

# **Implementation of Pattern Design Pavement to Guide User around Department of Agro-Technology and Bio-Industry's Courtyard**

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## **Abstract**

Paver is a hard smooth surface, especially of a public area that can guide users to their destination. This study involved the research on design of pavement pattern using the selection of concrete material, the pavement design and colors stimulation. From site observation, users choose to walk around freely without the walkway guidance because the walkways are small. Therefore the objective of this study was to develop new idea and produce a decorative motion design of patterns to guide user to their destination. Survey questionnaire have been distributed randomly to a hundred respondents. Each walkway has a visual theme associated with the destination concept. The survey provided with different patterns that was related to each destination concept. After the selection on the pattern design was selected, the form were drawn, painted and finished with dolphin clear paint. This method of survey questionnaire is the best way to create a public park and to know what users need. Most of the respondents agreed that colours pattern design is one of the attractiveness element that is present to attract users to use the pathway and will evokes positive feelings. JAB Courtyard design of pavements guides user to the destination and installed high of the paving, need to make sure the courtyard surface are not flood after descend the rain.

**Keywords: Pattern design, Guide user, Pavement**

## **1.0 Introduction**

Paver is a hard smooth surface, especially of a public area that can guide users to their destination. They are applied by pouring a standard concrete foundation, spreading sand on top, and then laying the pavers in the desired pattern. Pavement in construction is an outdoor floor or superficial surface covering. In landscape architecture pavements are part of the hardscape and are used on sidewalks, road surfaces, patios, courtyards. The pavement can transformed into a boulevard, would then be able to accommodate both pedestrian traffic and as well as being a place for people to sit and rest.

Paving design can be a delight and need not involve expensive materials: a simple concrete slab is far better to concentrate expensive effects near

entrances, combine function and pattern, thereby transforming the functional elements of a design. Paving patterns can extend the architecture of a house into the garden. Paths can be abstract compositions in line, texture, form and color. Paving provides ground framework of a garden layout so it is fundamental to a good landscape design (Robert Holden, 2011).

Arrangement of repetition decorative motifs at pavement surface can create order. Landscape pattern perception and process, towards understanding patterns, it works as a decorative design. One of our most powerful urges is to make our surroundings attractive through the use of decoration, it is also interpreted as a style, a diagram used as a guide in making something and a standard way of moving or acting (Simon Bell, 2012)

A pattern apart from the term's use to mean template, is a discernible regularity in the world or in a manmade design. As such, the elements of a pattern repeat in a predictable manner. A geometric pattern is a kind of pattern formed of geometric shapes and typically repeating like wallpaper

The study fills in gap of art and architecture, decorations or visual motifs may be combined and repeated to form patterns designed to have a chosen effect on the viewer. Motifs are repeated in various ways to form patterns. Most simply, structures such as umbrella can be repeated horizontally and vertically. Architects can use and repeat decorative and structural elements such as columns, pediments and lintels. Repetitions need not be identical.

The study will provide guidance to the usage of pavement material such as concrete which is durable and long lasting. Also, it provides the aesthetic of public art elements on a hardscape that can provide attractiveness and the user needs. The site will only be publicly accessed which involved pedestrian walking around and there will be no vehicles or transportation around the pavement.

## **2.0 Methodology**

### 2.1 Research Methodology

This finding is a case study on the implementation of pavement pattern design to guide user to their destination at Politeknik Nilai. This research focused on how pedestrian uses the pavement to walk around the courtyard and how it is publicly accessed around the courtyard. Research has been analyzed started on the design phase which observes the problem on site using the site inventory and analysis that provide and pin point the problems that can be seen on site. This research was chosen because the information is easy to gather and be able to focus more attention to the study.

## 2.2 Research Design

The methodology that has been used started on design proposal at an early stage which is the site inventory and analysis phase. In construction lifecycle, site inventory was done to identify the problems strengths, weaknesses, opportunities and threats at the site. The design phase started by brainstorming and drafting the design ideas. After the brainstorming design, the final design will move to the actual conceptual plan. The conceptual plan of the design was given out to the users of the courtyard and has written down their perception and impression of the design. The final design will move to the preliminary, master plan, section and elevation, enlargement and its hardscape detail. This is to provide more detail view of the designs.

