ABSTRACT

In selecting the location of planting land, farmers have not yet understood and properly considered whether the land is suitable for planting the desired crop. 7 out of 9 respondents who work as agricultural extension workers stated that they have encountered cases of crop failure due to errors in choosing land suitability. If this is left unchecked, then agricultural activities will not be optimized, which will affect the demand for agricultural products. Based on this problem, this study aims to implement a Human Machine Interface (HMI) for a smart portable tool for agricultural recommendation systems that focuses on user needs. The study will use a Human-Centered Design (HCD) approach involving analysis of the context of tool use, user needs, HMI prototype development, and user testing. The results of this study are in the form of a prototype interface of an agricultural recommendation system for determining the suitability of agricultural land with planted agricultural commodities with an evaluation aimed at effectiveness, efficiency, and satisfaction indicators which have a value of 93% which can be categorized as very good. Thus, it can be concluded that the implementation of HMI for smart portable tools for agricultural recommendation systems is in accordance with user needs and provides excellent results in the context of agriculture.

Keywords: Human Machine Interface, Crop Recommendation, Usability