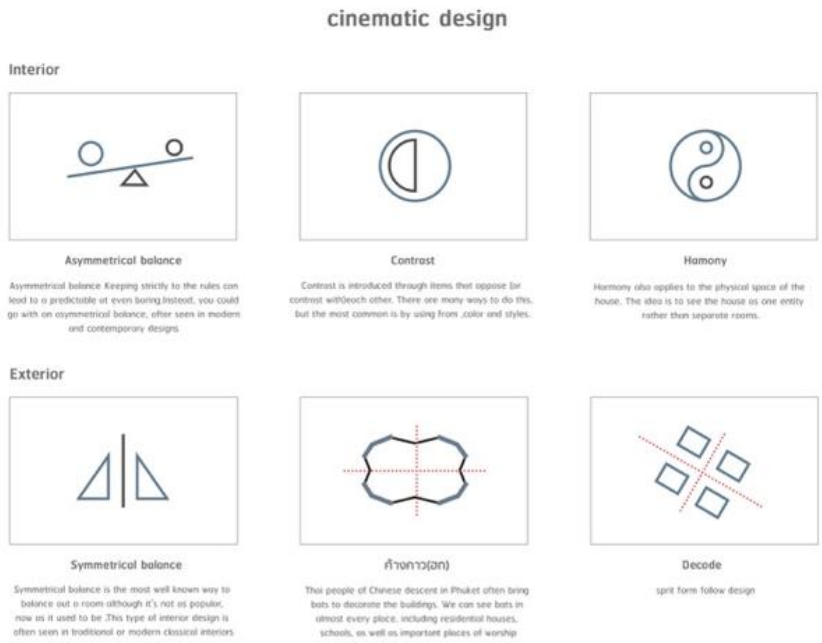

Figure 9 Building design technique graphic by researchers

Researchers develop the facade idea by interpreting bat and rhythm of tin color. Such an idea, researchers created the multiple squares with the random of black, grey and white shade to mimic the random of tin color as shown in figure 10. Materials for the patterns were aluminum composites and polycarbonate sheets. Black and Grey color used the aluminum composites while white used the polycarbonate sheets to allow light in. Consequently, some light can pass through, just like the ancient Ngor-Khaki even though, it also compromises the characteristic of connectivity.

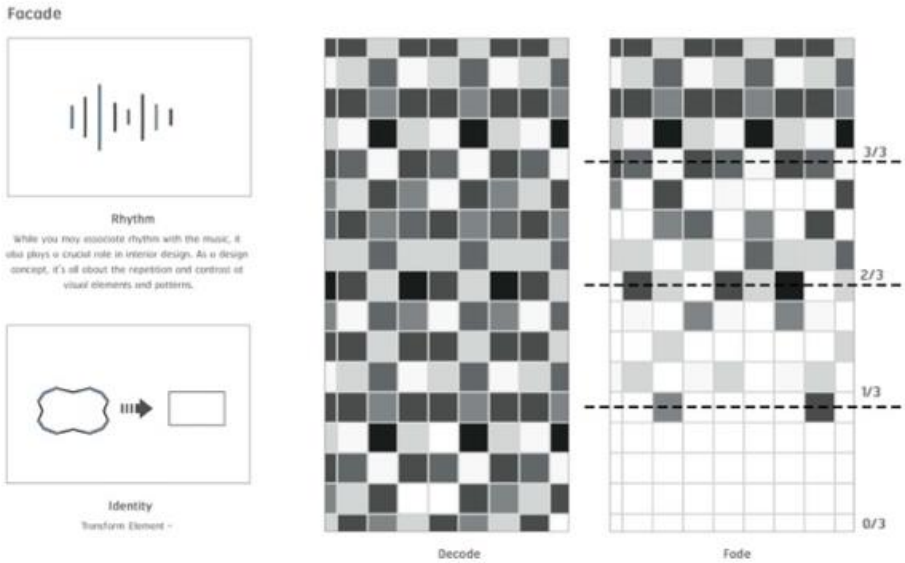

Figure 10 façade design technique by researchers

To design the whole building, researchers located the main functions; exposition halls and conference rooms in the middle of mass, then surrounded them by supporting functions such as offices, service areas and staff areas. Then, researchers applied new identity with combining the character of Ngor-Khaki with the tin random color concept into the facade design. In order to, achieve the same atmosphere as Ngor-Khaki, researchers employed the polycarbonate sheets along with aluminum composite sheets into facades. So natural light could penetrate to space inside building throughout the day.

4. Results and Discussion

The final design was spectacular. The desired mass could properly place in site and house 22,434 m^2 of conference rooms, 13,910 m^2 of exhibition halls along with circulations and other supporting functions of 11,044 m^2. Besides that, when located the building on site, there still had plenty of land to put more buildings or other functions such as impressive landscape and park, food village. Internal main road designed to connects outside road from east to west. It benefited to traffic in overall.

