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Property Exhibition Decision Support System Based on Web Application

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Abstract

Complexity in finding property on property exhibition which consider many related constraints is quite high. Customers need to spend much time to analyse the right property to buy depends on their constraints whether salary, distance to work, facility, etc. According to the problem, this research will collect the information from customer on property exhibition to find out the constraint. Also, this research will focus on design and analyses the decision support system for property exhibition. Software development life cycle that will be used is scrum which is divided into several processes like backlog, sprints, scrum meetings, and demos. The result of this research is a web application that help customer to collect the information of the property according to their constraints.

Keywords: decision support system, property exhibition, scrum

1. Introduction

House is one of the basic needs of human. Finding a right property is one of the most difficult problems especially in big city. Property exhibition is one of the best moments to find out the right property to buy. Manually the property exhibition takes a lot of marketers to marketing their property. But, it takes a lot of time and effort in order to analyze the right property that met customer constraints.

Technology nowadays is allowing us to find the right property according to several constraints based on web application such as rumah.com, rumah123.com, and rumahku.com. These systems are provided with several constraints that met the customer constraints for buying property. However, these systems are not build for property exhibition which made these systems cannot fully provide all the information customer needs. Below is the comparison table of these systems.

Dicision Support System (DSS) is interactive computer system or subsystem to help user make decision to solve user problem. By eliminate the constraints given and categorize the output, Decision Support System able to give the right result. DSS is using to decide something with a lot of constraints [6].

Table 1. Comparison Table of rumah.com, rumah123.com, rumahku.com and olx.com

Feature	rumah.com	rumah123.com	rumahku.com	olx.com
Search feature based on price range	Yes	No	Yes	Yes
Search feature based on developer name	Yes	Yes	Yes	Yes
Search feature based on income estimation	No	No	No	No
Search feature based on property area	Yes	Yes	Yes	Yes
Search feature based on google maps	Yes	No	No	No
Provided Property Credit Information	Yes	Yes	Yes	Yes
Provided Distance to Work Information	No	No	No	No
Provided nearby property area facility which collected from google maps	No	No	Yes	No

To increase the efficiency of the process, decision support system is one of the best solutions.

2.   Research Method
2.1. Decision Support System
Decision support system is an interactive system to help collect the data and information regarding the constraint given[1]. Decision support system is intended to collect the information and respond with the related result according to the information given which described by several questions [2]. Decision support system collaborate knowledge and information collected to provide accurate information to help user in decision making [1]. Decision support system has several benefits which are described [3]:

a. Focus on decision aspect
b. Produces better alternative solution
c. Respond quickly to the situation
d. Solves complex problems
e. Consider other options to resolve the problem
f. Search for solutions ideas
g. Utilize some analysis in solving problem
h. Have new insight into the problem and eliminate the early evaluation of choice
i. Implements various decisions and strategies
j. Using more precise data
k. Utilization of a better model
l. Consider the "What If?" analysis

In order to be able to find the right living place with a lot constraint from the people, Decision Support System is needed. By categorize and prioritize the human constraints in finding the right place, the decision support system be able to collecting the right living place according to the constraints given.

2.2. Questionnaires
Questionnaire is one of the instrument that can be used to collect feedback from user. A questionnaire can be collect by using mail or email, completed question on the web, or directly ask the user on the spot and hands it back. Questionnaires have the advantage of being cheap, but are more suited for simple and questions [5]. Questionnaire can be very powerful when organize with the right structure and directing user to a specific problem. By applied that concept, the response given could answer the problem with a better result [4],[7].

