DEVELOPMENT OF KADOKU APPLICATION SEARCH FOR GIFT RECOMMENDATION BASED ON ANDROID

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ABSTRACT

Gifts is the grant of a person to another person as a reward or respect for anything he has done. Usually it is the granting of prizes towards the achievement and success of a person. In addition to awarding the prize in recognition of the success and pretasi person, gift-giving or gift could also be intended to commemorate the special day to someone, such as a birthday, wedding, anniversary, Christmas or Valentines day. Give a gift or Gifts is one way to unite hearts between giver and receiver. Prizes or Gifts given has its own meaning and purpose for the giver. Gifts that we give should be favored by the prospective recipient and certainly rewarding. Need a bit of instinct to know whether the prizes that we give will be favored by the prospective recipient. We often confusion to choose gifts or gift to someone. Doubt will be the candidate favored by the goods recipient often happens experienced by the giver. Need to understand the character of the would-be recipients to customize the items that made gifts or gifts will be favored or not. Based on these problems, then there will be built a recommendation system android applications to simplify the user specify the items to be purchased to be used as a prize or gift.

Keywords: *Recommendation, Gift*, Android.

1. INTRODUCTION

Gift or Gifts is the grant of a person to another person as a reward or respect for anything he has done. Usually it is the granting of prizes towards the achievement and success of a person. In addition to awarding the prize in recognition of the success and pretasi person, gift-giving or gift could also be intended to commemorate the special day to someone, such as a birthday, wedding, anniversary, Christmas or Valentines day. Give a gift or Gifts is one way to unite hearts between giver and receiver. Prizes or Gifts given has its own meaning and purpose for the giver.

Gifts that we give should be favored by the prospective recipient and certainly rewarding. Need a bit of instinct to know whether the prizes that we give will be favored by the prospective recipient. We often confusion to choose gifts or gift to someone. Doubt will be the candidate favored by the goods recipient often happens experienced by the giver. Need to understand the character of the would-be recipients to customize the items that made gifts or gifts will be favored or not. In addition to the confusion will be the Favorites of the goods we will give, there is also another problem. As such, rather the difficulty of knowing whether the goods to be presented, potential recipients have it already or not. Often we give gifts or gift item that is already owned by the recipient, so the gifts we give are not usable by the recipient.

Mismatch the budget we have also become an issue in the selection of a prize or a gift to someone. Often, we had trouble determining the goods that will be used as gifts or gifts due to the budget and the price of goods that do not fit. Look for items that fit the budget, require quite a long time to get it, because we should be looking for here and there.

Many sites online store which can be accessed through our smartphones to make it easier to get goods that will be used as a prize or gift. But, nonetheless we often confusion to determine the items to be made into gifts that match the recipient's favorite or not and the budget that we have or not. The suitability of the goods against the recipient's favorite can be seen from a number of factors, such as: sex, age, self – interest, lifestyle, character, and personality of a person.

Based on these problems, then there will be built a recommendation system android applications to simplify the user specify the items to be purchased to be used as a prize or gift.

1.2 Research Objectives

The purpose of this research was to build a search Application build Kadoku Android-based Gifts Recommendations.

The goal will be achieved from this research are as follows:

1. Provides recommendations of items – gift items that fit the characteristics and favorite receiver and giver of the budget.

2. Give a gift recommendations have not previously owned by the recipient.
3. Make it easier to get goods to be made into gifts with applications that connect with online stores in Indonesia.

2. THE CONTENT OF RESEARCH

2.1 Android

Android is a Linux-based operating system designed for mobile devices such as touch screen smartphones and tablet computers. Android was originally developed by Android Inc., with financial support from Google, who then bought it in 2005. This operating system is officially released in 2007, along with the founding of the Open Handset Alliance, a consortium of corporations hardware, software, and telecommunications that aims to advance the open standard mobile device. First Android phone went on sale in October 2008.

2.2 Recommendation System

Recommendation system is a system which is designed to predict an item that corresponds to the user's interest, which is where the item will be recommended to users. Prediction of user interest information can be retrieved based on user behavior or action patterns are often described as user profiles. On recommendation system, there are several items that are filtered for recommended to users based on user profile, rating scales, and others to produce some of the recommended items to the user. Currently many systems that have adopted the recommendation system on its application. As with any social media on twitter, facebook, youtube.com, amazon.com and others.

