Shopping Recommendations For Application Development Party Needs Android Based Mobile-Based Budgeting

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ABSTRACT

Importance in preparing the budget becomes a necessity by the user so that the party can proceed smoothly. The need to prepare the budget is certain to be a thing that is often overlooked. then adanya need for recommendation in the implementation of a good party with budget capacity possessed by the user. As some of the things that it takes from the place, goods, food, or souvenirs. As the results obtained from the questionnaire online that are stated approximately 72.2% of users require require any information regarding the goods on the needs of the party. Then about 57.1% of users have difficulties in getting recommendation to purchase the desired party needs within the budget you have.

The need for applications that can solve the above problems is to build an application angpao for consumers when it requires needs the goods a party on the android platform, one of them with utilizing GPS function that is in the mobile phone use of the site, for memeberi convenience to the user in accessing the place which provide for a party. Android becomes a choice in application development angpao because Indonesia was ranked first in Southeast Asia in the use of android with a market share of 94% (kompasiana.com). And GPS becomes a function of the application against angpao application for each location that provides the needs of the party, we can not know the address details and navigate to the site.

Based on the results of tests performed on the application is built, it can be concluded that the mobile system of software that is built has been running as expected both in terms of a test of blackbox and beta testing.

KeywordsAndroid, GPS, Recommendations, Budget, Party Supplies

1. INTRODUCTION

With the development of the party needs, especially in doing a birthday party, the funds into an interest note. Importance in preparing the budget becomes a necessity by the user so that the party can proceed smoothly. The need to prepare the budget is certain to be a thing that is often overlooked. Due to increasing demand for other interests and budget constraints owned by the user. The requirement becomes a very necessary thing, especially with budget constraints or difficulties in finding a recommendation of goods from the goods details like price, brand, or color.

In addition to the need to prepare the budget in doing a party, the note also is a convenience. One of the conveniences associated with the ease of the user in finding the party needs. Because users often find it difficult to find a place that provides the needs of the party. In addition to ease too, becomes the expected satisfaction, satisfaction with the existing budget with appropriate and satisfying needs in accordance with the desired expectations.

Then the needs of the budget limitations in conducting child's birthday party, celebrating a child's birthday is often made by parents who have limited funds become discouraged. Moreover, based on a lot of the party needs to be purchased. It becomes a problem because of their desire to do a birthday party, but the budget or the budget that is owned savers, with evidence obtained from (wolipop.detik.com) "How to Make Kids Birthday Party by Budget Saving" [1]. Kemudiaan with the results obtained from questionnaires distributed online to get the 72.2% require the preparation of the budget you have. Then with the other evidence cited from (qmfinancial.com) "Budget Married below Rp 50 million ??? Can! "[2].

The need for recommendation in the implementation of a good party with budget capacity possessed by the user. As some of the things that it takes from the place, goods, food, or souvenirs. As the results obtained from the questionnaire online that are stated approximately 72.2% of users require require any information regarding the goods on the needs of the party. Then about 57.1% of users have difficulties in getting recommendation to purchase the desired party needs within the budget you have.

With the increasing number of mobile users based on Android, evidenced from the results of questionnaires distributed online that 81.1% of the public is the Android mobile users. Then evidenced from the results of the survey stated that Indonesia ranked first in Southeast Asia in the use of Android

with a market share of 94% (kompasiana.com). Then the method of optimization algorithms used in penelititan, used to provide the optimal recommendation to the needs of the user. With the functions contained in it, with examples drawn from the existing case. It is expected that the goods were recommended to the user an optimal goods to be given to the user.

A system created with the use of GPS or LBS technology contained in any Android mobile so as to overcome the existing problems. Thus was made a research titled "DEVELOPMENT OF RECOMMENDATIONS FOR SHOPPING PARTY NEEDS ANDROID MOBILE BASED ON BUDGET". With the hope of assisting and enabling users to recommend kebuthan party, so that the party could be run with the maximum.

