

ABSTRACT

DESIGN OF FRUIT AND VEGETABLE DETECTION APPLICATION USING TENSORFLOW LITE BASED ON ANDROID

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Fruits and vegetables are essential sources needed by the body because they contain vitamins and minerals to regulate processes within the body. The body requires various nutrients, including macronutrients and micronutrients, to maintain health. One way to obtain micronutrients is by consuming fruits and vegetables. It is crucial to consume fruits and vegetables every day to ensure that the body's nutritional needs are met. The World Health Organization (WHO) recommends consuming at least 400 grams of fruits and vegetables per day to ensure an adequate fiber intake. However, it is still uncommon for people to pay attention to these recommendations. Based on a survey conducted on 328 respondents aged 17-20 years, 61.4% rarely consume fruits, and 43.2% rarely consume vegetables. This study aims to develop an application using machine learning technology from the Firebase library based on the designed plan to provide education on the importance of consuming fruits and vegetables. It can also recognize different types of fruits and vegetables to determine their content and benefits. The development method used is the Scrum Method, involving stages such as product backlog, sprint planning, sprint backlog, sprint, sprint review, and sprint retrospective. The results of the application testing using blackbox and heuristic evaluation show that all features function properly. However, there are some feature improvements that need to be made. This indicates that the application has successfully provided good functionality in providing information and education on the content and benefits of fruits and vegetables.

Keywords: Android, Convolutional Neural Network, Machine Learning, Nutrition, Scrum