## 2.3 Target Respondent and Sample

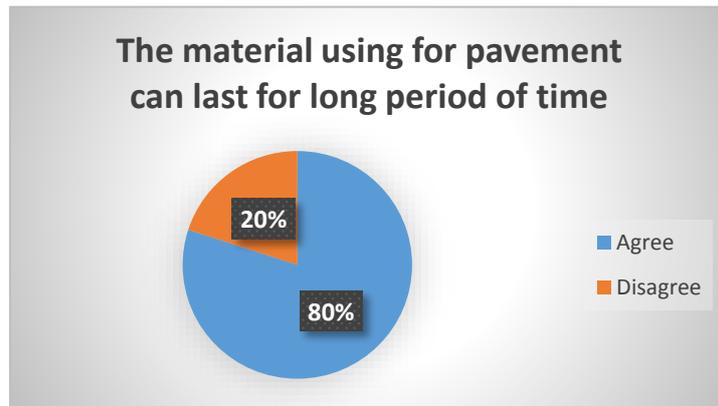
The population will be randomly chosen in the study area. 200 respondents consist of students, staff and worker at JAB courtyard, Politeknik Nilai. The duration for this research is about a week. All data collected were analysed with the percentage of respondents.

Questionnaire is design into two sections. First section contains the respondents demographic including their gender, race and age of respondent. The second section is to identify questioning particularly based to evaluate study on the implementation of pattern design to guide user around JAB Courtyard, Politeknik Nilai.

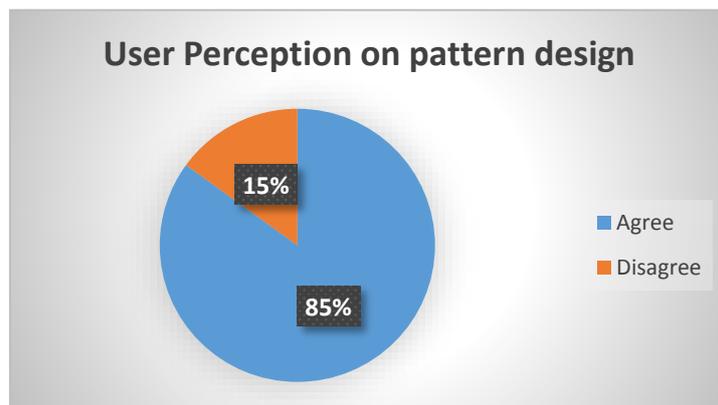
## 2.4 Research Instrument

Research has been designed based on a design and that analyses the problem on site. The instrument that has been used in this study is quantitative with the uses of questionnaires. There are also an open interview that has been done with lecturers as one of the users in this study, the structure used to collect data which are related to the study is provided. The 200 respondents among the users in the Politeknik Nilai were given the questionnaire and 3 of the respondents were interviewed to obtain the feedback of the case study.

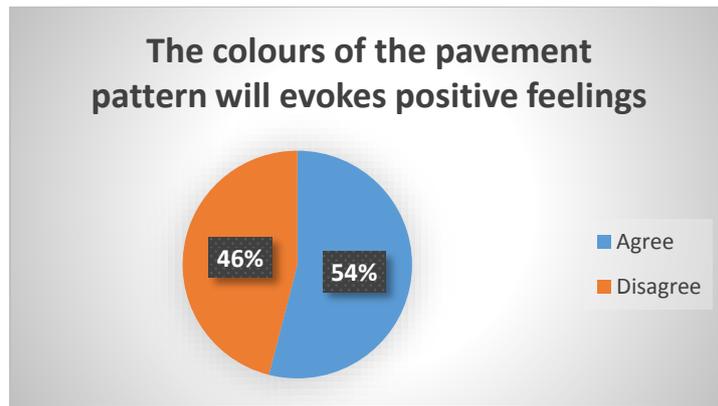
### 3.0 Result and Discussion



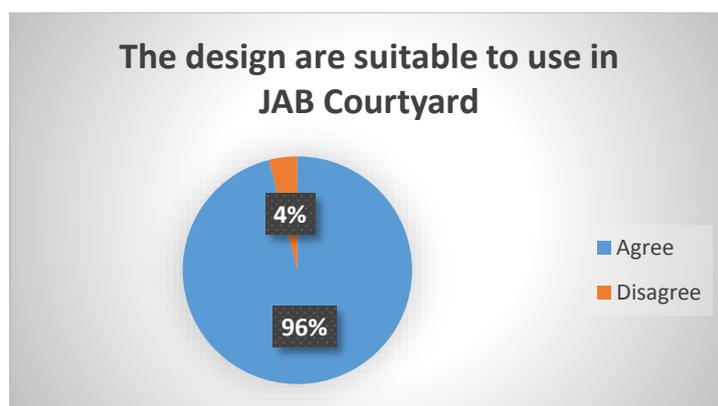
Based on the interview session and questionnaire survey, most of the respondents responds for implementation of pavement at JAB Courtyard have its benefits. The majority of respondents agree with the design of pavement at JAB Courtyard. The result of the survey shows that 80 % was agreed with material using for pavement can last for long period of time.



From the survey it was found the results of respondent's feedback on their perception on pattern design whether it is attractive or not. 85% of the respondents love the design of the pavement and 15 % disagree with the statement because it is too simple.



