System Expert Diagnosis Iphone Cellphone Damage Web-Based

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Abstract

Mobile phones (HP) or smartphones are the most popular communication tools used by the public. Based on interviews with several mobile phone users and technicians, the iPhone is currently one of the best-selling and most prestigious brands. But in reality, the iPhone user community, in general, does not understand the damage that often occurs to HP. This leads users to bring the damaged HP to the service point without knowing in advance what kind of damage occurred to the HP. The study aims to build an app to diagnose damage to web-based iPhone phones. In collecting the data needed for the study, the authors used methods of literature study, interviews, and observation. This web-based iPhone mobile damage diagnostic system application is made using the PHP programming language. The game development stage includes analysis, system design, implementation, and testing. The expert system application to diagnose damage to the web-based iPhone phone that is made can be used to find out the damage to the iPhone phone, before being taken to the service so that users know what damage is repaired. The results of system testing showed that this application is feasible and can be used as a web-based iPhone mobile damage diagnostic system application.

Keywords — system, expert, diagnostics, damage, mobile phone, iPhone, based, web.

1. INTRODUCTION

Mobile (HP) or smartphone is the most popular communication tool used by the public. Based on the results of interviews with several cellphone users and technicians, the iPhone is currently one of the best-selling and prestigious brands. The supporting reasons are the design, features, and technology as well as the innovative marketing strategy of the Apple company that makes iPhone products look luxurious and premium. Even being able to make someone's prestige rise because there is an iPhone in his hand. The HP bearing the bitten apple symbol has become a kind of prestige for its users, like expensive clothes, jewelry, and luxury watches. The iPhone operating system is iOS which has a simpler display and user interface than Android. Since its first release in 2008, the iPhone has always placed its applications directly on the main menu without the need to press additional buttons. So as not to confuse the user. Even though it's simple, the iPhone has optimal security protection and is exemplary from other vendors. In addition, the iPhone also has its feature, namely Siri, which makes it easier for users to carry out various activities. The Siri feature is even copied by its competitors. Because of that vision, Apple products are often copied from both the design and the system.

Like other electronic devices, the iPhone is also not free from damage. Damage that occurs also requires proper and fast handling, so that more severe damage does not occur and ultimately harms the user. In fact, the general public who uses the iPhone does not understand the damage that often occurs on these cell phones. This has led users to bring the damaged cellphone to a service place without knowing in advance what type of damage occurred to their cellphone.

Users generally don't want to bother predicting the type of damage that will occur to their cell phone, let alone diagnose and repair the damaged cellphone themselves.

Information in guidebooks for HP servicing and tutorials that are uploaded on the internet to deal with common damage to cellphones is still incomplete and there is no application system that is expected to support and make it easier for users to diagnose cellphone damage that occurs in hardware and software in particular. Therefore it is necessary to make an application system that is like an expert, which can provide information about damage to cell phones that is useful for users. At least to find out the damage that has occurred to the cellphone before it is taken to a service place. The application intended by the author is an expert system, which is enabled to diagnose damage to mobile phones, especially to HP hardware.

An expert system is a computer program containing knowledge from one or more human experts regarding a specific field. The general form of an expert system is a program created based on a set of rules that analyzes information about a specific class of problems as well as a mathematical analysis of the problem. Expert systems are generally also able to recommend a series of user actions to be able to apply corrections. This system utilizes reasoning capabilities to reach a conclusion.

Based on the background described above, the author is interested in developing an application with the title "EXPERIENCE SYSTEM FOR WEB-BASED iPhone HANDPHONE DAMAGE DIAGNOSIS".

2. RESEARCH METHODS.

2.1. Object Study

Object study This is a system expert For diagnosing iPhone damage with the forward chain method. _ System This expected can make it easy for iPhone HP users and the public For doing diagnose damage through application web based.

