DEVELOPMENT OF 3D SIMULATION HOUSE BASED ON WEBSITE AS MEDIA PROMOTION (STUDY CASE AT PERUMAHAN PERTIWI LAND)

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ABSTRACT

Perumahan Pertiwi Land is a company engaged in the sale of the house, which has a concept as comfort and safe environment. In order to promote it's business, Perumahan Pertiwi Land still lack promotion's strategy. 2D brochures is still used as media promotion and not yet used custom order's system, which prospective buyers could choose their own raw materials for the house so they could calculate the budget for the house to be purchased.,

To solve these problems, some solving problem's is made by build an application that could simulate3D of house situation using custom order to determine house's material so it would allow potential buyers knows basic price of the house..

Construction of housing website application simulations is expected as an appropriate interactive promotion media of Perumahan Pertiwi Land management.

Keywords: Custom order, budget, House 3D Simulation

1. INTRODUCTION

1.1 Background

The house is a necessity for the community. Home physically building that serves as the residence livable, family coaching means, a reflection of the dignity of its inhabitants, as well as an asset for the owner. While housing is a collection of home as part of a residential neighborhood consisting of more than one housing unit that has the infrastructure, facilities, public utilities, as well as having other functions to support activities in urban areas or rural areas.

Based on the results of interviews with Mr. Hendydy Kwik as the General Manager of the housing Pertiwi Land expressed need for people to buy a house is constantly increasing, making it the intense competition between the housing from one another in terms of promotion, but the media campaign that used by marketing housing Pertiwi Land is still limited use of brochures, or a salesperson who explained to prospective buyers who will make purchases of houses offered manually. Sales only describes the type of house and the house facilities in general and the photo shows an image of two-dimensional (2D) from the halls of the house provided. Prospective buyers generally tend to get bored listening to the explanation of sales and only shown some photos of the spaces of the house.

The next problem in the form of prospective buyers who in practice want the house to be purchased specially constructed (custom order). In general, they will send a sketch or an idea of basic building materials in the form of images on the paper will then proceed with the negotiation process. This process takes a long time for both the company and the prospective buyer had to adjust to the specifications of the house and the price offered. Seeing this situation, it was inevitable that companies require an application based website where prospective buyers can choose building materials desired while viewing the offer price, so that the negotiation process for a long time can be avoided, and prospective buyers can instantly make a purchase transaction desired house ,

Based on these problems, then the system of alternative media campaign which will be built using 3D simulation technology based websites. Based on survey results obtained by distributing questionnaires to 45 respondents, the prospective buyer claimed that 56 percent of respondents expressed a media campaign using brochures with 2D images judged to be effective as a media campaign. As much as 88 percent of respondents said they want to make modifications to the home as a benchmark price of homes that will be purchased. 80 percent of respondents stated that with the customized web-based system by utilizing 3D simulation technology can provide information more precise and accurate.

1.2 Objective and Purpose

1.2.1 Objective

The purpose of this study was to establish a web-based 3D simulation applications as a promotional medium Earth Housing Land by applying custom order as an aid in determining the building material at home that is expected to allow potential buyers to determine the benchmark price of the home to be purchased.

1.2.2 Purpose

While objectives to be achieved in this study are:

1. To help prospective buyers get information about the houses are bought precisely with interactive media and attractive promotions.
2. Provide a media in the form of a web-based application custom orders with home 3D simulation technology which can provide information as a benchmark for design and home prices.

1.3 Research Methodology

The research methodology used in this research using descriptive research method. The research method is a descriptive study that aims to provide or describe a situation or phenomenon that occurs at this time by using scientific procedures to address the actual problem [1].

1.3.1 Software Development Methods

In making this software uses software paradigm with methods The Classic Life Cycle (Waterfall). The reason for choosing the waterfall model because the process is very precise stages and appropriate in the development of software [2]. As in Figure 1 below.

