

ABSTRACT

Limited access to agricultural information remains a significant challenge for farmers in Indonesia, primarily due to low digital literacy and the lack of user-friendly and field-relevant information services. To address this issue, this research aims to develop a mobile-based agricultural chatbot system that supports multimodal interaction through text, voice, and images. The system was developed using the iterative incremental method, allowing progressive improvements based on user feedback. Several artificial intelligence technologies were integrated into the system, including DeepSeek for generating text responses, Whisper for voice transcription, Roboflow for analyzing plant disease images, and the OpenWeather API for providing weather-based agricultural advice. Testing results indicate that the system was successfully built and received positive feedback from users, with a SUS score of 88.53 and an average SEQ score above 6 on a 7-point scale. These findings demonstrate that the system provides a satisfying user experience and relevant agricultural information aligned with farmers' needs. Thus, this research contributes a practical digital solution that is both responsive and accessible to support agricultural activities.

Keywords — *artificial intelligence, agricultural information, chatbot, iterative incremental, mobile application*