

ENHANCE A DESIGN AND MANAGEMENT ONE STOP GAS STATION TEBING TINGGI CITY

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ABSTRACT

The city of Tebing Tinggi was currently has reformed to become a metropolitan city after the city of Medan in North Sumatra. The high mobility of the population makes the transportation system very important. At present the growth of transportation modes is so rapid, once of the important things in this mode of transportation is the fuel station Pabatu, Padang Hulu, Tebing Tinggi, Kutha Tebing Tinggi, Sumatra Lor. maximum use of gas.

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1. INTRODUCTION.

Indonesia as the largest archipelagic country in the world has a wide sea of around 5.8 million km² and a coastline of 91,181 km (World Resources Institute, 1998) which contains fishery and marine resources that have great potential to be the foundation of resource-based economic development natural power. This situation places Indonesia as a country with a fishing population the big one. By government programs that want to maximize the potential of fisheries and marine in Indonesia (Lestari & Alamsyah, 2019).

Thus, fishermen are an important community, because around 70% of Indonesian people's food is fulfilled from fish protein caught by fishermen (FAO, 2014). But the problem that fishermen often complain about every day is BBM problem. The geographical condition of Indonesia, which consists of thousands of islands, causes the distribution of fuel oil (BBM) especially for fishermen in remote island areas to be difficult to reach and hampered fuel distribution (Omax et al., 2020).

Along with the times, human needs for transportation facilities are also increasing. This resulted in the number of vehicle owners and the number of vehicles themselves getting bigger. The increasing number of motorized vehicles will have an impact on increasing the demand for fuel oil (BBM). SPBU (Public Fuel Filling Station) is a public infrastructure provided for the wider community, to meet fuel needs (Vora et al., n.d.).

One of them is PT. Pertamina is a state-owned energy company, which owns most of the Fuel Filling Stations in Indonesia. Currently, there are many filling station competitors. Pertamina offers several services at gas stations, one of which is the application of the self-service concept. This concept becomes a problem when many drivers don't know how to operate the fuel hose handle, so the queue runs slowly (Elshabrawy & Robert, 2019).

Another weakness, of the concept of self-service, namely the driver can no longer fill up a full tank of gasoline because before filling the tank the driver first determines how much to buy. If the driver does not know the vehicle's gas tank needs and only makes an estimate, when the estimate is missed and there are too many, the driver must give up the rest for the gas station, without being able to ask for it back. Therefore, the researcher wants to redesign a refueling station with a self-service concept, by changing the appearance of the design to make it easier for users of the refueling station. About the background, the formulation of this research is how to optimize the design of refueling stations with the concept of self-service (Page et al., 1998).

it changes the conventional payment system at gas stations by using smart cards and this research discusses testing the sensor circuits used in the design of independent gas stations. In this final project a self-service petrol station is designed (Benoudjit et al., 2016).

The correlation that can be drawn from this research is the prepaid system. Because it has similarities with the research that will be carried out, namely redesigning gas stations with self-service that uses a smart card-based prepaid system. Another study by Sung Wook Jung, et al [2] with the research title "Self-Service Model Considering Learning Effect: Self-Service Gas Station " discussed the self-service system used at gas stations in Korea. With a systematic and quantitative model predicting the

performance of self-service system companies, which are focused specifically on gas stations. Through performance measurements, such as the average number of customers, average waiting time, and Utilization are observed, depending on the change in price difference and helper operating time. The correlation that can be drawn from this research is self-service or self-service.

This research departs from the enactment of national policies, namely One Stop Service (OSS). the service are refueling activities, oil changes, rest areas, and others. The process is carried out in an integrated manner in one place by adhering to the principles simplicity, transparency, accountability, ensure certainty of cost, time, and procedure clarity. Government acting as necessary service providers improve the quality of service with priority of community needs as user. This is very important to remember Community satisfaction is the benchmark of community service success provided by the government. The government is well aware of that today's society needs it good service to fulfill growing needs (Mayasari & Ramdhan, 2013).

Licensing services with an integrated system this one door (one-stop service). shorter licensing times. The reason is with administrative management based on information technology, data input enough to do once and the administration can done simultaneously. As is OSS system policies, all permits and non-licensing authority districts/cities can be served in one institution. The hope to achieve this is promote economic growth through increased investment by giving greater attention to the role of business micro, small and medium.

