ABSTRACT

IMPLEMENTATION OF FORWARD CHAINING AND CERTAINTY FACTOR METHODS FOR ANDROID-BASED RED ONION DIAGNOSIS

By

Imam Ghozali

NIM 19102146

Shallots are one of the main commodities that are widely consumed in Indonesia, with Brebes being the highest producing area for shallots. However, productivity is often hampered by disease attacks, such as purple spot disease, which is difficult to recognize quickly due to lack of knowledge and education to farmers. This problem causes crop yields to decrease, so a solution is needed that can help farmers, especially in Brebes, identify diseases more accurately and efficiently. To overcome this problem, an Android-based shallot disease diagnosis system was developed using the Forward Chaining and Certainty Factor methods. This system works by identifying disease symptoms based on certain rules and calculating the level of confidence in the diagnosis to provide more accurate results. The Android platform was chosen because it is easy to access by farmers, making it easier to implement in the field. Test results show that the system developed successfully meets functional requirements with diagnostic accuracy reaching 100%. This system is expected to increase farmers' ability to detect and prevent shallot diseases, thereby contributing to increasing productivity and sustainability of the agricultural sector.

Keywords: android, certainty factor, forward chaining, red onion