3. Results and Analysis
In this section, the picture of the web application is shows. The first picture shows home page of Sapukeru. The second page shows the search page of Sapukeru. On this page, the searching progress will be done. User needs to input and select their constraint about choosing the right place. The third page shows the list of the result which suits the requirement. The fourth page shows the detail result which contains the credit plan, facility near by (provided by the developer on database and take from google), the route in google maps, etc.
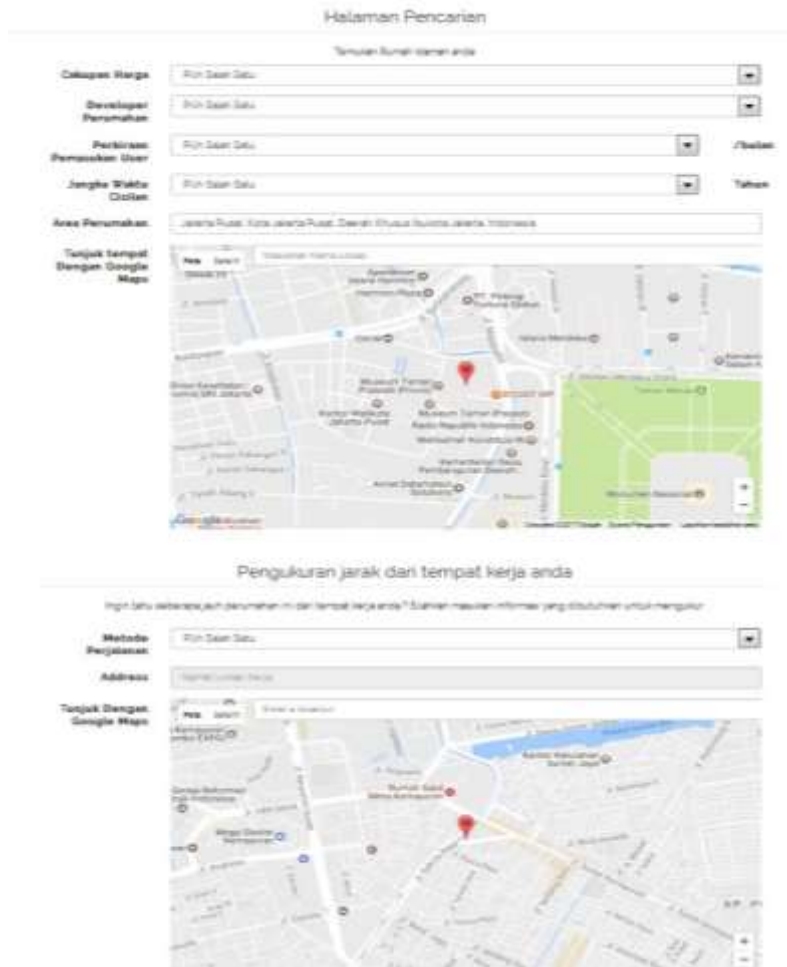