Based on the pie chart above, it can be seen the different responds about walk around the JAB Courtyard because of the colours attractiveness from respondent feedback. There are 54% respondent is agree with the colours attractiveness. Another 46% respondents is disagreeing with the colours attractiveness. The result shows that the majority of the respondent is agree with the colours attractiveness on pavement at JAB Courtyard is relative large than the respondents who disagree with the colours attractiveness.



From data collection showed 96% respondents agreed the design of the pavement is suitable to use in Jab Courtyard. More than 50% respondents agreed that the design of the pavement is unique. Furthermore, 64% respondents agreed that they have a liking to the design of the pavement. 80% respondent agreed that by stepping into the courtyard using the paver does provide an inspiring and fun surrounding to the users. Most of the respondents also agreed that by combining different concepts provide a harmonious and repetitive motion. The data collection showed, user pattern perception choose simplistic design that looks more organized than small form of pattern that would make the pavement looks disorganized and overdone. Lastly, 78% of respondents agreed that a colour chosen is one of the attractiveness elements that are present to attract users to use the pathway. Moreover, 59% of respondents agreed the colours of pavement pattern will evoke positive feelings.

## 4.0 Conclusion

Base on the survey facilities provided at JAB Courtyard in Nilai polytechnic as a platform to make all the students comfortable while though their relaxation and suitable with the decoration landscape at the JAB Courtyard. Design of pavement that is suitable at JAB Courtyard is the main point as a solution. But from our survey, there are many students agree with the pattern design of pavement at JAB Courtyard.

To sum up, each pattern design has same format. First, there ia a picture that show a representative example of pattern. Second, each pattern has a introductory paragraph, just by following the pattern you are entering a journey to a place with sets the context for guide description. By following each destination concept, the patterns are in an order and well integrated.

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# APPENDIX



Figure 1: Questionnaires was distributed randomly to target respondents

NO	DESIGN	NAME
1	<p>15 MM Styrofoam Joint Concrete Platform with Exterior Brown Color Paint and Dolphin Clear Paint finishes 90 MM THK Concrete Walkway</p>	SHELTER DESIGN
2	<p>15 MM Styrofoam Joint Concrete Platform with Exterior Green Color Paint and Dolphin Clear Paint finishes 90 MM THK Concrete Walkway</p>	PLANTING DESIGN
3	<p>15 MM Styrofoam Joint Concrete Platform with Exterior Blue Paint with Dolphin Clear Paint finishes 90 MM THK Concrete Walkway</p>	IRRIGATION DESIGN

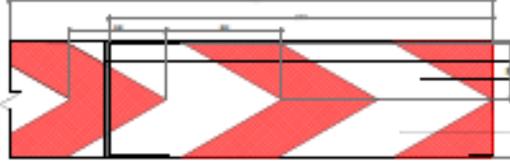
4	 <p>15 MM Styrofoam Joint Concrete Pattern with Exterior Yellow Paint and Dolphin Clear Paint finishes 90 MM THK Concrete Walkway</p>	SEATING DESIGN
5	 <p>15 MM Styrofoam Joint Concrete Pattern with Exterior Red Color Paint and Dolphin Clear Paint finishes 90 MM THK Concrete Walkway</p>	OFFICE DESIGN

