

DEVELOPMENT OF MODERN VESPA SERVICE BASED ON ANDROID SMART CASE STUDY BANDUNG PT.SALUYU VESPARIO

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ABSTRACT

PT. Saluyu Vespario a Regional Distributor of West Java which was established on July 20, 2011 at the Asia Africa no. 156 Bandung, West Java. With its running time and to be able to provide the best service to the users Piaggio Vespa motorcycle, PT. Saluyu Vespario in February 2012 opened a branch in the road Pungkur no. 48 Veteran road no. 61 (Sales). For Pungkur branch, Aria Jipang which is where 3S (Sales, Service and spare part).

In business processes PT.Saluyu Vespario which refers to the 3S services namely Sales, Service and spare part prioritize customer service to meet all kebutuhannya therefore vespa modern smart service applications based on Android is needed to improve the service from PT. Saluyu Vespario, this application there are four excellent features such as:

1. Facilitate consumers in a given schedule routine service and oil changes.
2. Facilitate consumers in making periodic servicing booking.
3. Help find information to consumers in making complaints through smart complaint.
4. Facilitate workshops in consumers with feature track record history.

Based on alpha and beta testing can be concluded that the application meets the criteria a good medium of information that can help consumers loyal PT. Saluyu Vespario and be a plus for the company.

Keywords: Service, Vespa, Android.

1. PRELIMINARY

The development of this mature technology is so rapid, resulting in community activities rely heavily on technology, and information technology development is inseparable from the development of human needs itself, a variety of needs required to give a boost to the power of human thought to develop technologies that can provide easiness in every area of life, organization and business processes that are currently running. To optimize business processes, companies use information technology through the development of applications, where these applications are expected to make a company's

business processes become more efficient, with the nature of technology neutral to facilitate the public to do something that can be profitable and provide convenience to the users of these technologies ,

Each company has a business process that is different as well as the PT. Saluyu Vespario Bandung headquartered in Jl. Pungkur 48 Bandung, which became the official dealer for Piaggio Vespa in the city engaged in service sales, service and spare parts. Routine servicing is mandatory by the owner of the vehicle so that the vehicle condition remained excellent, safe, and comfortable. Given service a variety ranging from oil changes, CVT cleaner, injector cleaner, until replacement parts as light as a brake, and other accessories, for motor vehicles, especially scooters matic replacement of engine oil and oil-axle must be done regularly so as not to adversely affect for vehicles, but for vehicle owners who live a large city,

2. LITERATURE REVIEW

Adequate care that are fundamental to ensure the operation and optimum performance and durability for the vehicle, therefore, a series of operations maintenance and inspection is recommended to be done. [1]

Regular maintenance is one of the activities required by the plant due to perform maintenance activities on a regular basis will provide many benefits for the owner of the vehicle, namely:

1. Vehicles can avoid the problems (problem) that is larger that may occur in the future so as to reduce the risk of financing the expenditure or greater.
2. Vehicles can be maintained or serviced in accordance with state regulations.
3. Life of the vehicle (life time) will be longer.
4. Vehicle treated periodically maintained its performance remains in excellent condition.
5. Customers (customer) can enjoy a driving experience that is economical and safe.
6. Reduce the risk of things that are not desirable such as a jam, hard-lighted and others.

This is in accordance with the mission of PT. Saluyu Vespario as car manufacturers (Single Agent Brand) Piaggio city of Bandung which have the services 3s (Sales, Service, Spare Parts).

3. RESEARCH METHODS

The method is performed in data collection in this study are the two methods, the method of collecting data and software development, namely:

1. The study of literature, which is the method by collecting references such as reference books, journals and other readings associated with the application title.
2. Interview, is one way of collecting data by face to face with some questions to five photographers.
3. Questionnaires, is the technique of collecting data by conducting a few questions to users to get results that can be a reference to this research.

Regarding the method used in the software development process by using Lifecycle Classical method, known as the Waterfall. Waterfall diagram the process is as follows:

1. Software Engineering (Engineering System) is part of the largest system in the execution of a project, begin by setting the needs of all the elements necessary systems and allocate it to the formation of the software.
2. Analysis Software (Analysis System) is a stage to determine whether the activities of engineering systems can be implemented into an information system or not and determine work procedures. As these functions include input function, the function of process and output functions.
3. Software Design (Design System) is a stage translation of the purposes or the analyzed data into a form that is easily understood by the user or wearer.
4. Software Implementation (Coding System) which implements activities that result from software design into program code that is understandable by the machine language.
5. Software Testing (Testing System) is a stage of software testing produced results.
6. Maintenance (Maintenance System) Implementation and maintaining overall if the structure changes in terms of both software and hardware.

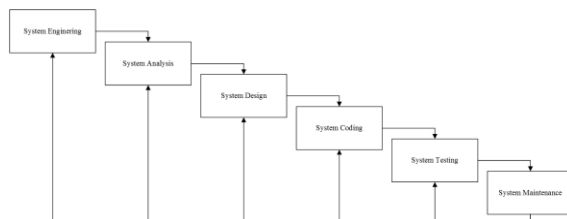


Figure 1. Waterfall Model Ian Sommerville

4. RESULTS AND DISCUSSION

The analysis system can be defined as the decomposition of the main system into sub-systems with the aim to identify the needs required in order to build an application information about services smart services in PT. Saluyu Vespario Bandung.