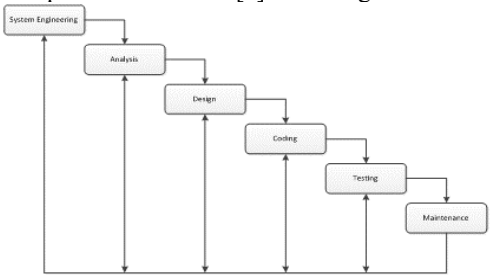


Figure 1 Scheme Model *Waterfall*

1.4 Promotion

A company's many activities do not only produce the product or service, set prices, and selling products or services, but many other activities that are related to one another. Promotion is part of marketing activities and is known as an element of the marketing mix (marketing mix). Promotion is needed by the company because on the one hand to convince consumers of the products offered, while, on the other hand will determine the success of the company to face competition in the market.

To understand more about the promotion, Swastha Basu said the sale as the flow of information or persuasion in one direction are made to direct a person or organization to act that created the exchange in marketing [3].

1.5 Advertising

According to Peter and Olson, stated that advertising (advertising) is the presentation of non-personal information about a product, brand, company or store that is done with a certain fee. In the ads are typically ditampakan sponsoring organization. Ads aimed at influencing consumer affection and cognition, evaluation, feeling, pengatahuan, meanings, beliefs, attitudes, and images related to the product and brand [4].

According to Basu Swastha defines advertising (Advertising) is a non-individual communication, with a fee, through a variety of media made by the company, non-profit institutions, and individuals.

1.6 Sales Promotion

According to Peter and Olson, sales promotion (sales promotion) is a direct stimulus aimed at consumers to make purchases.

According to Philip Kotler, sales promotion (sales promotion) is a form of short-term incentives to encourage the desire to buy a product or service [5].

Based on expert opinion that has been presented, it can be concluded that the sales promotion (sales promotion) is a marketing activity other than personal selling, advertising, publicity, ynag promote the effectiveness of consumers and merchants by using tools such as the demonstrations, exhibitions, demonstrations. It was done to stimulate consumer purchases malakukan.

1.7 Publicity

According to Peter and Olson, publicity (publicity) are forms of communication about the company, product, or brand marketer that does not require payment.

Furthermore Swastha According to Basu, publicity (publicity) can difinisikan as some information about a person, goods, or organizations that disseminated to the public through the media at no charge, or without the supervision of a sponsor.

Based on expert opinion that has been presented, it can be concluded that the publicity (publicity) is a form of presentation and dissemination of ideas, goods, and non-personal services, which people or organizations who benefit by not paying for it. publicity helpful untuk menumbuhkan citra positif terhadap perusahaan dan produknya.

1.8 Definition of House

Understanding home raised Budihardjo, among others: the house as a symbol and reflection of the values of personal taste inhabitants or in other words as the embodiment of identity, home as a place of familiarity diamana sense of belonging, togetherness, warmth, love and a sense of security created therein,

the home as a place we aloof and solitude, as a place to escape from the outside world, the pressure and tension, the house as a place to go back to the roots and foster a sense of continuity in a thread process into the future, the house as a place of major activities of everyday life, home as the center of social networks, home as a physical structure in the sense of the house is a building [6].

1.9 Multimedia

Suyanto said that multimedia becomes important because it can diapakai as a means of competition among firms [6]. Multimedia not only provide the text, but also to animate text along with sound, pictures, music, animation, and video.

According to Marshall, the multimedia system has four basic characteristics [7], namely:

1. The system is controlled by a computer,
2. is an integrated system,
3. The information handled digitally represented, and the interface on the final appearance of interactive media.

1.10 Website

According to Hidayat, the website is a whole web pages contained in a domain that contains the information. A website is usually built on a lot of web pages that are interconnected. So we can say that, understanding the website is a collection of pages. menampilkani information that is used for text, still images or motion, animation, sound, or a combination of these, whether they are static or dynamic that formed a series of interconnected buildings, each of which is connected to the networks of the page. The relationship between a one-page website with pages of other websites referred to by hyperlink, while the text which is used as a media liaison called hypertext [13].