1.1 Applications

According Dhanta app (application) is a software made by a company computer to perform certain tasks, such as Microsoft Word, Microsoft Excel. Application is a computer program made to do and carry out special tasks of the user. Application is a series of events or commands to be executed by the computer. Is a collection of programs run by the instruction set processors, namely in the form of software. How can a thinking computer system regulated by this program. This program controls all the activities that exist in the processors. The program contains logic constructions made by humans, and has been translated into machine language in accordance with the existing format in the instruction set [3].

Applicationinto a medium required to perform this research. Which will be created with the aim to meet the needs of the party. With the benefit of a party can provide recommendations based on budget needs to users of Android-based mobile. So it can be easier for users to get the party needs.

1.2 System Recommendations

Recommendation is a form of communication as well as indirect promotion conducted by consumers who have never purchased a product or service which then tells of his experiences related to products or services to others. Recommendations in the form of suggestions that are advocating, justifying, or reinforce about something or someone. Recommendations are very important to convince others that something or someone is right and decent.

For example, when someone will use the services of an online shop. Usually they will see testimonials from people who have had dealings before, did much to recommend it or not. If a lot of positive testimonials, it will increase one's confidence to transact. Recommendations are usually made in written form such as product reviews and testimonials on the internet or in a more formal shape in the form of a letter of recommendation [5]. A recommendation system is an application to provide and recommend an item to make a decision that is desired by the user [6].

Recommendations into a function that is given to the user. With the aim that users can get the required party needs. This budget recommendation system is made available to users of Android mobile. So users can more easily meet the needs of the party on budget and give the location of the closest points of purchase.

1.3 The Party Supplies

Needs can be defined as everything that humans need to survive and gain prosperity and comfort in his life. Needs can be defined as everything that humans need to survive and gain prosperity and comfort in his life. Basically, human needs can indeed be said to be no limit for that stuff so much. To further facilitate the classification of these needs, these needs can be classified according to a variety of things, namely the requirement according to the nature, form, and subject [7].

One of the usual party is a birthday party. A birthday party is always synonymous with the festive and filled with happiness. Birthday parties themselves usually do setaip year as a form of gratitude for all the blessings that have been presented over the years. Guests who come will flock customarily bring gifts that appeal to the birthday, and then from that the homeowner will make every effort to present a memorable event for all invited guests.

Birthday parties can be celebrated at home with the concept that we can define yourself, and of course, we can save a variety of equipment in the birthday party, and here are beberapan birthday fixtures at home, including:

1. Party Supplies

a) Invitation cards
b) Birthday cake or rice cone complete
c) Candle
d) cake plate
e) cake knife
f) spoon the cake
g) hats circumference
h) paper mask

2. Souvenir Supplies

a) Thick plastic bag for souvenirs or can be replaced by small shopping bags.
b) Tape
Souvenir (users can choose according to the desire) [8].

1.4 Budget

The budget is a management tool for the planning and control of the company. Rudianto budget according to organizational work is planned

in the future are realized in the form of quantitative, formal and systematic While understanding the company's budget is a process of planning and control of company operations stated in an activity. Stated in an activity in terms of money which has the aim of projecting the company's operations in the financial projections [9].

1.5 Functions and Type Budget

According to the general Rudianto all functions within an organization can be grouped into four main functions, namely the function:

1. *Planning* (Planning).
2. *Organizing* (Organizing)
3. *actuating* (Moving)
4. *controlling* (Control)

Budget becomes an important thing in building this system. Thus, in the manufacture of the system can work well. Because budgets become a thing utma seen in running this system. Budget merupkan something to consider in building this application, because the budget becomes a major factor that could serve as recommendations given to the user.

According to the budget Nafarin can be classified into several types, as follows:

1. In terms of the basis of preparation
2. In terms of how to prepare
3. In terms of time period
4. In terms of field
5. The ability of composing
6. In terms of function
7. In terms of methods of determining the cost of products

1.6 Android

Android Android is an operating system for Linux-based mobile devices that includes an operating system, middleware and aplikasi.Android provides an open platform for developers to create their applications. Initially, Google Inc. bought Android Inc. who is a newcomer that makes software for smartphones. Then to develop Android, formed the Open Handset Alliance, a consortium of 34 companies hardware, software, and telecommunications, including Google, HTC, Intel, Motorola, Qualcomm, T-Mobile, and Nvidia. Broadly speaking, the architecture and the Android can be explained as follows:

1. *Applications* and Widgets

Applications and Widgets are associated with the application layer where the course, where usually downloaded application is executed and then do the installation and run the application.

