ABSTRACT

ANDROID-BASED EXPERT SYSTEM APPLICATION DESIGN USING FORWARD CHAINING METHOD TO DIAGNOSE LAPTOP HARDWARE DAMAGE

As time goes by, the development of information technology plays an important role in human life. Technology is developed to simplify and accelerate various activities that usually carried out by human. Laptop is an example of information technology development; which is a new concept of a desktop computer. According to IDC Indonesia, notebook laptops dominate the Indonesian market of desktop computer in 2017 with market shares ranges from 70 – 75% per quarter. This explains that laptops are in a great demand because of the high mobility and affordability. Many problems can occur because of the needs and high usage of laptops. For example: blue screen, low battery, keyboard malfunction, or suddenly died. If those problems occur, usually laptop users don’t understand what to do, but the cost of repairing laptop is not cheap. Also, if the laptop is brought to a wrong place, the technician can misdiagnose the problems because the lack of knowledge and experience. Therefore, to overcome the problems, an Android-based expert system is created using forward chaining method that can diagnose the laptop’s hardware problem correctly. The expert system shell used is McGoo, which then uses Thunkable as an expert system application maker. Users are expected to be faster, easier and more efficient in repairing the laptop and making the right decision with this system. The conclusions of the decision tree formation to diagnose damage to laptop hardware can be implemented into the application. Based on the test results, expert system application that has been made can be accessed via an Android-based smartphone and can help laptop users to understand and handle the problem occurred in laptop hardware.

Keywords: Expert System, Android, Forward Chaining, McGoo, Laptop Damage