1.11 Sweet Home 3D

Sweet Home 3D is a free interior design application that helps you place the furniture in a design house (home plan) two-dimensional (2D), with a preview of three-dimensional (3D). This app was released on November 16, 2006, and written with the Java programming language.

Sweet Home 3D may be operated on multiple Operating System (OS) such as Linux, Mac OS X and Windows. This application is a free app called due to have the GNU (General Public License), which allows users to get the copyleft and the emphasis on the application without having to buy a license from the application designer. This application is available in multilanguage, which is visible when the installation is done, where there is a tool to select the language.

The advantages of this application, (besides the General Public License that allows us as users get it for free) This application is simple to operate. Users simply drag and drop an object when setting furniture in their home interior design. When the object has been placed, it took just clicking and reordered to make the object change places, as well as change the position facing him. Another plus is the furniture and object library that is quite complete. As in interior design software in general, the completeness of furniture and objects can increase user creativity in designing an interior that is desirable, and it has been adequately represented by these applications [15].

1.12 MySQL

MySQL is a database software or application program, the software that can be used to store data in the form of text information and also the numbers [17]. MySQL is an implementation of relational database management system (RDBMS) that is distributed for free. Each user can freely use MySQL, but with restrictions such software should not be used as a derivative of a commercial nature. MySQL is actually a derivative of one of the main concepts in the database that have been there before; SQL (Structured Query Language). SQL is a database operation concept, especially for the election or selection and data entry, which allows the operation of the data is automatically done easily.

2. RESEARCH CONTENTS

2.1 System Architecture Analysis

The system will be built is a system as a promotional medium in Earth Land using 3D technology based website. Process on the system to be built using the software Sweet Home 3D object creation home.

In any system architecture consists of several components, namely: the user is a user who uses the website as well as to see the news, choose the type of house, doing customize, view prices and make simulations houses are bought in 3D. Users use computers and the internet to access the website. The following overview of the system architecture to be built can be seen in Figure 2.

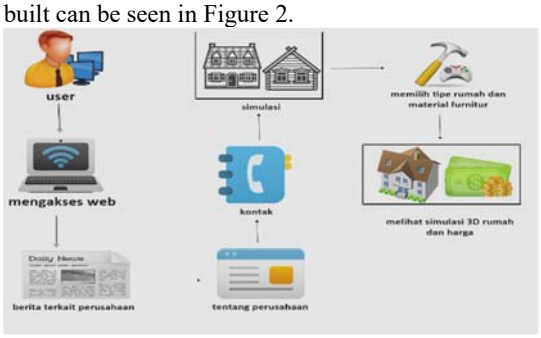


Figure 2 System Architecture

2.1 Network Analysis

Network analysis is analyzing the activities of existing websites and is used by the Housing Land Earth as one of the media used for future promotions.

As found on Earth Housing Land for sale home system network topology is a client-server topology. Konvigurasi this topology for the network to function properly. For mengkonvigurasi IP Address is set ISP (internet service provider).

2.2 Analysis of 3D Simulation

3D simulation analysis is the process of designing in building applications using the 3D simulation model of three-dimensional (3D) formed based on the real situation in the real world that will diterapkapkan on Earth Land Housing website development.