2. *Applications Frameworks*

Applications frameworks This is the layer where application makers do the development / creation of applications that will run on the Android operating system, due to the application of this layer can be designed and made, such as contact providers in the form of sms and phone calls.

3. *Libraries*

*Libraries*This is the layer in which the features of Android are usually the makers of the app to access libraries to run the application. Walk up the kernel, this layer include a variety of library C / C ++ core such as libc and SSL.

4. Android Run Time Layer

Android run time is to create Android apps can be run where, in the process using Linux implementation [10].

1.6.1 Android Lollipop

The advantages contained in the Android version of Lollipop were:

1. Material design

Interface design bold, colorful, and responsive to a consistent and intuitive experience across all your devices.

a) Responsive, natural motion, realistic lighting and shadows, and familiar visual elements that have been easier for you to navigate your device
b) The bright new colors, typography, and images from edge to edge to help focus your attention.

2. Security

Keep your files safe.

a) The application of SELinux on all applications for better protection against vulnerabilities and malware
b) Use Android Smart Lock to secure your phone or Tablet to pair it with a trusted device like Android Wear or even a car.

3. Connectivity

Better internet connection anywhere and Bluetooth are more sophisticated and energy efficient.

a) Completion handoff which resulted in limited network connectivity disruption. For example, you can resume a video chat or VoIP calls without interruption when outdoors and to switch from Wi-Fi to mobile homes
b) Completion of the network selection logic so that the device can only be connected if there is a verified internet connection on Wi-Fi networks
c) Power-saving scanning for Bluetooth devices energy efficient ("BLE") such as Android Wear device or voice.
d) *Peripheral mode BLE* new [11].

The Android version used in the system built is the Android operating system version 5.0 (Lollipop), due to the many advantages and functions that can be used in order to fit and

maximum in making this recommendation system. So that applications can run well and sTable. With so many Android users as well today, with different types and brands of various companies.

1.7 UML

UML (Unified Modeling Language) is a standard language used in the industry to define requirements, making analysis and design, as well as describe the architecture of the object-oriented programming. In the development of software technology, is necessary to the language used to model the software that will be made and the need for standardization so that people in different countries can understand the development lunak.Pada device modeling object-oriented programming techniques, there arose a standardized modeling language for software development built using object oriented programming techniques, the Unified Modeling Language (UML).

UML emerged for their visual modeling needs to specify, describe, construct, and documentation of the software system. UML is a visual language remedy modeling and communication of a system by using diagrams and supporting texts. UML to be the method used in constructing this sostem for this system to approach OOP (Object Oriented Programming).

1.7.1 UML Diagrams

Every complex system should be viewed from different angles so that it can gain a thorough understanding. For these efforts UML consists of 13 different kinds of diagrams grouped into 3 categories. Here is an explanation speedy way of division category.

a) *structure* which is a collection diagram diagrams used to describe a static structure of the system being modeled.
b) *behavior* which is a collection diagram diagrams used to describe the behavior of a system or set of changes occurs on a system.
c) *Interaction* which is a collection diagram diagrams used to describe the interaction of the system with other systems and interaction between subsystems in a system.

1.8 GPS

GPS (Global Positioning System) is a satellite navigation system and positioning its owned and managed by the United States. The system is designed to give a three-dimensional position and velocity as well as information about the time, continuously throughout the world without depending on time and weather, to many people simultaneously. GPS has been widely used around the world in various fields of application that demands information about the position, velocity, acceleration or time carefully.
GPS receiver uses satellite signals to triangulate a position you would be determined by measuring the long journey time signals transmitted from the satellite, and then multiplying by the speed of light to determine exactly how much air the GPS receiver from each satellite. By locking signal is transmitted by a minimum 3 satellite signals from different satellites, aircraft GPS receiver can calculate the position remains a point that the earth's latitude and longitude position (Latitude and Longitude) or often referred to as a 2D fix.

