

ABSTRACT

Android based Smart Digital Assistant for the Elderly with Natural Language Processing (NLP) Voice Recognition

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A smart digital assistant is an artificial intelligence-based technology designed to assist users in performing daily activities through voice or text commands. However, elderly individuals often face challenges in accessing health information, managing medication schedules, and using digital devices independently due to physical limitations and low digital literacy.

This study develops an Android-based digital assistant with speech recognition and Natural Language Processing (NLP) features to help the elderly manage schedules, remind them to take medication, and provide health information through voice-based interactions. The system utilizes the IndoBERT NLP model and Speech-to-Text API to enhance the accuracy of voice command understanding in Bahasa Indonesia.

The test results indicate that the system has a high success rate in recognizing voice commands and providing appropriate responses, thereby enabling elderly individuals to perform daily activities more independently. This research is expected to improve technology accessibility for the elderly and promote digital inclusivity in their daily lives.

Keywords: Digital Assistant, Elderly, Android, Speech Recognition, Natural Language Processing (NLP).