Based on research done, the problems that occur can be formulated as follows:

1. Facilitate consumers in a given schedule routine service and oil changes.
2. Facilitate consumers in making periodic servicing booking.
3. Help find information to consumers in making complaints through smart complaint.
4. Facilitate workshops in consumers with feature track record history.

Analysis of system architecture aims to identify the architecture to be built. Here is a system architecture of applications to be built:

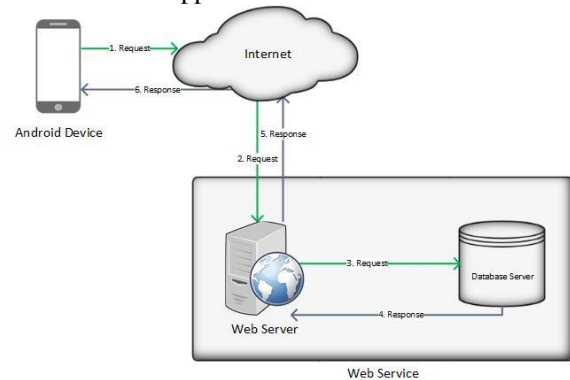


Figure 2. System Architecture

Below is a description of the system architecture of mobile platform applications to be built:

1. Android device users to request data to the server via the Internet.
2. Web server receives a request data and processed by the web service.
3. Web services make requests to the database in the form of a query to retrieve data.
4. Once the web service receives a response to the requested data, the data will be sent to your android device users to process data in the form of JSON.
5. Once processed, the data will be sent to the user according to the request requested by the user.
6. Android device users receive a JSON response from a web service and do the parsing process to represent the data received.

Analysis on systems currently running in the garage PT. Saluyu Vespario is the customer comes directly to the garage with workshop admin handed to the vehicle registration to enter data such as vehicle service invoice image below.

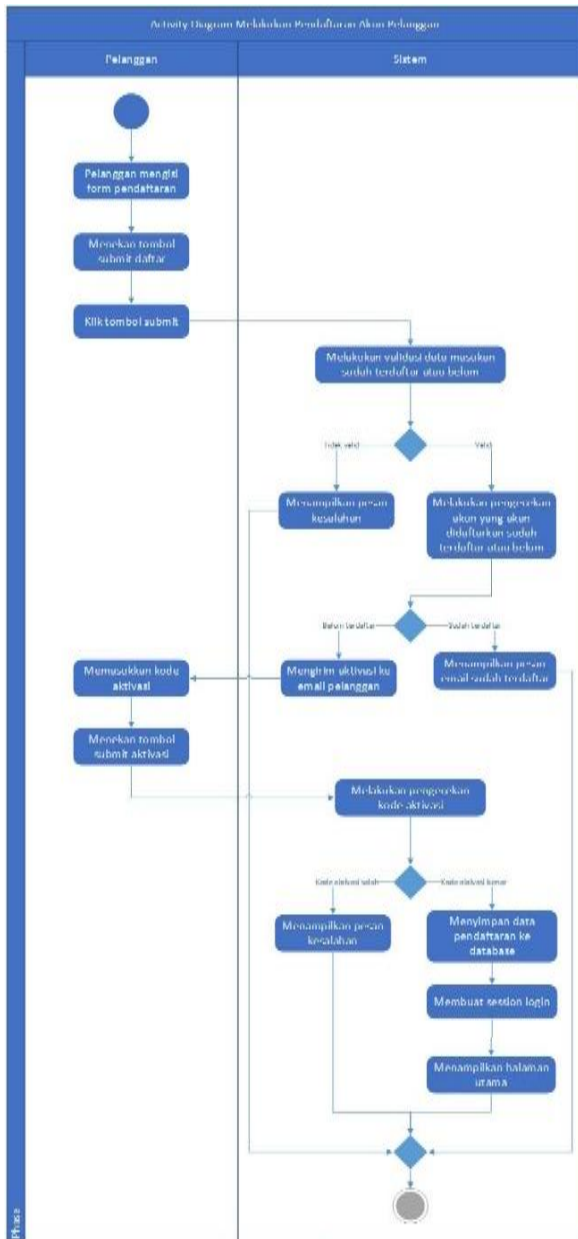


Figure 5. Activity diagram Customer Account Registration

Next create a class diagram or class diagram illustrates the structure of the system in terms of defining the classes that will be created to build the system, the so-called class has attributes and methods or operations [3]. Here's a class diagram of the application to be made.

