TEAYUDO

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ABSTRACT

INTRODUCTION

In a world that increasingly values inclusion and diversity, technology plays a crucial role in supporting those who need it most. The TEAyudo app is designed with this mission in mind, specifically aimed at helping children ages 3-10 with autism spectrum disorder (ASD). By providing tailored resources that foster emotional and social development, the app empowers both children and their caregivers, offering a comprehensive way for parents, educators and therapists to track each child's progress.

The demand for appropriate educational and communication tools for children with ASD has never been more urgent. For example, while there are several apps on the market, TEAyudo stands out by focusing on the individual needs of each child. In addition, its user-friendly interface and interactive resources ensure that learning remains engaging. As a result of these efforts, parents and educators can easily monitor the child's progress through detailed activity reports, allowing teaching strategies to be adapted to ensure that each child reaches his or her full potential.

Developed with advanced technologies such as Ionic and Angular in Visual Studio Code, and powered by Firebase, TEAyudo is not only a learning platform, but also a bridge between parents, educators and therapists. In this regard, this collaborative function is essential to track progress, adjust interventions and ensure the growth of each child. On the other hand, compared to other apps, TEAyudo's ability to create a tailored educational experience, along with its emphasis on developmental tracking, sets a new standard in supporting the ASD community.

However, in other terms, the app not only responds to immediate needs, but also promotes a more holistic approach to learning. Despite the challenges, TEAyudo is positioned as an indispensable tool that integrates all those involved in the educational process of children with ASD, thus becoming an effective and necessary solution in the current context.

METHODOLOGY

Problem Statement

The development of the TEAyudo application arises from the need to provide effective tools to support children from 3 to 10 years old with autism spectrum disorder (ASD). Many parents and educators lack adequate resources that not only facilitate learning but also enable monitoring of children's progress.

Methodology Used

To carry out this project, the Scrum agile methodology was adopted, which allows agile and flexible development management. This methodology includes short work cycles (sprints) and regular meetings to evaluate progress and adjust objectives.

Planning Phase: We defined the requirements and functionalities of the application through interviews with parents and professionals in the area.

Development: Biweekly iterations were implemented, where the features of the application were developed and tested.

Data Collection: We use surveys and interviews to obtain continuous feedback from users about the usability and effectiveness of the application.

Data collection

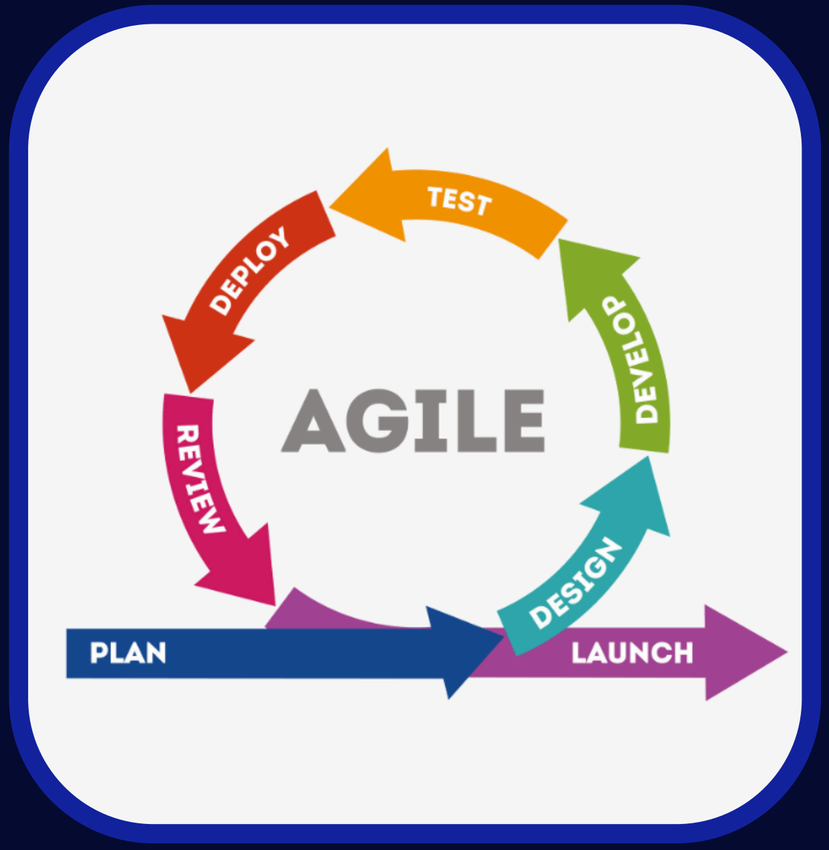
Data were obtained directly from app users (parents, educators and therapists) through surveys, interviews and usage analysis. In this way we obtained first-hand information about the effectiveness of the application, the user experience and the specific challenges faced by children with ASD. In addition, we collected feedback from the children by observing and monitoring their activity as they interacted with the app's features.

Surveys and interviews: parents and educators provided feedback on the child's progress, their interaction with the app, and the problems they faced.

App usage data: This data included frequency of interaction, time spent on activities, and level of engagement with each function. It helped assess which activities are most effective in promoting learning and development.

Evaluation and Justification of Methodological Choices

We chose Scrum for its ability to adapt to rapid change and its focus on collaboration. Although this methodology presents challenges such as team coordination, its flexibility allowed the project direction to be adjusted according to the needs of the users.



Tools and Software Used

Visual Studio Code: For coding the application.

Ionic and Angular: As frameworks for mobile development.

Firebase: For database management and user data storage.

Alpha and Beta Testing

We conducted alpha testing internally with the development team to identify and address initial bugs and performance issues. This phase allowed us to ensure that the app’s core functions operated correctly in a controlled environment. After we completed the alpha phase, we moved to beta testing with a carefully selected group of users, including parents and educators. During this phase, we gathered valuable feedback on the app’s functionality, ease of use, and overall user experience.

Difficulties Encountered

During development, we encountered several obstacles including:

Database Integration: There were initial issues connecting with Firebase. To solve it, we carry out debugging and documentation review sessions.

Adaptation to user needs: Feedback collection revealed that some resources needed to be more interactive. This led us to iterate in the design of certain activities.

Implementation

The project was implemented in several phases, starting with a basic prototype and evolving into a full version after each feedback cycle. Each iteration included the incorporation of new functionalities and improvements based on the tests carried out.

CONCLUSIÓN

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