2. LITERATURE REVIEW.

2.1. One Stop Service (Integrated Services One Door)

OSS is activity administration of licensing and non licensing based on delegation or delegation of authority from the institution or authorized agency licensing and non-licensing processes management starts from the stage application up to the issuance stage documents in one place. OSS is one such program government for improvement public service, cutting bureaucracy licensing and non-licensing services and as an effort to achieve good government good governance and proclaimed since 2006.

One of the most important discussions in Human-Computer Interaction (HCI) is the user interface or User Interface (Carlsson et al., 2018), which is controlled by the user to carry out the functions contained in the system.

2.2. Design Smart

It can be interpreted that the user interface is a combination of several elements of a system, users, and communication and interaction between the two, and users are only allowed to interact with the product. In its design, the user interface is required to be easily understood by users with different levels of proficiency in controlling the product. The role of the interface is also important in system usability (Lestari & Alamsyah, 2019).

The user interface focuses on anticipating what the user needs to do, and ensuring that the interface has elements that are easy to access, understand and use to facilitate those actions. The user interface brings together concepts from interaction design, visual design, and information. The elements used are by user habits and use consistent elements so that they can be predicted in their selection and layout.

This will help users and provide efficiency and satisfaction. User experience prioritizes user comfort and convenience. Good design can certainly have a positive impact on designers and users. Because the user will judge how appropriate the product is, and how well it fits the user's needs and expectations. According to Garrett (2000), user experience aims to define appropriate contexts and clarify relationships between elements as follows:

- a. Visual Design: Graphical interface elements,
- b. Interface Design: Design interface elements to facilitate user interaction with functionality as in HCI,
- c. 3) Information Design: Design the presentation of information to facilitate understanding,
- d. Interaction Design: Develop application flows to facilitate user tasks, define user interaction with functionality,
- e. Functional Specifications: Detailed descriptions of the functionality that must be included to meet user needs,
- f. User Needs: Goals identified through externally derived user research,
- g. Objectives: Business, creative or other derived goals.



Figure 1. Illustrated Of SPBU

2.3. Fundamental Concepts Of Design

The one-stop service gas station is an area that is used as all temporary resting places with various complete facilities that can be needed while on the toll road route. Some of the facilities available are places to rest, places to eat and drink, places of worship, places to refuel vehicles, places to service vehicles, and others.

The design of gas stations on high cliffs is a fulfillment of standard requirements. Design Function This functional approach is directed at studying the function of each building in this Type A Rest Area, which is an area that can be used by users of land transportation on the Semarang - Tegal Toll Road. This Rest Area is designed to have a facility function that can be used by all parties. The functions of the various activities and facilities provided are the main facilities, namely as a place to rest, support facilities, and service facilities where users can use existing facilities such as toilets, places of worship, various places to eat and drink, parks, workshops, relaxation facilities, or buy needs during the trip at the souvenir center / mini market, etc.

This function makes one unit in creating a Toll Rest Area that is proper and has complete facilities. Basic Philosophy Philosophically, Toll Rest Areas are supporting buildings in toll road lanes that are provided for toll road users that can provide a comfortable place to rest. With this facility, it is hoped that users can relieve fatigue from long trips while on toll roads. In addition, to make this facility a comfortable place, the landscaping must be good. Proper landscape arrangement in a rest area aims to make it easier for users to access the facilities available in the rest area.

3. METHOD

The application of a modern minimalist concept in the form of inner space design is also by the characteristics of modern architecture in the form of a form that follows function so that the arrangement of space prioritizes the function and character of each facility. Honesty in the use of materials is also applied to buildings, namely the final facade of the building according to the material used, as well as the color on the facade which tends to be monotonous.

Honesty in the expression of the structure can be seen from the columns that are exposed without creating a false impression of the structural elements used. The application of the characteristics of this minimalist modern architecture is in the form of 1. Form Follow Function The characteristics of the form following the function in the building of this area are applied to the spaces planned in the building according to their function. So that the resulting formation comes from the arrangement of the spaces inside which are adjusted to the zoning of each facility. 2. Honest Use Of Materials Characteristics of honesty in the use of materials in buildings in this area is applied to avoid fakes. The use of building materials is more exposed/shown in buildings, but not in the interior of each facility in the building. This is due to the adaptation of buildings to various facilities that have different characters and characteristics so that the completion of the interior design of each facility is adjusted to their needs. 3. Honest Expressions of Structure The characteristics of honesty in the expression of structures in the buildings of

this area are applied to a very essential simplicity so that the building or structure is exposed. Then in the appearance of the facade of the building does not use ornaments because they are considered not functional, so this building displays the robustness of the structural system and structural materials.