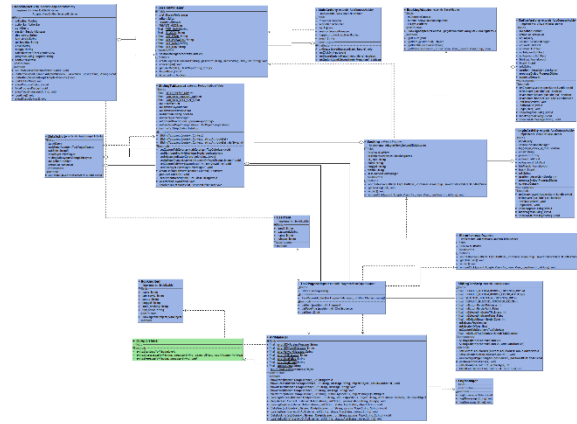


Figure 6. Class diagram

Sequence diagram illustrates the behavior of objects in use case by describing the life time of the object and the message sent and received between objects [3]. Below is a sequence diagram listing the customer account:

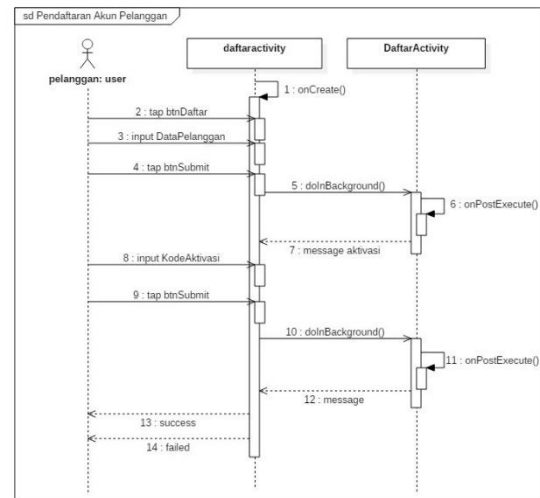


Figure 7. Sequence Diagram

Here is a scheme of the relation of the application to be made:



Figure 7. Sequence Diagram

The next stage is the stage of testing the system in applications that are built. This stage is the most important thing that aims to find errors or deficiencies in the application being built. This test is intended to determine whether the application is made have met the criteria in accordance with the purpose of designing an application or not. Tests on the

application system will use the test strategy, test alpha (black-box) and beta testing. Alpha testing is done using black-box method that focuses on the functional requirements of the software. Testing the program uses black-box method.

Black-box testing is a program based on functional testing of the program. The purpose of this black-box method is to find a malfunction in the program. Testing with black-box method is done by providing a number of data input to the application which is then processed in accordance with the functional needs to see whether the application is then processed in accordance with the functional needs to see if the application produces output that is used and in accordance with the functions of the program. If the input data supplied from the process of generating output in accordance with the functional needs, the application has been made has been correct. But if the output produced does not match the functional needs, then there is still an error in an application.

Testing is done by trying all possibilities occur and testing is done repeatedly if the test found an error it will do a search or repairs to correct an error. If you have finished doing repairs, it will be done continuously in order to obtain the best results. Plans alpha testing will be done on this software can be seen in Table Alpha Test Plan as follows:

Table 3. Scenario Testing

class Test	Testing points	types of Tests
Login	Input data log	<i>Black Box</i>
	Data validation log	<i>Black Box</i>
register Account	Input registration data	<i>Black Box</i>
	Registration data validation	<i>Black Box</i>
	Saving the registration data to the database	<i>Black Box</i>
Forgot the password	Input data forgotten	<i>Black Box</i>
	Data validation forget	<i>Black Box</i>
	Storing data forget to database	<i>Black Box</i>
Search for spare part	Input your keyword data	<i>Black Box</i>
	Data validation keywords	<i>Black Box</i>
	Displaying data spare parts	<i>Black Box</i>
booking service	Input data booking	<i>Black Box</i>
	Data Validation booking	<i>Black Box</i>
	Storing data to get into the database	<i>Black Box</i>
Complaint	Data Input complaint	<i>Black Box</i>

	Data validation complaint	<i>Black Box</i>
	Showing recommendation	<i>Black Box</i>
Adding Order	Input order data	<i>Black Box</i>
	Validation of order data	<i>Black Box</i>
	Store order data into database	<i>Black Box</i>
Deleting Orders	Input order data	<i>Black Box</i>
	Validation of order data	<i>Black Box</i>
	Delete the order data in the database	<i>Black Box</i>
Changing Orders	Input order data	<i>Black Box</i>
	Validation of order data	<i>Black Box</i>
	Changing the order data into database	<i>Black Box</i>
Changing profile	Input profile data	<i>Black Box</i>
	Validation of the profile data	<i>Black Box</i>
	Changing the profile data in the database	<i>Black Box</i>

5. RESULTS AND DISCUSSION

Blackbox Testing Results Conclusion Based on the results of testing that has been done, it was concluded that all processes on the Service Application Smart Vespa has been running as expected.

Based on test results and discussion that has been created it can be concluded that:

1. Facilitate consumers in a given schedule routine service and oil changes.

Advice can be given to the development of smart services vespa application are:

1. Smart Complaint To be more specific by using a more precise method.
2. For an oil change and a reminder feature and servicing schedule to be further improved by using automatic notifications.

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