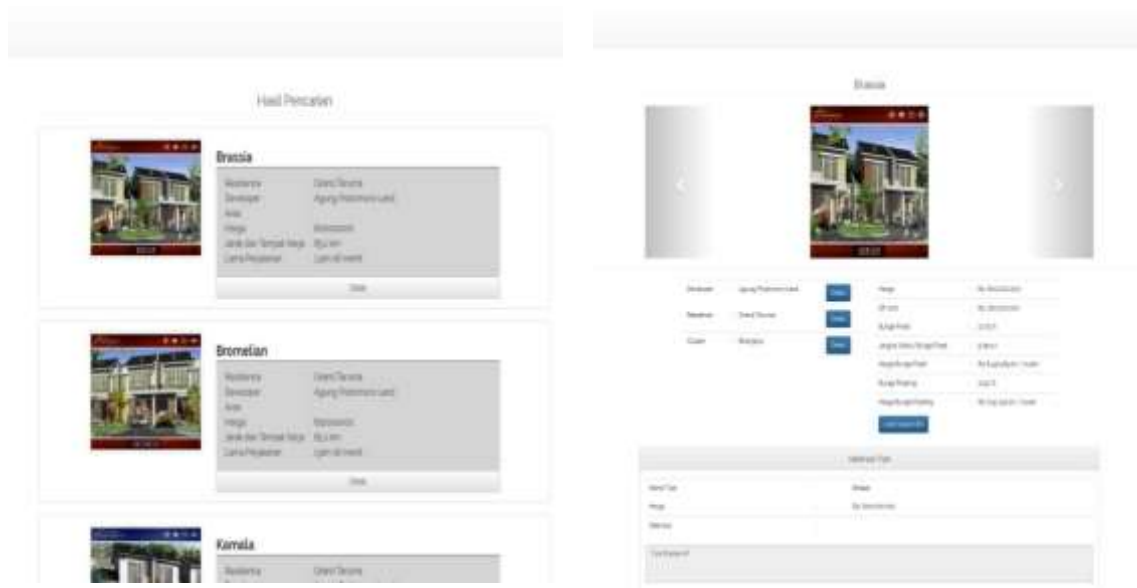Figure 1. Home Page of sapukeru

Figure 2. Search property's page

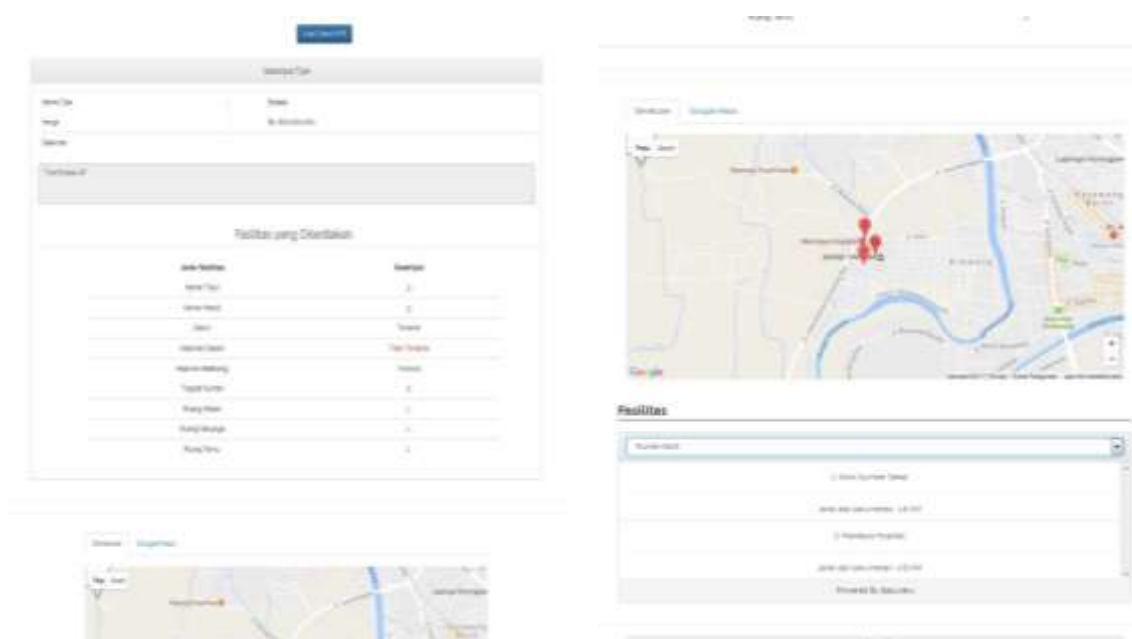Figure 3. Result of search property's page

Figure 4. Detail result of search property's page

The questionnaire result:
1. What is your gender?
    a. 71 Respondents are Male and 29 Respondents are Female.
2. What is your age?
    a. 34 Respondents are below 26 years old (34%)
    b. 32 Respondents are between 26 until 30 years old (32%)
    c. 6 Respondents are between 31 until 35 years old (6%)
    d. 5 Respondents are between 36 until 40 years old (5%)
    e. 23 Respondents are above 40 years old (23%)
3. What is your current job?
    a. 23 Respondents are student (23%)
    b. 45 Respondents are Employee (45%)
    c. 25 Respondents are Business Owner (25%)
    d. 3 Respondents are Unemployed (3%)
    e. 4 Respondents are Others (e.g. Freelancer, Freelance Teacher, etc) (4%)
4. Is this application easy to be used?
    a. 63 Respondents Agree (63%)
    b. 30 Respondents Neutral (30%)
    c. 7 Respondents Not Agree (7%)
5. Does the searching feature suit your expectation?
    a. 93 Respondents Agree (93%)
    b. 7 Respondents Not Agree (7%)
6. Does this application have a attracted design?
    a. 63 Respondents Agree (63%)
    b. 37 Respondents Neutral (37%)
    c. 0 Respondent Not Agree (0%)
7. Does the information provided help you to decide the right property to buy?
    a. 93 Respondents Agree (93%)
    b. 7 Respondents Not Agree (7%)
8. Do you interest in using this application?
    a. 69 Respondents Strongly Agree (69%)
    b. 30 Respondents Agree (30%)
    c. 1 Respondent Not Agree (1%)

4. Conclusion

According to the questionnaire given to respondent using clustering methods, the result shows that the respondent is interesting in this product, the respondent agree that the searching feature can fully provide the information constraints and give the satisfied result, and the respondent agree that the product increase the efficiency in the process of finding the right living place and cut a lot of wasting time in manual process while produce better analyze result suits consuments needs.

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