2.3 Discussion

Kadoku Search application Recommendations Gifts is Android-based applications that are built to ease users define the items to be purchased to be used as a gift or a gift for. .. However in the application there are still some problems. These issues include:

1. The giving of the gift or gifts is already done by humans since the first. Gift-giving activity in certain events, such as birthday, wedding, Christmas, Valentine's, and so on, have been performed by various people all over the world. But often our confusion to choose gifts or gift to someone.
2. Need to understand the character of the prospective recipients to customize the items that made gifts or gifts will be favored or not. In addition to the need to know what gift to suit one's character so that the gifts we give preferred, we also need to find out whether the goods we will give prospective recipients already have it or not. In order for the goods we will give you later, useful and well liked by the prospective recipient.
3. Suitability of any owned budget needs to be considered in the selection of the items to be purchased for gifts

2.4 Recommendation System Method

In the system there are three recommendation forms method used

in the stirring recommendation. The method of land are Content-based,

Collaboratif Filtering, and Hybrid Recomender system.

a) *Content Based Recommender System*

Content based methods makes recommendations with descriptions of each item analyzed to identify which items that have special interest in the relationship of a user. Description of user interest is obtained from the user's profile that is based upon an assessment of interesting or whether an item that is on recommender system.

Content-based recommendation system is a system which aims to estimate the information interesting for its users and helps prospective consumers in deciding what goods will be bought. This information are estimates of personnel based on the profile of the users of the system. User profiles are generally based on the assessment of the sturdiness of a interesting information has ever been read by the user. Recommendation system been widely applied to various models of electronic exchanges.

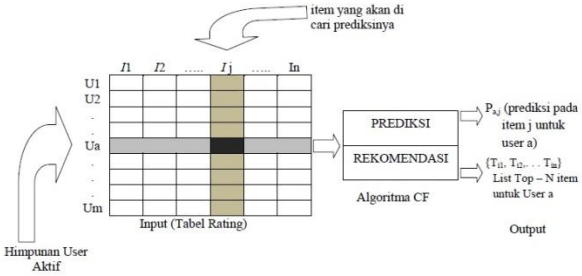
In General, methods of content-based filtering based on attributes of the user profile form-forming an item. For example for a document item, attribute constituent is the words/terms that are present in the document. User profile-forming parameters is also rated weighting based on certain criteria, for example in the case of goods is the frequency of a term/category in the document.

Content-based filtering provide a recommendation based on the results of the analysis of the similarity of the item which has been judged by its users. This method was originally applied in document recommendation system. Variations methods offered based on an analysis of the contents of the document and the search for order in a variety of documents. Another method of approach using classification methods with the aim of estimating the an item or text, for example, the preferred or disliked. Other methods also perform classification by performing a weighting of items or text in a numeric value.

b) *Collaborative Filtering Recommender System*

An approach of collaborative filtering recommends items to the user based on the correlation between different user rating against the item or transaction the user in the system. While the users rate the relevancy of the item, the system will use a particular user rating data to perform the calculation of prediction and provides recommendations of items that have never been dirating by the user.

Collaborative Filtering is the process of evaluating or filtering items using other people's opinion. On the process method of Collaborative filtering performs filtering of data based on the user's characteristics of behavior so as to provide the new information to other users because the system provides information based on the pattern of a group of users that are almost the same. The following is a schematic of Colaboratif Filtering in the grant recommendations to the user is active.



Picture 1 Collaborative Filtering

In this scenario there is a CF user list user m U = {u1, u2, ..., um} and list items I = {p1, p2, ..., pn}. Every ui user expresses his opinion about list items. A collection of sets of opinions it is called with a user rating of the ui and the Iui. After this system determines the closest neighborliness, then the system will represent items that might be
preferred user in two forms.
1. Prediction, is a numeric value where the Pa, j is the value of the item rating prediction j may be preferred by active users (Ua). The value of this prediction is used a scale equal to the value that is provided (for example, from a scale of 1 up to 5).
2. The recommendation is a list of N items would probably be frowned upon by user Ua. The recommended lists typically consists of items that have never been purchased or dirating by the active user. The output of the algorithm is also known AS
as Top-N Recommendation.

Figure 1 shows the schematic diagram of the process of collaborative filtering. CF algorithm represents the whole of m x n matrix items as user-rating where each entry is the value from the user's rating for each item. Active users (Ua) in this scheme is that users will look for items that might be of interest by using the algorithm of the CF.

According to the theory and use of collaborative algorithms divide Schafer filetering into two different classes, namely by using a probabilistic algorithm and non-probabilistic. An algorithm is considered the algorithm based on probabilistic model when it is probabilistic. The algorithm uses the opinions of others.