Figure 2: Types of design on Pavement Pattern

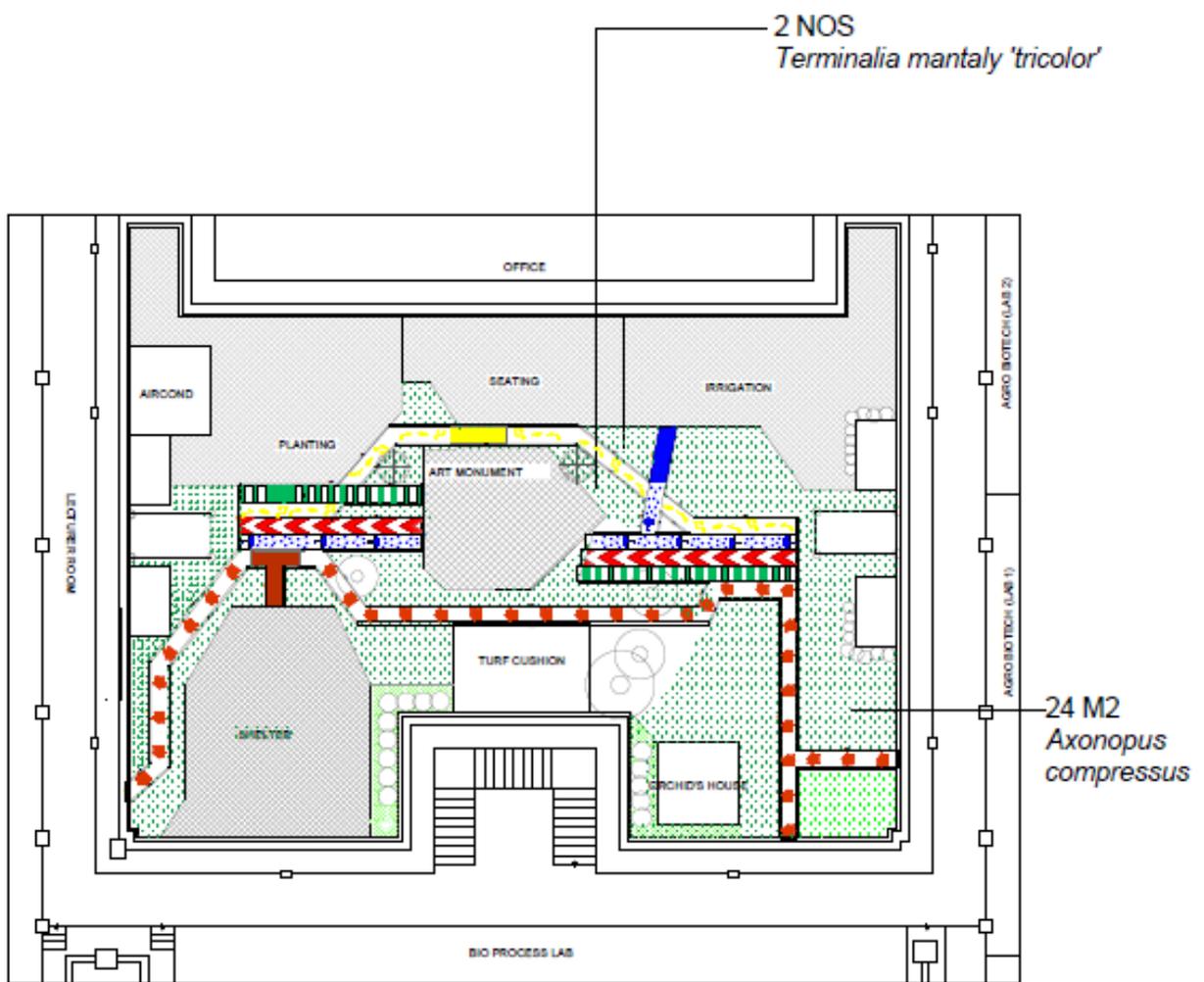


Figure 3: Plan View of Pavement Pattern Design

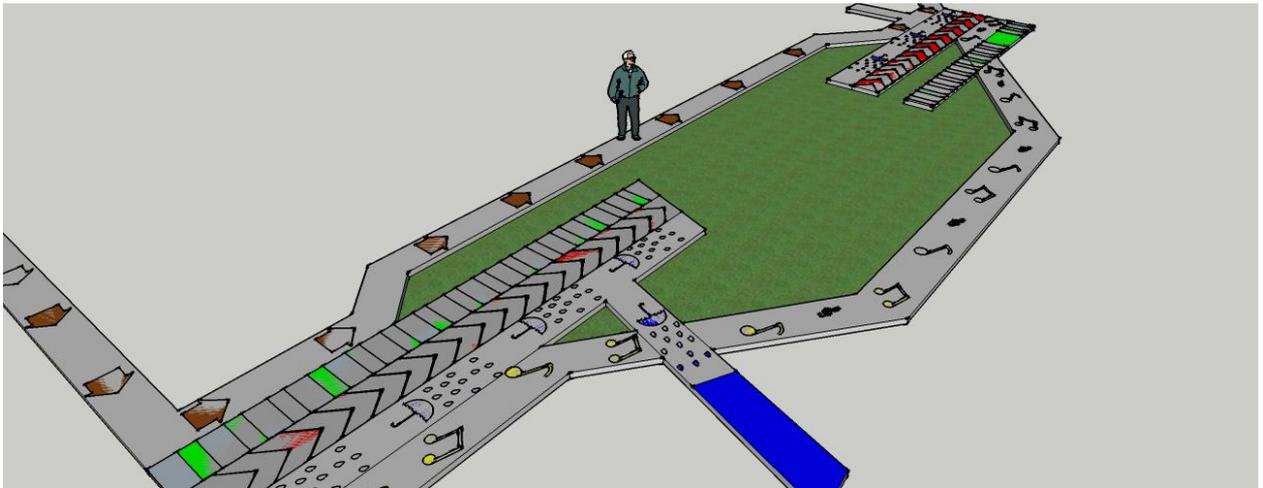


Figure 4: Bird Eye View Perspective



Figure 5: The finishing work done