As for the system to be built on the application is with the following stages:

1. Application of 3D simulation of this house will be applied on Earth Land Housing website. Application of the Earth Land Housing website can be seen in figure 3

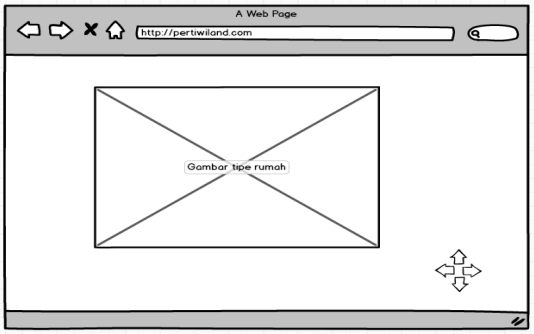


Figure 3 Simulation Application of 3D on the Web

2.Application of 3D simulation provides the option cutomize house so that visitors can choose from home furniture materials to be purchased at Pertwi Housing Land. Implementation can be seen in Figure4.

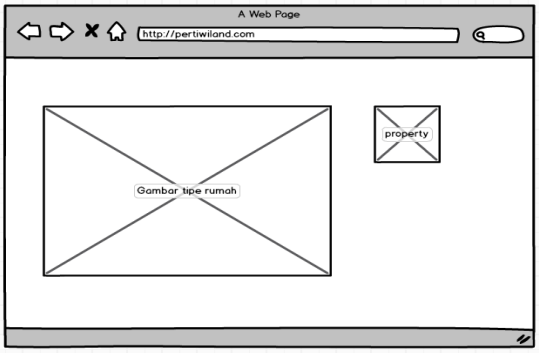


Figure 4 Application Customize the Home mode

2.1 Analysis of Non-Functional Requirements

2.1.1 Analysis Software Requirements

Needs analysis software (software) is very important in supporting the performance of a system, so that the software in accordance with the intent and objective of this application. Software specifications needed to run a home-based 3D simulation application website can be seen in Table 1

Table 1 Software Requirements Specification

No.	Software	Spesification
1	Sistem Operasi	Windows 7
2	Browser	Mozzila Firefox

The above table describes the minimum specifications required software according to application needs. Overall the software specifications have met the need to implement a media campaign on Earth Housing Land.The recommendations hardware specifications that can be used in Earth Land Housing adgar can be used in the promotion process is shown in table 2

Table 2 Software Requirements Specifications Required

No.	Software	Spesification
1	Sistem Operasi	Windows 7 Ultimate 32 bit, Windows 8
2	Browser	Mozzila Firefox 7.0, Google Chrome
3	Database	MySQL

The above table explains the recommendations regarding the specification of software (software) that can be implemented for use in the learning process that requires optimal seraca computer media.

2.1.1 Analysis Hardware kenutuhan

Analysis (hardware) is important in order to hold in the development of home-based 3D simulation of the website can run well, and in accordance with the needs of the application is built. The following standard specification hardware requirements needed by the Housing Land Earth can be seen in Table 3

Table 3 Specifications Hardware Requirements

No	Software	Spesification
1.	Processor	Intel Pentium 4 atau AMD Athlon 64
2.	Monitor	Monitor dengan resolusi 1024 x 768 pixel
3.	Graphic Card	VGA Minimum 512 MB
4.	Harddisk	80 GB
5.	Memory	Minimum RAM 1 GB
6.	Mouse, Keyboard dan Speaker	Standar

The above table describes the minimum specifications required hardware according to application needs. Overall the hardware specifications have met the need for mengimlementasikan media campaign on Earth Housing Land.

The recommendations hardware specifications that can be used in Earth Land Housing adgar can be used in the promotion process is as shown in table 4

Table 4 Specifications Hardware Requirements Needed

No	Software	Spesification
1	Processor	Intel Core i3 1.80 GHz
2	Monitor	Monitor dengan resolusi 1024 x 768 pixel
3	Graphic Card	VGA Minimum 512 MB
4	Harddisk	250 GB
5	Memory	RAM 4 GB
6	Piranti Pendukung	*Keyboard, Mouse, Speaker*, Koneksi *Internet* 128 kBPS

The above table explains the recommendations regarding the specifications of the hardware (hardware) that can be implemented for use in the learning process that requires optimal seraca computer media.