2.2. Material Study

Materials used _ in the study This include:

a. Books and journals that have a relation with object research.
b. Results of consultations and interviews with tester diagnosis of damage

2.3. Method Data collection

In collecting the data needed in the research, the author uses method studies bibliography, interview, and observation. Following is an explanation of the method author's data collection use in a study:

According to Nazir (1998), studying literature is an important step _ Where after a researcher set topIC research, the step furthermore is to do related studies _ with the topic research. In search theory, the researcher will conclude information as much from related literature. _

In the study the sources used by the author that is through book system expert, book around damage iPhone growth, journal study previously related _ to HP iPhone damage, as well source supporters else found _ via the internet.

a. Interview
   In method This done- site interview Village Kadipiro Bantul Regency. The interview is done To obtain related information _ on frequent breakdowns _ encountered by iPhone farmers and their handling.
b. Observation
   In the study, This researcher does observation direct To find facts on the ground. in observation, This makes it easy for researchers To dig for information related to

damage that attacks the HP iPhone. Observation This was done To retrieve data from a number of source person iPhone users and experts in handling iPhones

2.4. Research Tools

Need device software used _ For making application This is as follows:

2.4.1.1. Hardware:

a) Laptop Processor Specifications: AMD A8-7410 APU with AMD Radeon R5 Graphics
b) Memory (RAM): 4.00 GB

2.4.1.2. Software:

a) Operating system: Windows 8.1 Single Language
b) Database creation using MySQL.
c) Microsoft Office 2010
d) Xampp
e) Notepad++
f) Google Chrome

2.5. Research Tools

2.5.1. Rules Design

In a study this, method of inference to be used is forward chaining where the search started from take facts especially first, then from the facts used For interesting A conclusion . There are 27 types of damage and 40 types of symptoms in determining results of diagnosis iPhone damage.

2.5.2. Damage Data

The following is What is the name damage For Then enter it in the application system expert. System model design served in the form of a data flow diagram (DAD). DAD served in two stages namely: context diagrams and process diagrams

3. RESULTS AND DISCUSSION

Discussion of the results of research and testing obtained is presented in the form of theoretical descriptions, both qualitatively and quantitatively. Experimental results should be displayed in the form of graphs or tables. For graphs follow the format for charts and drawings.

3.1. Implementation System

In part implementation system will explain implementation from the design interface pages in a system that the expert has explained in Chapter III. The explanation covers the user, way the accent, the cut core program code, and the explanation of the program code.

3.1.1. News Page

News Page can be accessed by everyone user general. this page appearance begins from the serving system _ news uploaded by administrators/experts is sorted based on the

news latest. Users can click the knob **Read more** For displays news in a manner more complete.

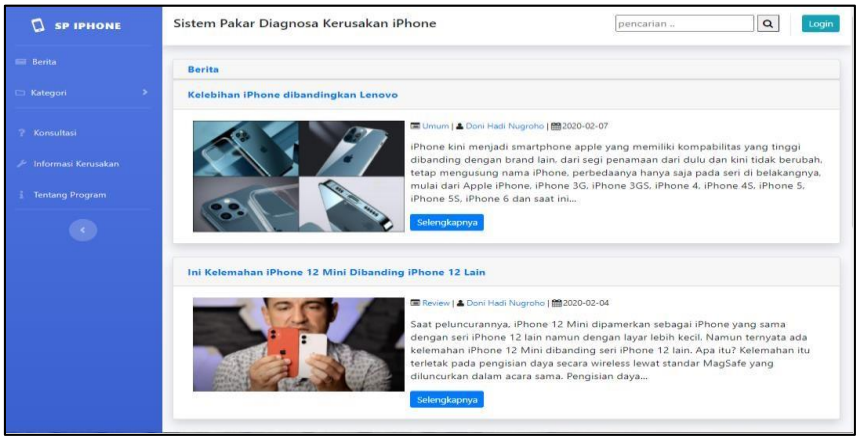

Figure 1. News Page

3.1.2. Consultation Page

The consultation Page is reserved For the user general For doing a consultation on damage to his iPhone cellphone. this page can be accessed with Click on the **Consult** menu which is on the panel left page. On the page, This user will be asked about symptoms of the damage suffered and the user can answer **Yes** or **No** on the available button. Questions are displayed based on answers and structure tree rules that have been determined by the Expert. Appearance page **Consultation** can see in Figure 2.