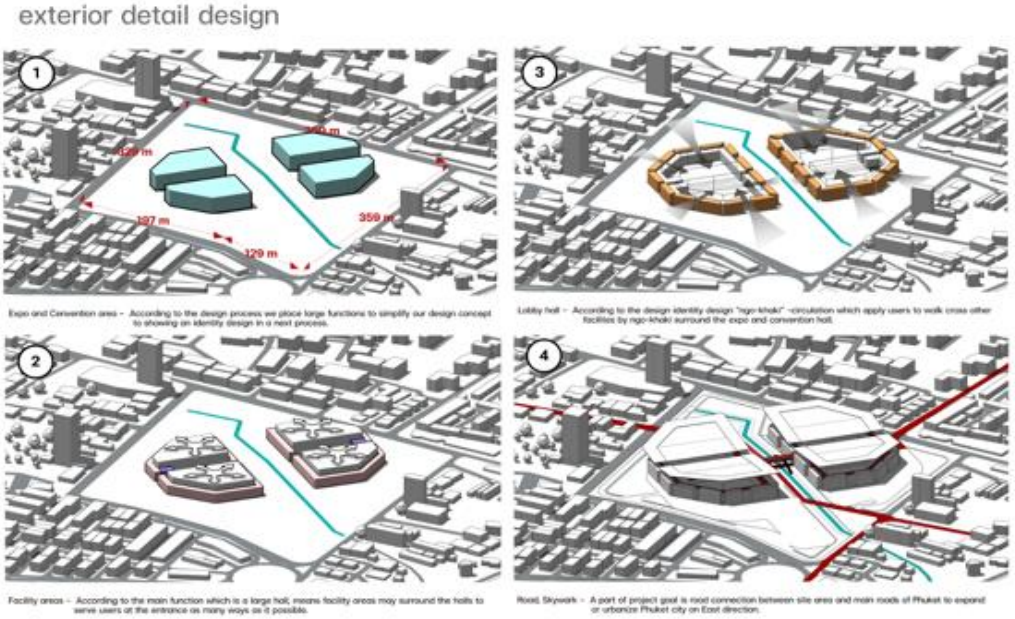

Figure 11 Mass and exterior design method by researchers

Figure 11 is about masses and their transformation due to context such as canal in the middle of site, road outside that lead to new road inside and view from inside. The road (see image no.4) is not only an internal road but also play a connection part of road from one side to the other side of the city. It bridge the city and people from both side together.

Figure 12 Master Plan by researchers

Figure 12 is the final master plan of the project; the buildings were divided into 4 parts with hidden service road in the middle of the mass. However, researchers placed the giant garden wrap around the building to create the greenery atmosphere and can be opened to public use also in the day that no events.

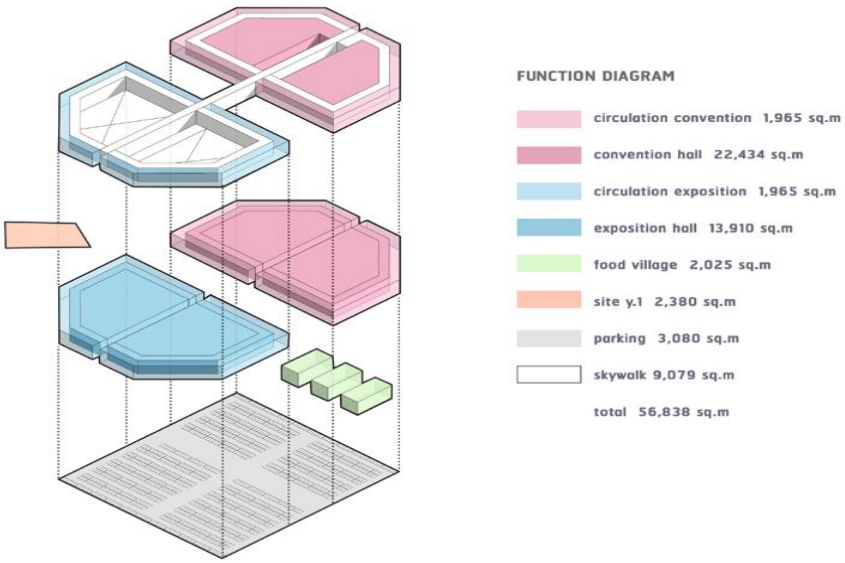

Figure 13 Functional diagram of the building by researchers

Figure 13 is the zoning diagram of the building. Parking in grey color located under the main buildings. The major functions are in blue and pink which are exposition hall and convention hall respectively. Small green boxes are food retail, so called in this project “food village.”

