

MyWood-ID: LATEST TECHNOLOGY IN WOOD IDENTIFICATION

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INTRODUCTION

The Wood Anatomy Laboratory (WAL), established around 1918 is one of the oldest laboratories in the Forest Research Institute Malaysia (FRIM), which means that the laboratory has been operating for 100 years. Beginning 1934 and led by H.E Desch, the main service of the laboratory was wood identification for the public, industries and authorities. For the industry, WAL provides wood identification services especially to contractors, engineers and architects who often use wood as building materials. The use of suitable timber according to the assigned grade is important to avoid any harm to occupants. In addition, WAL also provides wood identification services to the authorities such as the Police, the Royal Malaysian Customs Department, forest departments (Peninsular, Sabah and Sarawak) and other government agencies. This service can help Customs Department in addressing the trafficking of timber species listed in the Convention on International Trade in Endangered Species (CITES) list. This wood identification service can also assist the Forest Department in dealing with illegal logging. WAL also helps the police in dealing with the issue of timber fraud. For individuals, the laboratory provides wood identification services for the purpose of obtaining the right kind of timber that coincides with the right price of timber by the supplier. This paper will show how to use this application, its advantages and the targeted groups for the application.

THE DEVELOPMENT OF MyWood-ID

Wood identification services provided by WAL are conducted by trained personnel in the field of wood anatomy. In addition, FRIM has the oldest and largest xylarium in Malaysia, i.e., Xylarium Kepong (KEPw), and the authenticated wood samples in this xylarium have been used as the reference materials for the wood identification service. To date, the wood collection in this Xylarium consists of 10,036 wood specimens of 108 families, 426 genera and 1587 species found in Peninsular Malaysia, Sabah and Sarawak.

After approximately 84 years of providing conventional wood identification services by trained personnel, FRIM now offers the latest technology for wood identification that is easy, fast and user friendly. This technology can be used by any untrained individuals. This technology is named as MyWood-ID, the mobile wood identification application software. The development of MyWood-ID started in 2015 as a joint effort between FRIM and University Tunku Abdul Rahman (UTAR). The main objective of the project was to develop a user friendly mobile wood identification application software using the latest leading edge technology. This application was designed based on the 'Deep Learning algorithm' rooting from the method of Artificial Neural Network for pattern recognition. The application software can be downloaded from Apple Store into a smartphone (iPhone 6, 6s or 7 for the moment), and it is able to identify up to 20 Malaysian timber groups without any charge. The application software will be upgraded to identify up to 100 Malaysian timbers groups in the near future where a nominal fee will be charged.