

DIAGNOSIS OF DAMAGE TO AN AUTOMATIC MOTORCYCLE USING AN ANDROID-BASED FORWARD CHAINING METHOD

Aminuddin Indra Permana
Universitas Pembangunan Panca Budi

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***Correspondence**

aminuddin@dosen.pancabudi.ac.id

Abstract: A Motorbike automatic is a type of vehicle That is most like Lots of motorists who are in Indonesia because easy to drive, of economical material burn, as well as comfortable. In this case vehicle, an automatic motorbike, needs maintenance, which is like vehicle bicycle or motorcycle in general. In need Intensive maintenance on automatic motorbikes is needed so that they are comfortable when used. Soneeded something system that is easily accessed by users and capable of giving recommendations such as damage or suggestions to circle society. The method used in the study This is Forward Chaining, which handles problem-damaged motorcycle automatic injection. Method Forward Chaining helps make decisions to choose the action minimum possible. This matter minimises confusion in determining the type of damage on the motorbike. Input system in the form of data from damage, maintenance, and diagnosis. Output results recommendation method repair type damage Which selected for recommended. Good input and output systems are delivered via system media information Android-based. From the experimental results cases and testing the system carried out, the results of the recommendations are known from the system is the same as the results that have been done manually. Overall, the system Which is built is capable of giving recommendation type damage bicycle motorcycle automatic injection.

INTRODUCTION

In an era of competition-free Nowadays, the role of information technology the more important because We have entered the information age. Information Technology is something technology used to process data, including processing, obtaining, organise, storing, and manipulating data in various ways way to produce quality information, i.e. relevant, accurate information at the appropriate time, which is used for personal, business, government and strategic information for taking decision.

System supporter decisions (decision support systems abbreviated as DSS) are part of system information-based computers, including system-based knowledge (management knowledge) used to support making decisions in an organisation or

company.

Motorcycle automatic is a type of vehicle That most in like Lots motorists use in Indonesia because easy to drive, economical material burn, as well as comfortable. In this case, the vehicle motorcycle needs maintenance, which is like a vehicle motorcycle in general. In need maintenance Which intensive on a bicycle motorcycle matic order comfortable moment in use.

Because of its height interests users of automatic motorcycles. Is in Indonesia, then there is something problem with damage to motorcycles. In this case, not all Indonesian people understand the types of damage on automatic motorbike injection. If there is damage to automatic motorbikes, so public chooses to come to the workshop. Matter the very waste of time and share users, especially if there is a user busy with his job.

Along with the rapid development of information technology useful for support performance in terms of determination type damage automatic motorbike, the author uses the method of forward chaining. According to Irawan (2007: 35) method of forward chaining is something method from the inference engine to start reasoning or tracking data from the facts. There is going to be some conclusion.

RESEARCH METHODS

System experts or Expert Systems are also known as Knowledge-Based Systems, i.e. something an application computer that is intended to help make decisions or solve problems in specific fields. This system works with the use of knowledge and method analysis, which has been defined first by experts in the appropriate field his expertise. This system is called a system expert Because function. His role is the same as an expert Who must know, experience in solving something problem. The system usually works as a key important Which will help something system supporter decision or system supporter executive (Herawan, 2016)

System Expert is an application computer used to complete a problem, as thought by experts. The expert referred to here is a person who has a skill specifically that can be finished with a problem That can't completed by person layman. System expert (expert system) is a computer program that tries to display knowledge man Which expert in shape heuristics.

Injection is something method of mixing fuel with air on a vehicle motorised for

produce burning, which is perfect. The injection needs a device named an injector, which is on duty to supply a mixture of ingredients burned with air. System injection is the next technology system carburettor on the motorised vehicle. (Angri, Isman. 2015)

How automatic motorbikes work injection when on the system carburettor, the vehicle needs the right settings so you can get a mixture of ingredients optimal fuel and air or AFR (Air–fuel ratio), system injection already programmed in a way computer for get ratio AFR which optimal. In order to get optimal AFR, the injector relies on the program computer to control AFR. Device electronic, which is on duty for control Work injector This is named ECM or Electronics Controls Modules.

RESULTS AND DISCUSSION

For support, the way software needed system operation a number of software support among them is:

1. System Operation Windows 7 or Linux
2. Android Studio
3. Android Smartphones

Program made with the following criteria, which there is, that is easily operated (User Friendly) and has an attractive appearance (User Interface). In accordance with the problems discussed in the design system, the system application that was developed was expected to be capable of answering all problems that have been expressed before.