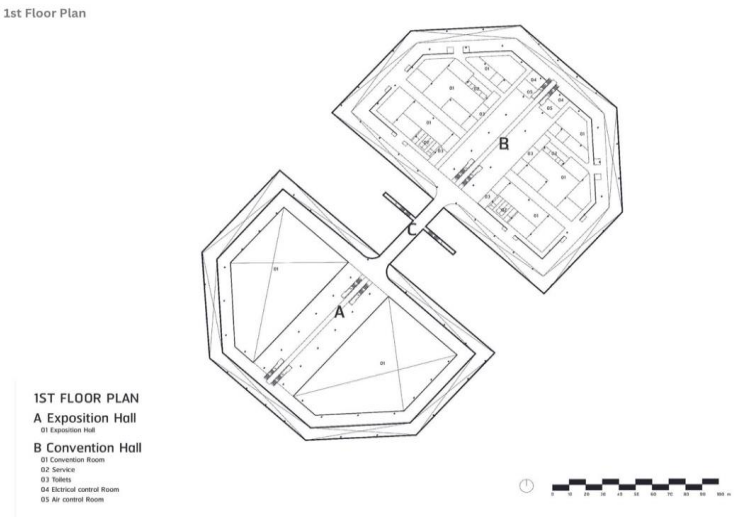

Figure 14 First floor plan of the building by researchers

Figure 14 is the 1st floor plan. Part A is exposition hall and B is convention hall and its service such as service corridor, toilets, and mechanical rooms etc. As seen on the plan, researchers wrapped around the convention and exposition hall with corridors and public hall. This corridor performed itself as spirit of Ngor-Khaki but in the new modern appearance.

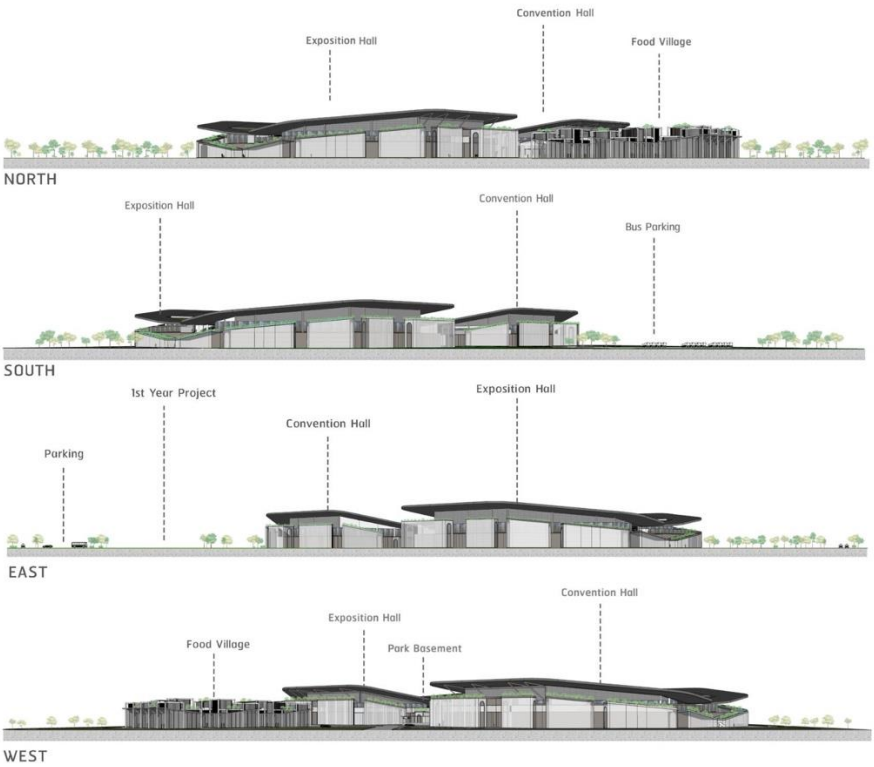

Figure 15 Elevations of the Exposition by researchers

Figure 16 Bird eye view of project by researchers

Figure 17 Exterior perspective of the project by researchers.

The image 15,16 and 17 demonstrated the overall design of the project, the decoded bat air-vent allowed the flexibility of area and size adjustment. They became 4 main building using conventional materials such as, brick, mortar and paints but wrapping around with corridor which applied the new architectural identity. The new characters can fit properly with its new functions and forms. It can make the building been more impressively, modernly, and intimately. The mix of aluminum composite and polycarbonate can deliver the ancient Ngor-Khaki spirit even though, it was compromised. It probably said that the new idea can adapt or apply to other building later.

Furthermore, it obviously appeared that the site location and its size were properly suit for the project. It could connect to neighbor for both activities and physical environments. The large open garden and park could be beneficial to neighbor around. The food village gave liveliness to this project nonetheless, there was no events occurred at all. It could generate the income to project also. Decoding of bat air-vent could allow the flexibility of area and size adjustment.

5. Conclusion

Researchers discovered that the exposition project was suit to the current location and site due to its contexts and conditions. The project reached the goals of the city policy to raise the economy of the city, people and offer the good environment to such location. The search for new identity could be possible. Using the Ngor-Khaki appearance, bat air-vent and tin random shade could create an impressive new facade and special atmosphere to building space. However, the use of such materials could compromise such a strong notion of the Ngor-Khaki. Therefore, proper materials must be study and search further. When adapting this idea to other scale or small buildings, the design should be re-design or re-organized to suit the conditions. This might be a new investigation afterwards.

6. Acknowledgements

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