Locking fourth satellite signal makes the best GPS receiver can calculate the position of the point elevation to the average sea level (Mean Sea / Level) or called a 3D fix and the circumstances are ideal for navigation [22].

1.9 LBS

*Location-BasedService*is an information service that can be accessed on mobile devices, which include the ability to know where the location of the user device and the ability to provide information about the services provided by their location at the time. According to J. Schiller LocationBasedService can be defined as "services that integrate mobile device's location or position with other information so as to provide added value to the user." Virrantaus defines LBS services as follows: "The information can be accessed by mobile devices through mobile services and utilize network the ability to utilize the mobile device's location. "Open Geospatial Consortium defines LBS services as follows:"

No information available services delivered to the LBS via 2 different modes, called "push" and "pull" .Pull Service: Service is provided on request of the customer will need an update. This type of service is analogous menggakses a website on the Internet network. While the Push Service: This service is provided directly by the service provider without waiting for a request from the customer, of course, keep the information provided relates to customer needs [23].

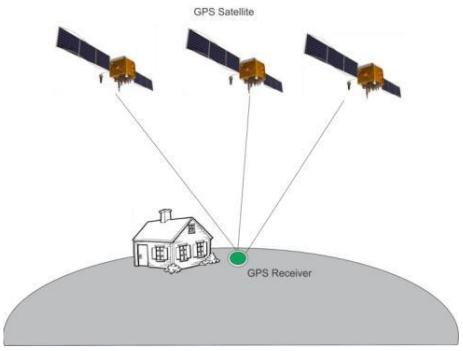


Figure 1 Line Of Sight

2. CONTENTS OF RESEARCH

2.1 System Architecture Analysis

The analysis aims to identify the system architecture architecture built on a mobile platform. The mobile platform is a system that was chosen for the development of this software. Architecture software on the mobile platform describes how the software interact with each other as illustrated in Figure 2 Software Architecture on the Android Platform. The image depicts the overall architecture of the system on the mobile platform.

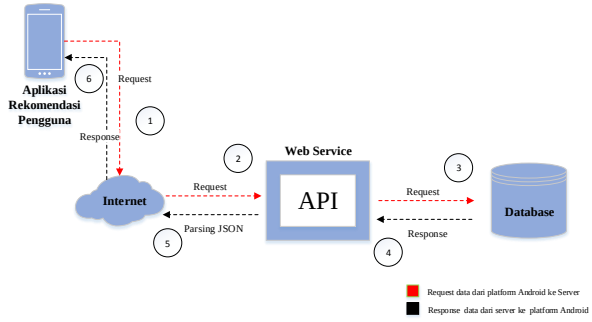


Figure 1 Software Architecture on the Android Platform

Berikut is a description of Figure 3 Architecture Software on Android Platform :

1. The mobile device user to log in on the application through the Internet to be able to use applications that have been built, with the validation of username and password are entered in the form provided, by taking the login data as well as from data already stored in the database.
2. Users enter a budget that is owned in the application to get on the party needs in the form of data already stored in the database to make the request via APIs that are inside the web service, in order to request the data back to the database to retrieve data.
3. After their request perangat data from mobile users to and accepted by the API, and API continued requests to the server, to retrieve the data already stored in the database. The server receives the request data from the API, then the server to retrieve data that is stored in the database.
4. After the server receives the request and obtain further data requested to respond back to the API, which aims to make the data that have been obtained from the database can be sent to the user.
5. The data have been received and obtained from the database, and then later for response via the API via the Internet, to be accepted by smartphone users, because without an internet connection, the data will not be in response to the user. The next will be in the response back to the user's smartphone with parsing the data with the process of changing the form of JSON to then be received and given by penggguna smartphone.
6. Once the data received from the database and then with their conversion in the form of JSON, then the data will then be displayed to the user.

2.2 Non-Functional Requirements Specifications

Here is a non-functional specifications that can be seen in Table 1 Non-Functional Requirements Specifications,

Table 1 Non-Functional Requirements Specifications

code SKPL	Software Requirements Specification
SKPL-NF-001	The system was built using the mobile system
SKPL-NF-002	Minimal system built using the android operating system version 5.0 Lollipop
SKPL-NF-003	The system was built utilizing the GPS function.
SKPL-NF-004	Systems built with the hardware specifications that meet minimum standards needs

2.3 Analysis of Non-Functional Requirements

Analysis of non-functional requirements on these systems include software analysis, analysis of hardware.