Figure 2. illustrate Of Design

4. RESULT AND DISCUSSION

Site plan In making a site plan design is formed through the process of analysis, zoning, mass composition, and space requirements that have been carried out so that a site plan design is formed. It can be seen that the mass of the building is at the midpoint of the site with the entrance through the east of the site and the exit located on the west of the site. Having a road that can surround the building makes the design easier to reach if a disaster occurs, and has a parking area that can accommodate visitor activities and vehicles with a very large capacity.

The exit section is also used as a service area and facilities such as gas stations are separated from the main building so as not to disturb activities when activities are taking place in the main building. Architecture. A modern Minimalist is a form that follows the function of the building by the characteristics of modern architecture but the form of the facade of the building does not use ornaments because it is not considered functional. In addition, the use of materials that are applied tends to be monotonous to bring out the honesty in designing. Meanwhile, Green Architecture is a concept that focuses on comfort, energy saving, and buildings that are more durable and healthier for residents. The addition of green open space is also included in the Green Architecture concept because this concept prioritizes energy from nature. Using the concept of Modern Minimalist Architecture which is applied to interior design makes the interior design in Figure 9 and Figure 10 look simple but does not eliminate the impression of elegance. By using the dominant material of wood to elevate local wisdom.



Figure 3. Illustrate Of Workshop

5. CONCLUSION

The design of Rest Area Area located on the Semarang - Tegal Toll Road section is a design that provides a place for the community around the Semarang - Tegal Toll Road section which consists of several facilities such as vehicle rest areas, gas stations, mosques, cafes, workshops, and other supporting facilities expected can help the local area as a place to rest when visitors are traveling through the toll road. This design is a design produced from the stages of Synopsis, Pre-Final Project to Final Project Studies. The concept of this design is carried out with the approach of Green Building Architecture and Modern Minimalist Architecture. Its application is done in zoning, floor plans, circulation, and facades. It is hoped that this design can be useful and provide inspiration for readers.

REFERENCES

- [1] Benoudjit, D., Nait-Said, M. S., Drid, S., & Nait-Said, N. (2016). On-line efficiency improvement of induction motor vector controlled. *Advances in Electrical and Electronic Engineering*, 14(3), 247–253. <https://doi.org/10.15598/aeer.v14i3.1682>
- [2] Carlsson, A., Kuzminykh, I., Franksson, R., & Liljegren, A. (2018). Measuring a LoRa Network: Performance, Possibilities and Limitations. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*: Vol. 11118 LNCS. Springer International Publishing. https://doi.org/10.1007/978-3-030-01168-0_11
- [3] Elshabrawy, T., & Robert, J. (2019). Capacity Planning of LoRa Networks with Joint Noise-Limited and Interference-Limited Coverage Considerations. *IEEE Sensors Journal*, 19(11), 4340–4348. <https://doi.org/10.1109/JSEN.2019.2897156>
- [4] Lestari, K., & Alamsyah, B. (2019). *ENHANCEMENT TECHNOLOGY AESTHETICS*. 10(01), 47–53.
- [5] Mayasari, K., & Ramdhan, T. (2013). Strategi Pengembangan Agrowisata Perkotaan. *Buletin Pertanian Perkotaan*, 3(1), 21–28. http://jakarta.litbang.pertanian.go.id/ind/artikel/bptp/agrowisata_perkotaan_vol.3_no.1_2013.pdf
- [6] Omax, M., Pt, D. I., Dua, M., & Jember, T. (2020). *Analisis Post-Harvest Loss Pada Okra Dengan Metode ... Jurnal Agroteknologi Vol. 14 No. 01 (2020)*. 14(01).
- [7] Page, R. R., Gilbert, C., & Dolan, S. (1998). *A guide to cultural landscape reports: contents, process, and techniques* (Vol. 1). US Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program.
- [8] Vora, S. M., Bhatt, D. H., & Raval, H. (n.d.). *Outcomes of Harmonics & Its Reduction Techniques : A Comprehensive Review*. 222–227.