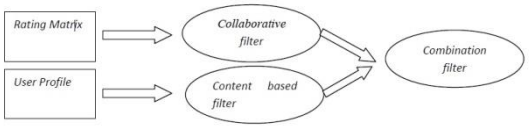
c) *Hybrid Recommender System*

Hybrid approach in general recommendations is to combine more than one method that exists on recommender systems, existing on a combination of these techniques for example by combining content based methods with collaborative filtering.

2.5 Hybrid Recommender System

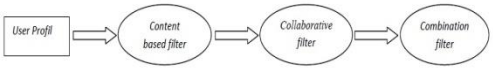
Hybrid Recommender System combines two or more engineering recommendations to get more accurate results. Hybrid Recommender System incorporates a method of content-based and collaborative to assist the limitations contained in both of these methods. There are several ways of merging can be done in a hybrid method that is:

1. Incorporation in the Liner (Linear Combination) of this merger combines the results of rating methods of content-based and collaborative. The merger was done by way of awarding ranking or rating. This merger is depicted in the following figure.



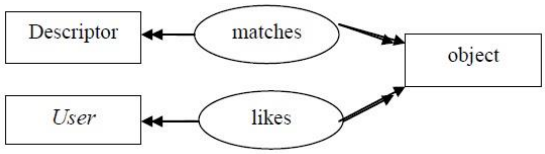
Picture 2 Combination Linier

2. 2. Incorporation in Sequential (Sequential Combination) Merging this doing calculations on one method (e.g. content-based) then the results were combined with other methods of calculation (collaborative). This merger depecited on the following Picture:



Picture 3 Combination Sekuensial

This is a Picture of the entity relationship model hybrid method

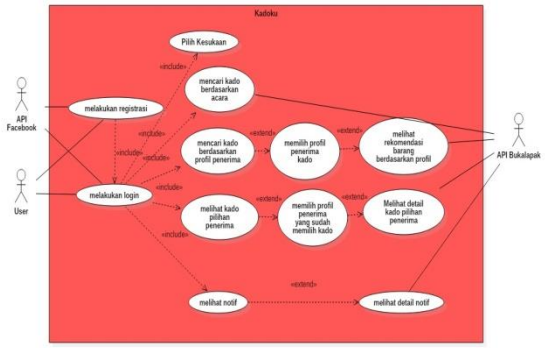


Picture 4 Entity Of Hybrid System

2.6 Use Case Diagram

Use Case Diagram is a construction to describe relationships that occur between actors with activities that are present in the system. From the analysis of the existing application users then use case diagram on mobile platforms can be seen in the

following Picture.



Picture 5 Use Case Diagram

2.7 Software Requirements Specification

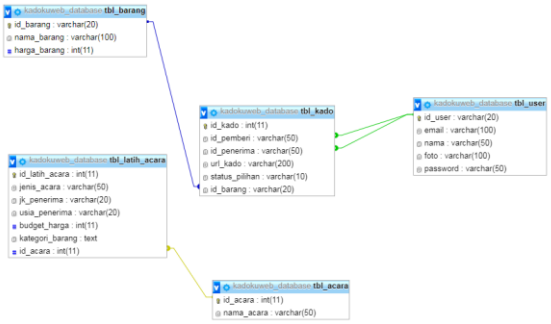
The following is a table of specification of software requirements Kadoku.

Table 1 Software Requirements Specification

Software Requirements Specification	
SKPL-F	Description
001	Mobile system provides facilities for the registration
002	Mobile system provides facilities to do login
003	Mobile system provides a facility for displaying list items based on the type of event
004	Mobile system provides a facility to display goods recommendations
005	Mobile system provides a facility to display based on the profile of the recipients of gifts recommendations
006	Mobile system provides a facility to choose the recipient's profile
007	Mobile system provides a facility to display the gift recipient options
008	Mobile system provides a facility to see notif
009	Mobile system provides the facility to view detail notif
010	Mobile system provides facilities for receiving from the API
011	Mobile system provides a facility to send data to the API
012	Mobile systems provide facilities for hobbies and favorite user input.