1. product Requirement

   Here is a non-functional requirements based on product classification requirement.

a. SKPL-NF-001 system built menggun
b. mobile systems.
c. SKPL-NF-002 minimum system built using the android operating system version 5.0 Lollipop.
c. SKPL-NF-003 system was built utilizing the GPS function.
d. SKPL-NF-004 system is built with hardware specifications that meet minimum standards requirements such as:

2. User Analysis

Analysis of system users for the purpose of knowing who the users involved in the running of the system, so as to know the level and the user's understanding, Can be seen at Table 2 User Analysis

Table 2 User analysis

No.	users	characteristics
1.	Buyer	a. Can operate smartphone b. Having skills in using the Internet
2	Administrator	a. Able to operate computer and android devices b. Have experience using the internet c. Can use a browser such as Mozilla Firefox, Google Chrome and Internet Explorer

2.4 Functional Needs Analysis

Analysis of the functional needs of the system will be discussed in this research that the Functional Needs Analysis Mobile,

1. Use Case Diagram

Use Case Diagram is a model to describe the way of the software created. This diagram shows a set of use cases and actors (a special type of class). This diagram is very important for modeling the behavior of a system that is needed and expected to users.Line owned connectedness Use Case Admin form of sending and receiving data via API can not be described to facilitate the reading diagram. Followingis Figure 4 Diagram Use Case,

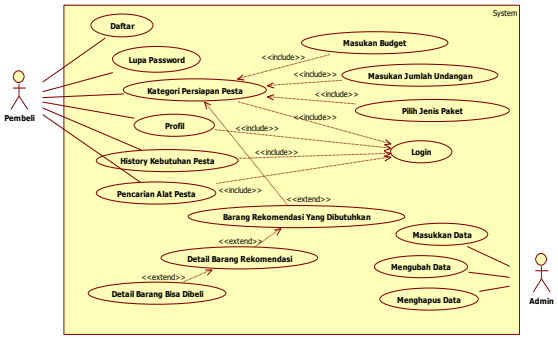


Figure 3 Use Case Diagram

2.5 Definition Use Case

On the Use Case Definitions Table 3 lists the use cases and a brief description of the use case.

Table 3 Definitions Use Case

No.	Use Case	Description
1	List	The system displays the form for the user list comprising full name, email, password, and repeat password.
2	Login	The system displays the login form for users, consisting of e-mail and password
3	Forgot the password	The system displays input for users forgot password consisting of input email
4	Preparation category Party	The system displays the categories of preparations for the party needed
5	Put Budget	The system displays the budget input for users who will buy the goods
6	Feedback Total Invitation	The system displays the input number of invitations for users who would buy goods
7	Select Package Type	The system displays the type of package that will be selected for the user
8	Displays Recommended items	The system displays the items needed for user recommendations
9	Displays Details	The system displays detailed information on the goods to be purchased for a user manual
10	Info Item Details can be Purchased	The system displays detailed info goods can be purchased for users who wish to purchase the product.
11	Profile	The system displays information from user profiles serve targeted.
12	History Party Supplies	The system displays the history of the party needs ever undertaken.
13	Search Party Supplies	The system displays the search party tool to be performed by the user

2.6 Design Data

Here is the data from the design of the software is built.

1. Relationship diagram

Here is a diagram of relation of software built.

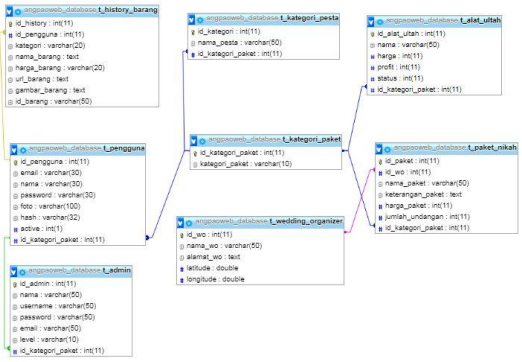


Figure 4 Diagram Relationships

2.7 System Implementation

Implemementasi stage is a stage translation system design based on the results of the analysis into a particular programming language and application software built on the real environment. In this phase there is a need for such a system are suggested.

