Development of web application for agarwood oil quality discriminator in virtualization platform

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ABSTRACT

In recent years, the demand for agarwood oil has increased tremendously. Agarwood oil is being used widely in fragrance, incense and religious ceremony. The quality of agarwood oil will determine the price of the oil. However, there are some limitations on using standard approach to classify its quality as they are time consuming, expensive and the results is questionable. This paper presents on the development of web application on providing a proper classification platform to determine the quality of agarwood oil based on the sample that end user input. The main purpose of this web application is to provide a proper interface for end user to determine the quality of their agarwood oil without spending a lot of time and money. The whole web development is done inside Virtual Machine (VM) using VMWare Workstation Pro 12 as the virtualization platform. The web application is being construct using PHP programming language that runs on Apache Webserver. MySQL database is used to store and organize the data. Agarwood oil sample will be classified using Multi-Layer Perceptron (MLP) function inside MATLAB R2016a. The development carried out in this study is success and ready to be used for agarwood oil intelligent quality classification.

KEYWORDS

Agarwood oil; Quality Discrimination; Apache Webserver; MLP

ACKNOWLEDGMENT

The development of web application for agarwood oil quality discriminator in virtualization platform has been successfully done in this study. This platform is ready and can be used to provide its service to end users. For future work, the classification of agarwood oil will be tested using various supervised machine learning algorithm and the best model with highest classification accuracy and efficiency will be chosen to used to grade the users agarwood oil.