2.5 Use Case Diagram

Use case diagram is a model to describe the interaction of the relationships that occur between actors with the system. Target use case modeling them is to define the needs of the functional and operational use of the system by defining the application scenario to be built. In general, the interaction of the actors with the system can be plotted on the use case diagram in Figure 5

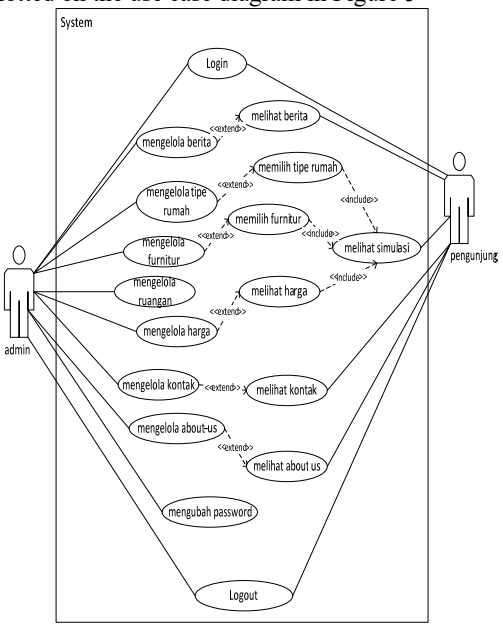


Figure 5 Use Case Diagram

2.6 Structure Design

2.6.1 System Design Visitor Menu

The menu structure is an easy way to understand the menu in a program. Here is an overview of the menu structure can be seen in Figure 6

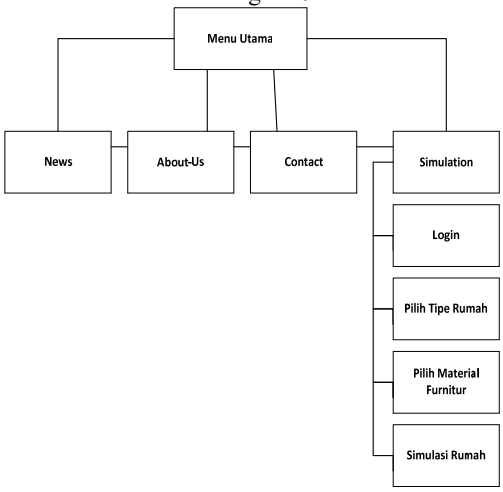


Figure 6 System Design Visitor Menu

2.6.2 System Design Admin Menu

The menu structure is an easy way to understand the menu in a program. Here is an overview of the menu structure can be seen in Figure 7

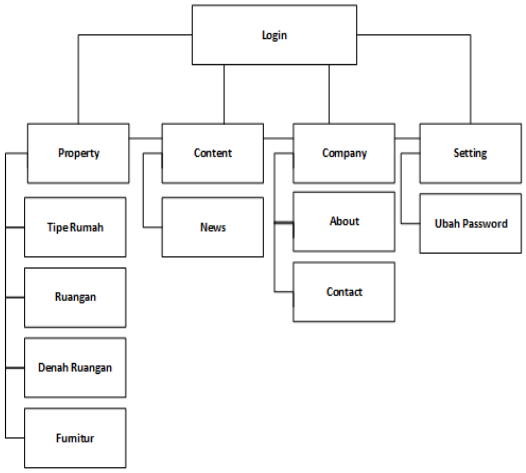


Figure 7 System Design Admin Menu

2.7 Semantic Network

Semantic network is to present the data mapping tool, which aims to prevent duplication of data.

