IMPLEMENTASI *ALGORITMA K-NEAREST NEIGHBORS* PADA APLIKASI *ANDROID* UNTUK ANALISA TINGKAT KECEMASAN SERTA SOLUSI PENCEGAHAN KECEMASAN

(Implementation of K-Nearest Neighbors Algorithm in Android Application for Anxiety Level Analysis and Prevention Solutions) Qonitatul Hasanah, S.ST., M.Tr.T, sebagai Pembimbing

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ABSTRACT

Anxiety disorders represent a serious mental health problem in Indonesia, with a prevalence of 9.8% among the population aged 15 years and above. The limited accessibility of mental health professionals, with a ratio of 1:250,000 for psychiatrists, necessitates the search for technological solutions that can assist in early detection of anxiety independently. This research aims to develop an Android application by implementing the K-Nearest Neighbors algorithm for anxiety level analysis and prevention solutions. The development methodology uses the Waterfall model with data collection through GAD-7 questionnaires from 24 respondents over 1 month, generating 757 Datasets. The data was divided with a 70:30 ratio for Training and testing, implemented using the KNN algorithm in a native Android application using Kotlin and Firebase. The KNN model testing results achieved an accuracy of 97.81% with optimal results across all anxiety categories. Black Box Testing showed 22 out of 23 features functioned according to specifications, while User Acceptance Testing achieved an acceptance rate of 80.5%, which falls into the "Good" category.

Key Word: *Mobile Application, m-Health Application, K-Nearest Neighbors, Kotlin, Mental Health, Anxiety*