2.8 Scheme Relation

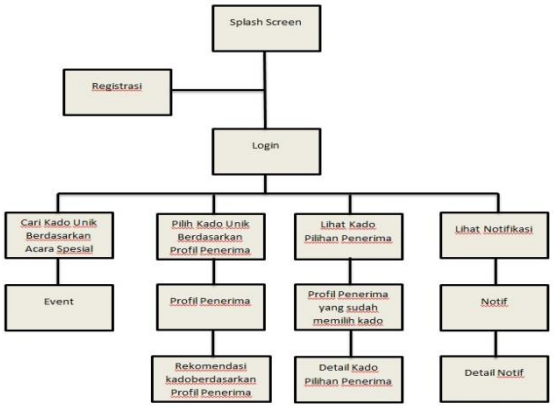
The Scheme Relation is a series of relationships between two or more Table in the system database. Picture Picturean is a Relation Schema database series on building this application.



Picture 6 Scheme Relation

2.9 The Design Of The Menu Structure

The design of the menu structure will be discussed in this section include the design of the menu on the application Kadoku. Here is the explanation:



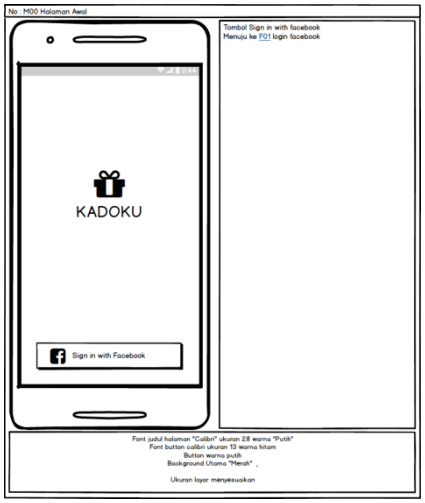
Picture 7 Design of Menu Sturcture

2.10 Design of Interface

The design of the interface describes a plan view of each display to be used on software Kadoku.

1. Design of Interface first page

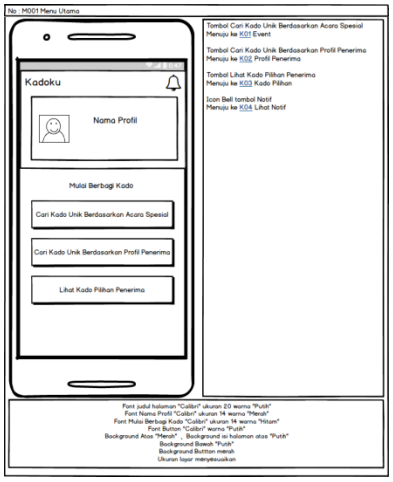
The design of the initial interface is the first page of the application at the time the user opens the application



Picture 8 First Page Interface

2. Main Menu design of Interface

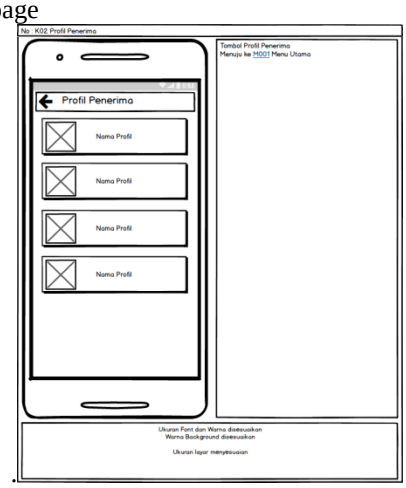
The design of the interface is the main Menu page when users access the main Menu



Picture 9 Main Menu design of Interface

3. The Design Of The Interface Of The Recipient's Profile

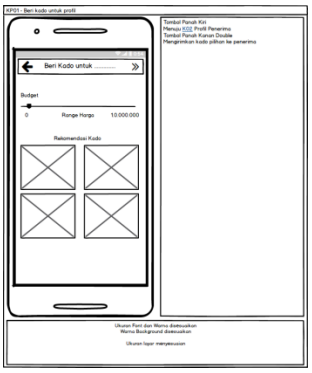
The design of the interface is the Recipient Profile page when the user is accessing the recipient's profile page



Picture 10 Design Of The Interface Of The Recipient's Profile

4. Interface Design Recommendations For Gift Recipient's Profile

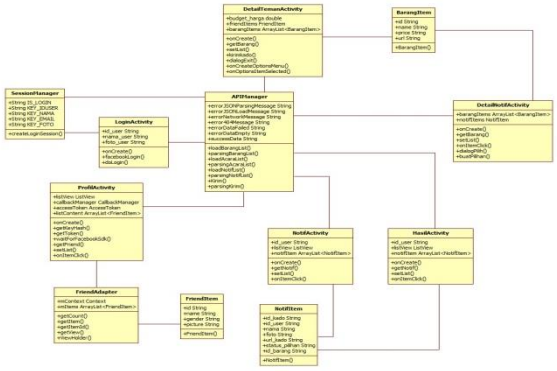
Interface design Recommendations For Gift Recipient Profile is a page at the time the user accesses the page Wrapping Recommendation For the recipient's Profile



Picture 11 Interface Recommendations For Gift Recipient's Profile

2.11 Class Diagram

Class diagrams describe the structure of the system in terms of the definition of the classes that will be created to build the software Kadoku. Picture Class Diagram Mobile Platform Software Kadoku, shows the structure of the class one is closely related with the other class.