1. Hardware Requirements

In Table 4 Hardware Requirements Minimum recommended hardware requirements addressed in the implementation phase.

Table 4 Minimum Hardware Requirements

mobile systems
Android 5.0 Lollipop
TFT LCD
GSM / CDMA
Data Connections LTE / HSDPA / EVDO
GPS

2. Software Requirements

Here are the specifications of the software used to use the system in Table 5 Minimum Requirements Software.

Table 5 Minimum Software Requirements

mobile systems
Operating System Android 5.0 Lollipop

3. Needs Server

Here are the specifications of the server used to use the system in Table 6 Requirements Minimum Server.

Table 6 Requirements Minimum Server

web system
Web Space 500 MB
Bandwidth 50 MB Month
MySQL Database (5.1 & 5.5)
PHP (5.2 & 5.3)
CPanel 11.x
Apache 2.x mod_deflate

2.8 Testing System

The software testing is a stage to find the mistakes and shortcomings in software that is built so that it can be known whether the software meets the criteria in accordance with the purpose or not,

1. Testing plan

Testing the system to be carried out is divided into two stages. The first phase of testing focused on the functionality of the software built using blackbox testing method. The second phase of testing will focus on the assessment of software that is built, the method of data collection is done by giving questionnaires to 20 users.

2. Functionality Testing Results

Results of testing the functionality of the software built looks on

class Test	Testing points	types of Tests
List	Input data register	*Black Box*
	Validate list and press create list	*Black Box*
class Test	**Testing points**	**types of Tests**
password	press send	*Black Box*
Login	Input data register	*Black Box*
	Input data log	*Black Box*
	Validate login and press enter	*Black Box*
Forgot the password	Input data budget	*Black Box*
	press process	*Black Box*
	press send	*Black Box*
Feedback Total Invitation	Input invitations	*Black Box*
	press process	*Black Box*
Search Party Supplies	Input word search	*Black Box*
	press completion	*Black Box*
Feedback Total Invitation	Input invitations	*Black Box*
	press process	*Black Box*
Search Party Supplies	Input word search	*Black Box*
	press completion	*Black Box*

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3. Beta Testing Results

The results of this beta test is the result of beta test with a questionnaire, the following test results. The questionnaire consists of seven QUESTIONS submitted to 20 respondents.

Question	Average
Do you agree if looking for a party needs to use Android?	**4:35**
Do you agree with this application can be made easier for you to find out the information needs of the desired party?	**4:00**
This application can give the recommendation goods according to the budget you have?	**3.95**
These applications into additional media in performing particular party in knowing the needs of the desired party?	**4.2**
Do you agree with this application can speed up your activities in preparing for the party needs to do?	**3.95**
This application can be easier for you to know the details of the party supplies?	**3.9**

Table 7 Beta Testing Results

The following Table 7 Beta Testing results can be concluded as follows.

1. Users could not agree in finding a party needs to use Android.
2. User agrees with this application can be made easier for you to find out the information needs of the desired party.
3. User agrees that this application can give the recommendation goods according to the budget you have.
4. Users strongly agree that this application be additional media in performing particular party in knowing the needs of the desired party.
5. User agrees with this application can speed up your activities in preparing for the party needs to do.
6. User agrees that this application can be easier for you to know the details of the party supplies.

3. CLOSING

Based on test results angpao application for users who do shopping activity to the recommendations on the needs of the desired party goods to be applied to the android platform it could be concluded as follows:

1. Angpao application for users to do the shopping needs of the party which was built in Android platform has made it easier for users to find and obtain the desired party needs within budget using the Android mobile.
2. Angpao application for users to do the shopping needs of the party which was built in Android

platform has managed to become an additional media and media to help users to do the shopping to the needs of the required party items according to the budget which is owned by the user.

3. Application angpao for users to do the shopping needs of the party which was built in Android platform has managed to assist the user in knowing details of goods recommendation provided by the system in getting the desired needs of party goods.

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