1. Page Home page

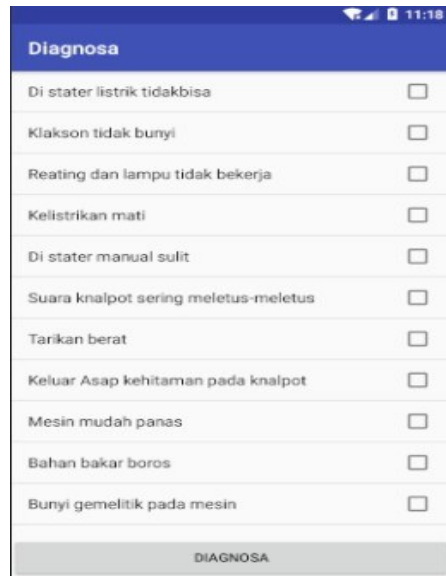
When the expert system application for diagnosing damage to automatic injection motorbikes is first opened, the home page will appear. Here's the page display:



Picture 1. Page Home page

2. Page Diagnosis

The diagnosis page is used by the user when selecting symptoms of damage to automatic injection motorbikes. Here is the picture:



Picture 2. Page Diagnosis

3. Page Damage

The user or users use the damage page to see the results from election symptoms or diagnosis damage on bicycle motorcycle automatic injection. If the user or users pushes the knob solution will appear solution which is given so that the user or users can resolve the damage. Following is the picture:



Picture 3. Page Damage

4. Page Solution

Solutions page used by users or users to see the results of election symptoms or diagnosis damage to automatic motorbike injection. The solution given to the user or the user is different depending on the type of damage experienced by automatic motorbike injection. Following is the picture:



Picture 4. Page Solution

5. Page Tips Nurse Motorcycle

Page tips nurse motorcycle used user or user for see any tips for caring for automatic motorbike their injection so that damage does not occur to the automatic motorbike injection. Following is the picture:

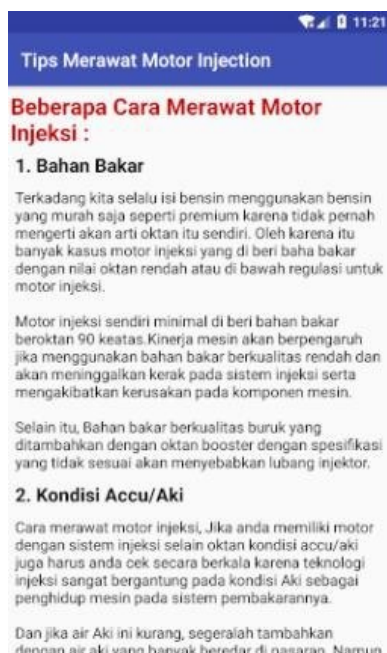


Figure 5. Page Tips Nurse Motorcycle

6. Page Type Damage

Type page damage used by the user or users to choose damage which happens on bicycle motorcycle automatic injection. If the user or the user has already chosen the type of damage, the will-appeal solution is recommended for repairing bicycle motorcycle automatic injection. Following is the picture:



Picture 6. Page Type Damage

CONCLUSION

Based on activities that the author has carried out during planning until the implementation system. With the existing system, expert diagnosis of damaged automatic motorbike injection using the method of forward chaining makes it easier for society to know the type of damaged automatic motorbike injection they have without having to come to the workshop. By inference forward chaining system analyses the problem through search facts entered by the appropriate user in the IF section with the result in the THEN section and fetches a conclusion based on facts. System supporter decision This Also provides information about a diagnosis, care tips, automatic motorbike injection, and type that damage. Then, produce a system expert.

REFERENCES

- Angry Sartika Wiguna, Isman Harianto, 2017. "System Expert Diagnosis Damage Bicycle Motorcycle Matic Injection Use Method Forward Chaining Based Android, Vol. 3 No. April 1 ISSN: 2476-9754.
- Andi Juansyah, 2015. "Usability Child Tracker application based Assisted -Global Positioning System (A-GPS) With Android Platform". Vol. 1 No. 1 August ISSN: 2089-9033.
- Alicia Sinsuw, Xavier Najoan. 2013. "Prototype Application System Information Academic On Device Android". ISSN: 2301-8402.
- B. Hernawan Hayadi, 2016. "System Expert". Yogyakarta: Publisher Deepublish . Priest Wicaksono, Fitro Nur Judge, Victor Gay Utomo, 2016 "System Expert Diagnosis Damage On Motorcycle Matic Vario Based Web (Study Case:Workshop Jozz Cup Motor)". Vol. 13 No. January 2.
- Son Belina Tandra, Justinus Andjarwirawan, Julia. 2013. "App Tablet Android- Based Interactive In-Room Guest Services at the Grand Hotel Palu Ambassador". ISSN: 2301-8402.
- Cytorus Lamhot. 2015. "Algorithm And Programming", Yogyakarta: Andi Publisher .