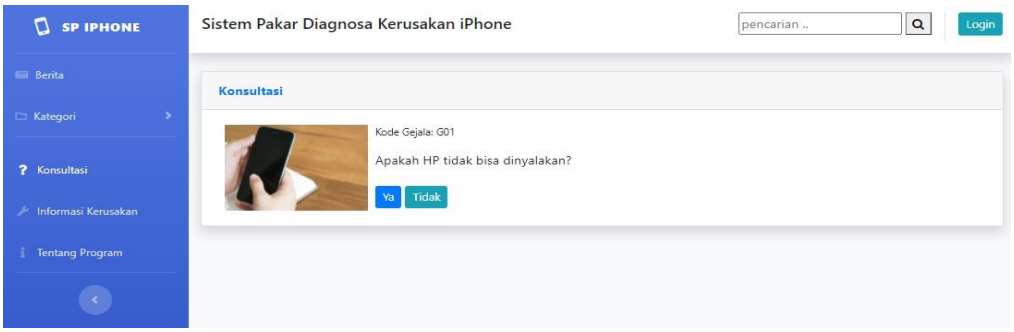

Figure 2. Consultation

3.1.3. Diagnostic Results page

The Diagnostic Results page will come on stage when a number of questions on the page **Consultation** has come to a conclusion. On the page, This served information about type faults, solutions, and details of the solutions in pdf file format. Appearance page **Diagnostic Results** can be seen in Figure 3.

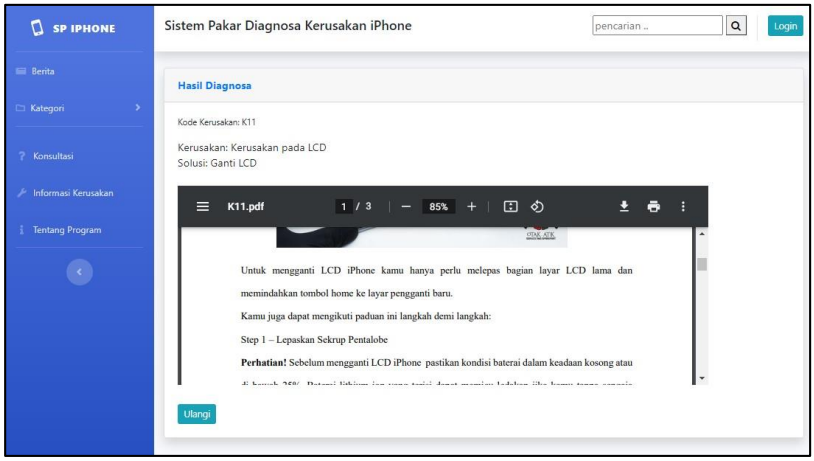

Figure 3. Diagnostic Results Page

3.1.4. Crash Information Page

Information Page Damage can access by users generally with Click the **Information** menu **Damage** which is on the left pane page. On the page, This served type lists information faults, solutions, and details of the solutions in pdf file format. Appearance page **Information Damage** can be seen in Figure 4.