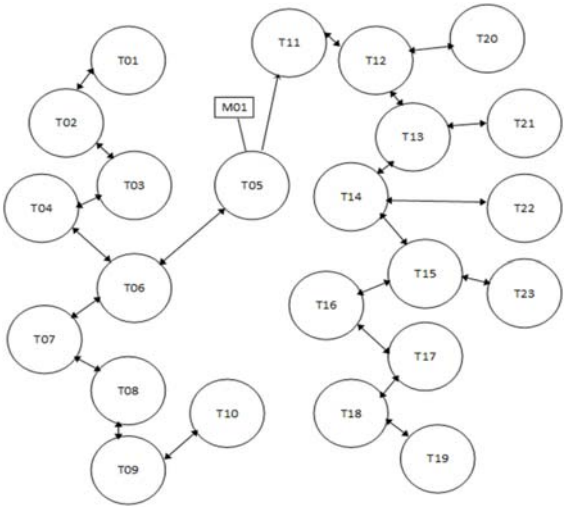
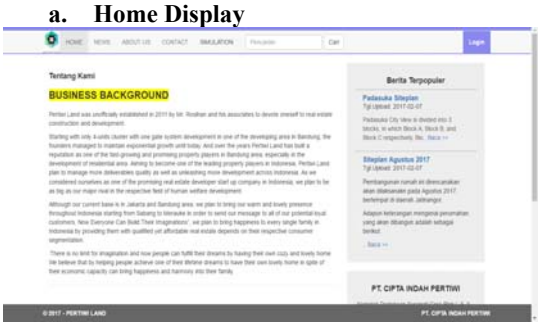


Figure 8 Semantic Network

2.1 Interface Implementations

a. Home Display



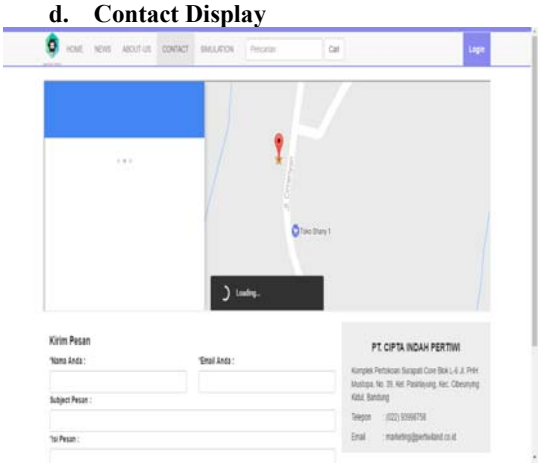
b. News Display



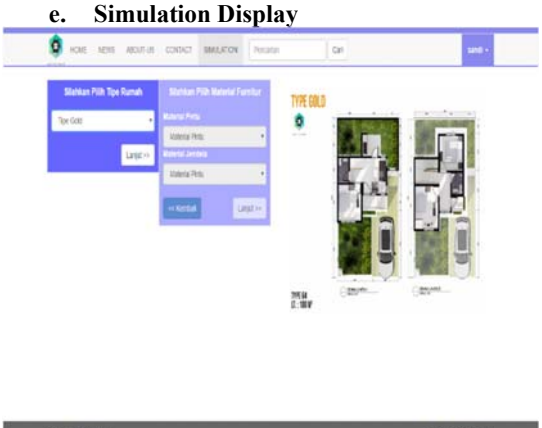
c. About-us Display



d. Contact Display



e. Simulation Display



f. Simulation Display After Customs



3. CLOSING

3.1 Conclusions

Based on the results of the implementation and testing has been done, then the conclusion of a thesis entitled "Development of Simulation 3D Home As Media Promotion Based Website" is to provide solutions for salesman and prospective buyers with this app prospective buyers are more interested in

buying a home because it is supported by the display application interesting and interactive and prospective buyers can find out the price of the house as a benchmark for purchase with their customized system.

3.2 Advices

In geography learning media application development is still far from perfect and there are still many shortcomings. Therefore, it is necessary for the development and improvement to meet the needs of users are increasing. As for suggestions for the development of future applications of this study are as follows:

1. The application is developed by adding a 3D image processing menu in the admin, so if there are additional home design admins can update the image via the website.
2. The application is developed by adding a simulation on other housing concept that prospective buyers can more easily determine which houses are bought.

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