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Proposal of an Interactive Application to Stimulate Spoken Language in the Autism Spectrum: Phase I

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Abstract

Objective: the purpose of this study is to present the protocol of the first phase of an interactive application to stimulate spoken language in the autism spectrum. Materials and methods: the servers where the application will be executed are configured and supplied, which must have as minimum-necessary requirements for the execution of the software, where the services (apache, php server) and the databases (Maria DB, SQL Server) will be housed. 64GB RAM, 4 Cores, 1 TB of Storage, 64Mbits asymmetric speed and OS Linux Centos or Windows Server. Conclusion: The intention of this application is fundamentally to promote the focus of the autistic avoiding distractions.

Keywords: Autism Spectrum, interactive application, stimulation of spoken language

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Introduction

The computer can become an element of great practical support, which allows you to add schedules, and tasks, encourage the development of skills, identification of objectives, understand topics, and even stimulate expression.

The presence of a narrator's voice, images, and sounds, helps to promote the responses of the autistic operator using an interactive version.

Technology can become a powerful didactic tool in the teaching-learning process. For this reason, its use in populations with special conditions of communication, cognition, or association, acquires a justification with a lot of sense.

In the autistic, there are characteristics such as difficulty in social interactions, limitations in the development of shared skills, and especially little attention in foci of interest. Repetitive activity, absence of eye contact, stereotypes, and in many cases the absence of verbal requests to achieve a goal, are usually common qualities. Generally, it is from 18 months when autism begins to be evident Riviére (2002).

The reports that have been presented on the use of computer applications lead to the analysis of their benefits in the learning system, as a resource for personal training and as educational support, with the possibility of enhancing autonomy in many individuals on the spectrum.

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The purpose of this study is to present the protocol of the first phase of an interactive application to stimulate spoken language in the autism spectrum.

Material and methods

Layer 1

The user accesses the application or tool through any device (laptop, cell phone, tablet, personal computer) as long as the device has internet connectivity and has a good speed.

Layer 2

In layer 2, the servers where the application will be executed are configured and supplied, which must have as minimum-necessary requirements for the execution of the software, where the services (apache, php server) and the databases (Maria DB, SQL Server) will be housed.

- 64GB RAM

- 4 Cores

- 1 TB of Storage.

- 64Mbits asymmetric speed

- OS Linux Centos or Windows Server

Layer 3

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In this layer, the database is configured, where transactions will be processed with a minimum of server requirements.

- 64GB RAM

- 4 Cores

- 1 TB Storage

- 64Mbits asymmetric speed

The process that uses programming for audio

a. How do you record microphone audio?

Through voice recorder technology

b. Where the audio is saved?

In a non-relational database that allows you to store the audio.

c. How much response time do you expect between the audio being recorded and an address assigned to the database?

A range of 0.300 milliseconds to 3.0 seconds depends on the quality of the connection at that time

d. How is the audio played?

The audio plays immediately after the image is presented. This is done through a series of programming instructions that allow us to know if the image is recognized, and this recognition is expressed through audio.

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e. How long will the system have to record the response emitted by the child's voice? (After you ask what object or animal it is)

A range of 0.300 milliseconds to 3.0 seconds depends on the quality of the connection at that time.

f. What kind of operating system?

The operating system is independent of the project. Container technology adapts to Windows or Linux. In the first version, Windows 11 will be used.

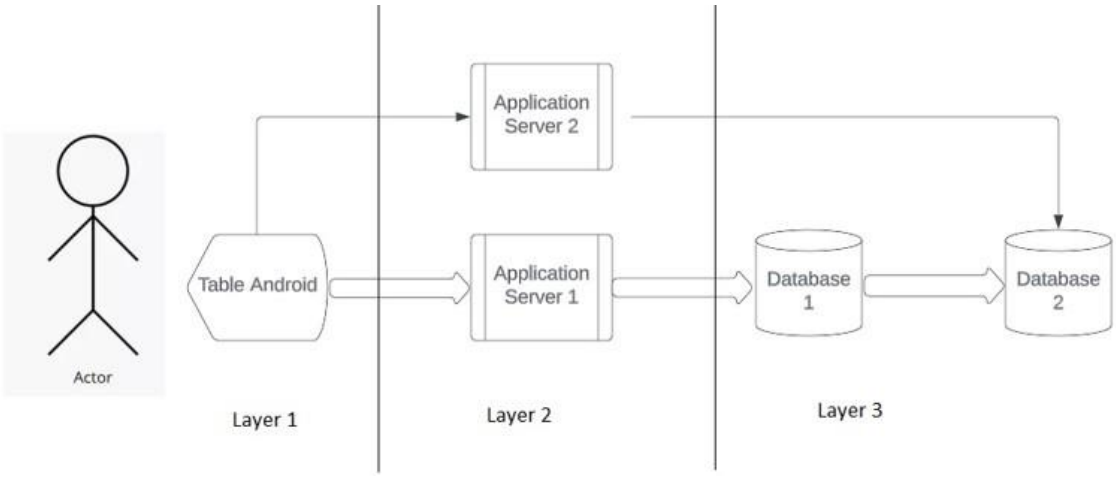

Fig 1- Observed layering from tool access, server configuration, and data processing

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Fig 2- Interactive application to stimulate spoken language in the autistic can be installed on cell phones, computers, or tablets.

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Discussion and conclusion

The proposal of this study coincides with the reports of Ibañez (2014), Cela (2012) and Lozano et al (2016). The possibilities for helping with individual learning, message capture, improved communication, and guided and interactive language development are endless. The intention of this application is fundamentally to promote the focus of the autistic avoiding distractions. Under these premises, it is possible to achieve greater information processing and of course the emission of positive responses of the autistic.

Conflict of interest

The authors express that they have no conflict of interest between them or with any institution.

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