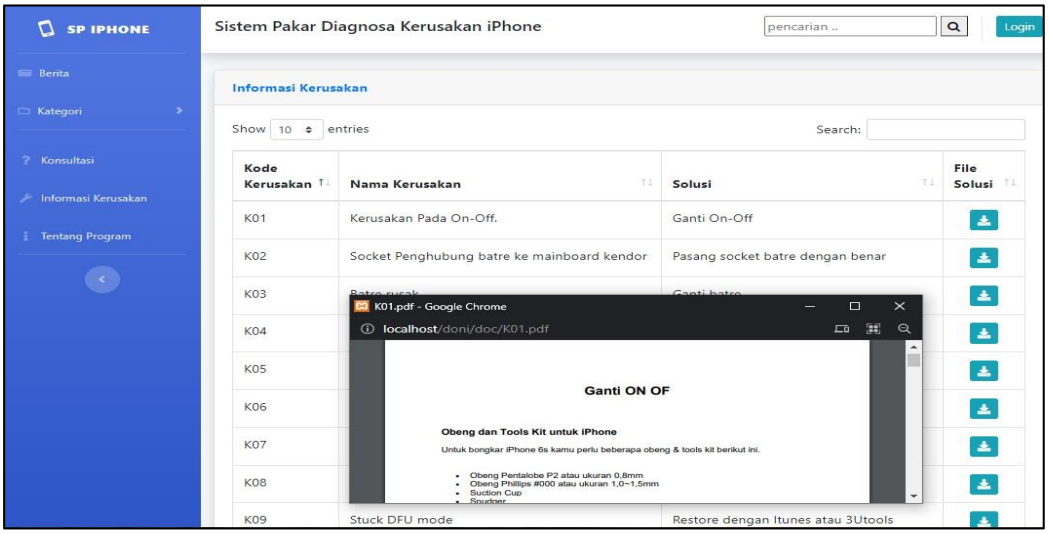

Figure 4. Information Page Damage

3.1.5. About Program page

About page **program** can access users generally with Click the **About** menu **program** located on the left panel page. On the page, This served information about profile application system experts. The appearance page **About the program** can be seen in Figure 4.7.

Figure 5. About Program page

3.1.6. Admin/Expert Login Page

Admin/ Expert Login Page can be accessed by admin/ expert by clicking the knob **Login on the** top panel part right page. On the page, This user must enter their email and password For enter to the page Dashboard. The appearance page **Login Admin/ Expert** can be seen in Figure 6.

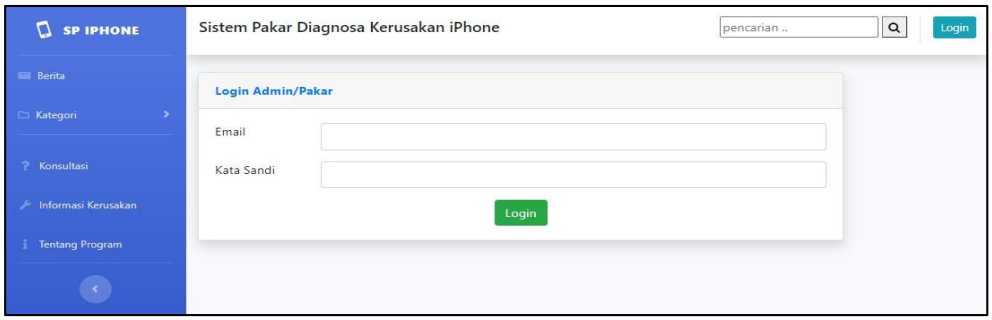

Figure 6. Login Page Admins / Experts

The dashboard page can be accessed by the admin/ expert after succeeding in the pass page **Login**. On the page, the user can see a recapitulation of the amount of data includes: the amount of data on symptoms, damage, rules, and news. The appearance page **Dashboard** can see in Figure 7.