Picture 12 *Class Diagram*

2.11 similar applications

Similar system analysis is activities that analyse the work system that occurs in similar applications. The result of this analysis is activities in the form of process flow and real Picturean order of the application process.

1. Kado

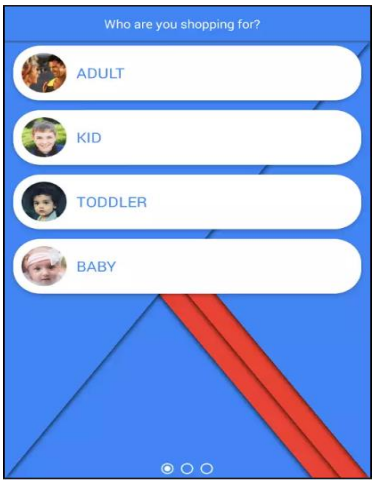
One of a kind that will dianalsis is an application called Gift. Gift is an application that helps users get the recommendation prize/gift. The user can get recommendations in the form of the type of goods in accordance with criteria that have been inputed by the user before



Picture 13 Kado

2. Gift Ideas

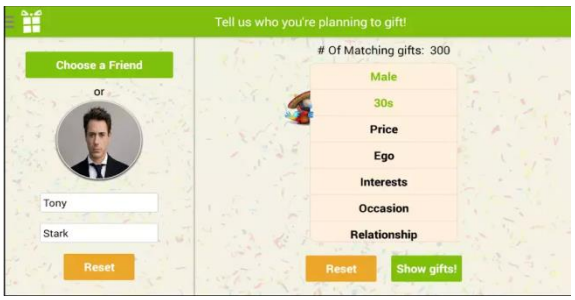
Gift Ideas is an application that helps users get the recommendation prize/gift. The user can get recommendations in the form of the type of goods in accordance with criteria that have been inputed by the user before.



Picture 14 Gift Ideas

3. El – Gifto

El Gifto is an application that helps users get the recommendation prize/gift. The user can get recommendations in the form of the type of goods in accordance with criteria that have been inputed by the user before.



Picture 15 El - Gifto

2.12 In Conclusion Alpha Testing

Based on the results of software testing that is done then it can be inferred that the software Kadoku on the android platform that is built has been running as expected either in terms of validation or process error handling.

2.12 The Conclusion Of The Beta Test

Based on the results of beta testing, it can be drawn the conclusion that :

1. Customers strongly agree applications Kadoku can help you find the appropriate gift recommendations Favorites.
2. Customers strongly agree applications Kadoku can help you find the gift budget recommendations.
3. Customers strongly agree applications Kadoku can help you find the gift recipient's previous recommendations did not have it.
4. Customers strongly agree this application can give a gift recommendation in accordance with the wishes of the recipient of the gift.
5. Customers strongly agree this application can make it easier to obtain and purchase the recommended item directly.

3. CLOSING

3.1 Conclusion

Based on the test results the search Kadoku App Android-based Gift Recommendations is then retrieved the following conclusions:

1. Making the application Kadoku for wrapping recommendation have been met since the system uses a hybrid system where the reccomendation method application generates a recommendation of goods – gift items that fit the characteristics/favorite receiver and giver of the budget.
2. The creation of mobile applications to give gift recommendations that have not been previously owned by the recipient has fulfilled since the data from application testing kusioner tourists get users can choose gift choice so avoid wrapping in the form of previously owned items.
3. Kadoku mobile application helps the user to simplify getting the goods to be made as gifts, because the application uses the API i.e. Bukalapak.com Indonesia online store

3.2 Suggestions

Advice that can be given to development of the system that has been created for further system development, namely:

1. Adding favorite hobbies and more complete.
2. The refinement application system with the purchase of the goods in the application using the API online store Bukalapak.com.
3. Fix the display interface to make it more interesting again for use.

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