ABSTRACT

Speech delay in children is a developmental disorder that can affect social, emotional and academic aspects if not detected early. In Indonesia, there are about 30.2 million early childhood (0-6 years), and according to IDAI 2023 data, about 5-8% of preschool children experience speech delay. The majority of cases recorded at the Poli Tumbuh Kembang RSUD Dr. Soetomo Surabaya in 2017 occurred in boys with an average age of 33 months. This study aims to design and develop a mobile application called SpedyCheck (Speech Delay Early Check) as an independent screening tool for parents in detecting potential speech delay in children by referring to the Denver II standard. The application development was conducted using the Extreme Programming (XP) method, which emphasizes an iterative, flexible, and User feedback-oriented process. This application was built using Flutter and Firebase, with development stages including planning, design, coding, testing, and release. The main features in the app include language development screening, result history, educational videos short, profile as well as question management and analysis Dashboard for the Admin. The results of testing using the Blackbox method show that all features function as needed, and validation by experts states that the application is suitable for use. Thus, SpedyCheck has the potential as an innovative solution based on inclusive smart healthcare to help early detection of speech delay independently.

Keywords: *Speech Delay, Denver II, Mobile Aplication, Extreme Programming, Flutter, Firebase*