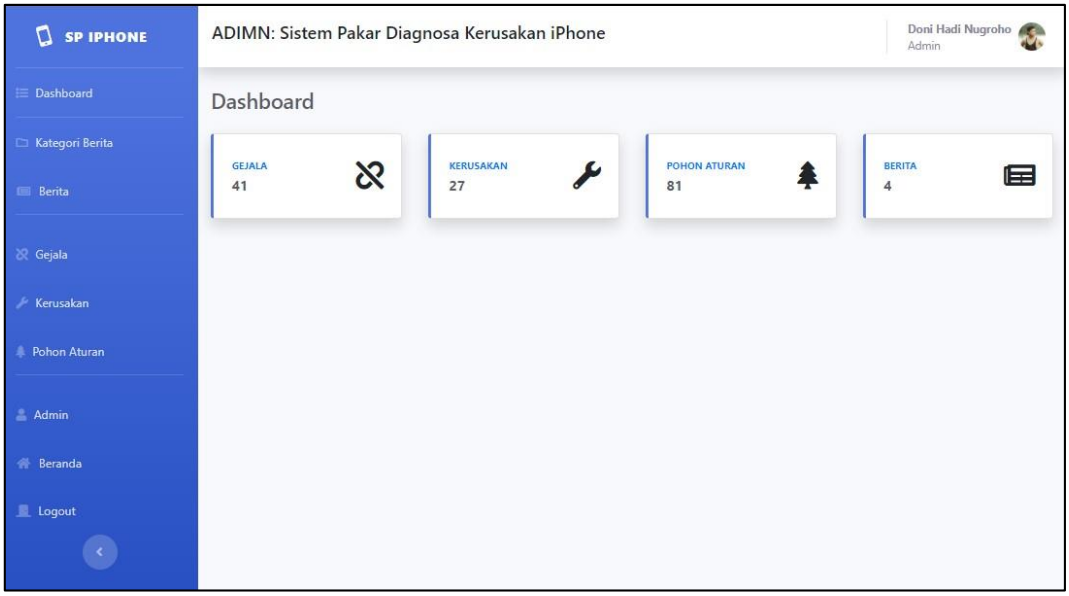

Figure 7. Dashboard page

3.1.7. Symptom Data Page

Symptom Data Page can be accessed by the admin/ expert with Click on the **Symptoms** menu located on the left panel page. On the page, This user can do news data management form adding data, editing data, and deleting data. Appearance page **Symptom Data** can be seen in the picture 8.

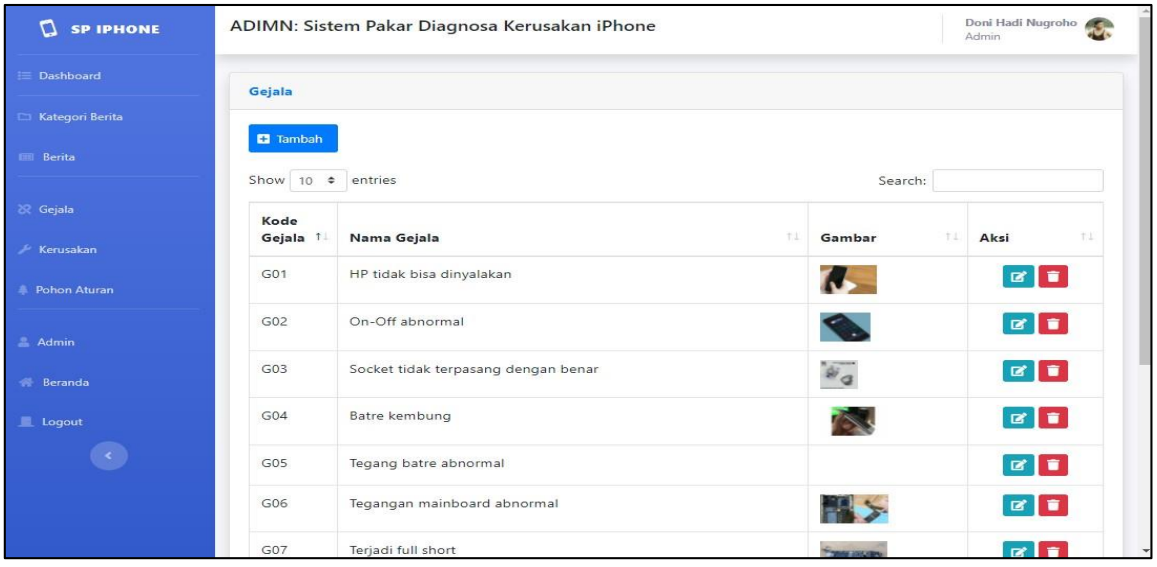

Figure 8. Symptom data

3.1.8. Crash Data Page

Crash Data Page can be accessed by admin/ expert with Click the **Damage** menu located on the left panel page. On the page, This user can do news data management form adding data, editing data, and deleting data. Appearance page **Damage Data** can be seen in Figure 9.

