ANDROID-BASED APPLICATION OF HEALTH MONITORING FOR STUNTING DETECTION IN EARLY CHILDREN

(Case Study of Posyandu Tempuyung Brontokusuman)

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ABSTRACT

Stunting, a chronic nutritional issue that hinders optimal child growth, significantly impacts Indonesia's potential demographic dividend. In 2021, the prevalence of stunting in Indonesia reached 24.4%, with long-term consequences including cognitive decline, reduced productivity, and an increased risk of chronic diseases. This study aims to develop an Android-based Mobile Health Monitoring application to detect and prevent stunting in early childhood. Utilizing the waterfall method, the study produced an application featuring seven main pages that facilitate comprehensive child growth monitoring. Functionality testing demonstrated a 95% success rate in implementing critical features, including navigation, authentication, and child data management. Feedback from 50 early adopters indicated an 85% satisfaction rate and a 40% increase in the frequency of child growth monitoring. Key challenges included cross-platform data integration and performance optimization on low-spec devices, which were addressed by developing a modular architecture and code optimization. The application can potentially enhance early detection of growth issues by up to 30%, enabling timely interventions to improve children's long-term health outcomes. Implementation simulations suggest a potential 5% reduction in stunting prevalence over three years if the application is widely adopted. Although the research is limited to developing a user interface, it lays the groundwork for further advancements, including integrating advanced data analytics and nutrition enhancement features, which are projected to increase the effectiveness of stunting detection and intervention by up to 50%.

***Keywords**: stunting, mobile application, growth monitoring, early detection, health intervention*