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WEB-BASED TODDLER'S DEVELOPMENT MILESTONE SYSTEM WITH TELEGRAM NOTIFICATION

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ABSTRACT - Due to work duties, parents often struggle to track their children's progress effectively. To assist them, a Web-Based Toddler's Development Milestone System with Telegram Notification has been proposed and developed to allow childcare workers to record developmental milestones of toddlers aged two and three years old and send notification to parents via Telegram. The project objectives include developing the system and evaluating its usability and functionality through user acceptance and functionality testing. Employing an agile methodology, a flexible and iterative approach to the system development is ensured. The system enables teachers to update students' milestones and automatically notifies parents via Telegram when a new milestone is achieved. Evaluation conducted using usability and functionality testing among 16 childcare workers has resulted in proving that this system simplifies the process of tracking and monitoring developmental milestones. With this web-based tool and Telegram integration, parents can stay actively involved in their toddler's progress, even with busy work schedules.

Keywords: parents, toddlers, developmental milestones, Telegram, notification

1. INTRODUCTION

The Web-Based Toddler's Development Milestone System with Telegram Notification helps encounter the challenges faced by parents in monitoring their children's developmental milestones. With work duties hindering parental involvement and the potential negligence towards their children's early childhood development (Monteiro et al., 2017), selecting the appropriate tracking tools is often challenging. The objectives of this study are to develop a web-based system that records developmental milestones for toddlers aged 2 to 3 years and notifies parents via Telegram. The system is evaluated through user acceptance and functionality testing using an agile methodology. The scope of the system includes tracking milestones across motor, communication/language, social/emotional, and cognitive development domains. It will feature automated notifications to parents when milestones are achieved, benefiting a childcare center in Perlis, Malaysia. This research aims to empowers parents in promoting active engagement in their child's development, as well as providing valuable information to experts, aiding in early identification of delays and appropriate interventions (Ben-Sassons et al., 2022).

2. METHODOLOGY

The Agile methodology was selected to help propel this project due to the many qualities and significant perks it offers to software development. Trivedi (2021) stated that part of the success of the Agile methodology lies in its emphasis on breaking down projects into smaller, more manageable pieces, or iterations, which in turn enhances and perfects the development, collaboration, and testing phases. In the planning phase, information and resources are gathered to define the problem statement, scope, project objectives, and requirements. The design phase focuses on specifying the technical details of the system, including system designs, databases, sketches, and system interfaces. During development, the logical information is transformed into machine-executable form, ensuring proper functioning and interface integration with system components. The testing phase is crucial, as it involves evaluating system performance and ensuring that all requirements are met before launching the application. Usability and functionality testing are employed by gathering 16 participants to guarantee a successful and efficient system.

3. RESULTS AND DISCUSSION

The Web-Based Toddler's Development Milestones System with Telegram Notification was evaluated through usability and functionality testing with a total of 16 participants, all of whom were childcare workers aged between 18 to 35 years old. The findings revealed that the majority of participants (15 out of 16) found the system to be very comfortable to use, indicating its user-friendly nature. Regarding the quickness in mistake recovery, two participants

rated 3 on a scale of 1 to 5, while five participants rated 4, and the remaining nine participants rated 5. This suggests that the system generally allows for efficient error correction and recovery, although a small proportion of participants experienced some difficulties. Notably, 12 participants found the telegram notification feature of the toddler milestone system to be highly effective, demonstrating its value in providing timely updates and alerts. In conclusion, the questionnaire responses indicate that the Web-Based Toddler's Development Milestones System with Telegram Notification is perceived positively by the participants, as they found it comfortable to use, effective in mistake recovery, and highly satisfactory overall. The system's user-friendly interface and the functionality of the telegram notifications were particularly appreciated. These findings validate the system's usability and functionality, emphasizing its potential to support childcare workers in monitoring and tracking toddler milestones effectively.

4. NOVELTY OF RESEARCH / PRODUCT

The Web-Based Toddler's Development Milestone System with Telegram notification integrates technology, specifically the use of a web-based platform and Telegram messaging, by enabling childcare workers to record and update children's milestones within the system. When a milestone is updated or achieved, parents receive instant notifications through Telegram. This seamless integration between childcare providers and parents through a web-based platform and Telegram messaging enhances communication and ensures that parents are promptly informed of their child's developmental progress. By utilizing modern communication channels and automating milestone notifications, the project offers an innovative approach to addressing the challenges faced by parents in staying actively engaged in their toddler's early development, even in the face of busy work schedules and potential negligence.

5. CONCLUSION

In conclusion, the Web-Based Toddler's Development Milestone System with Telegram Notification successfully achieved all objectives, providing a user-friendly tool for parents to track and monitor their children's milestones. The system effectively addressed the challenges faced by parents, empowering them to actively engage in their child's early development with the assistance of childcare workers.

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