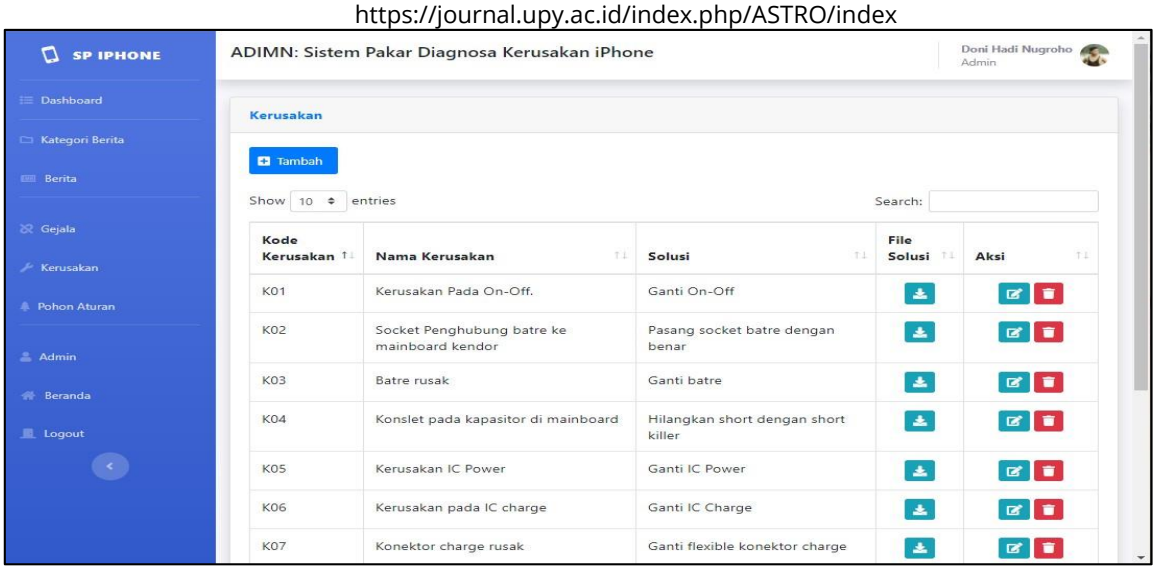

Figure 9. Damage Data Page

3.1.9. Rule Tree Data Page

Tree Data Page **Rule** can be accessed by admin/ expert by Clicking on the **Tree** menu **Rule** located on the left panel page. On the page, This user can do rule data management forms add data, edit data, and delete data. The appearance page **Tree Data Rule** can be seen in Figure 10.

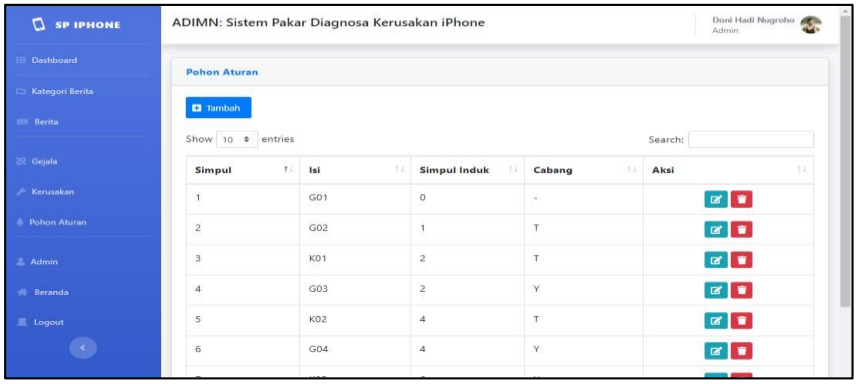

Figure 10. Tree Data Page Rule

3.1.10. Add/Edit The Rule Tree Data Page

Add /Edit Symptom Data Page can be accessed by admin/ expert by clicking the knob Add /Edit on the page Data Tree Rules. On the page, This user can Enter symptom data in the form of Node, Contents, Main, and Branch. Furthermore, push the knob Save / Update Page Data Admins / Experts

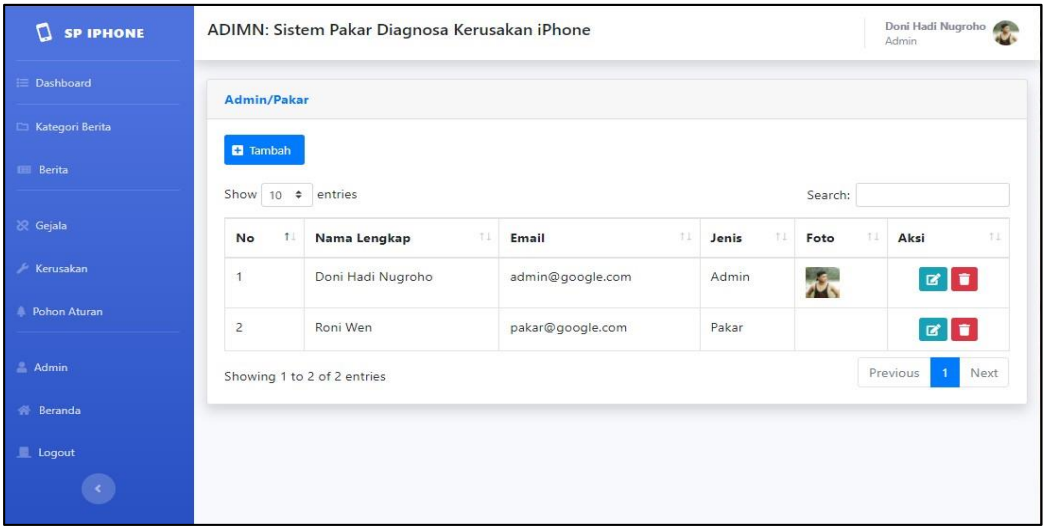

Figure 11. Admin Data Page

3.1.11. Logout page

The logout page can be accessed by the admin/ expert with Click the Logout menu located on the left panel page. On the page, This user can go out from Admin/ Expert page by going to page Home page by clicking the Logout button.

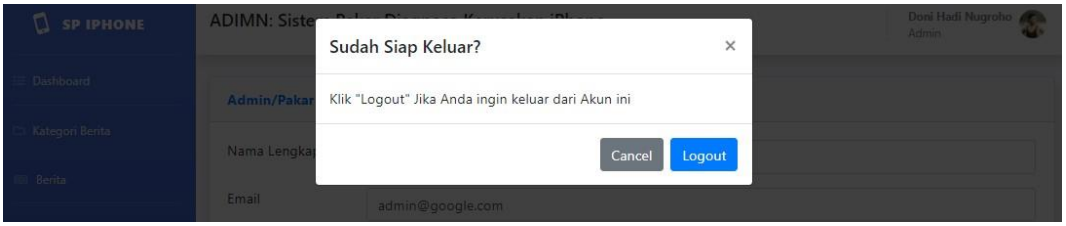

Figure 12. Logout page

3.2. Discussion

System programs expert This can use to run the program through the SPiPhone.exe file then will come on stage main menu *forms*. If the user (as *admin)* wants to enter the database then the user must be logged in as an expert that is with enter a username and *password*. If a user wants to do a consultation so the user only gets a menu of diagnoses, information, and descriptions, so come on-stage *forms* for a user. In doing a search. the user answers YES/NO for each question that appears on the consultation menu *form*. When done answer and symptoms experienced _ in accordance so will appear the disease Then click the details button then click ok the will appear result even printable _ _ direct.

4. CONCLUSION

Diagnostic expert system application uses the forward chaining method has several advantages including:

1) The expert system for diagnosing damage to iPhone cellphones has been successful developed by search method using forward chaing.

2) The results of the black box test show that all expert system functions can go well.
3) Alpha test results show that the system has a clear appearance interesting, very easy to use, very useful and complex.

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