Arabic Picture Exchange Communication System Tablet Apps for Autism Spectrum Disorder Children

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spring-2020

Abstract:

in this project, we will focus on Children with autism spectrum disorder have difficulty communicating with their families as well as the society around them . our software, will improve their socio-adaptive behaviors and their social-response using **Picture Exchange Communication System**. We will manage to use pictures and audio as tools to improve communication skills.
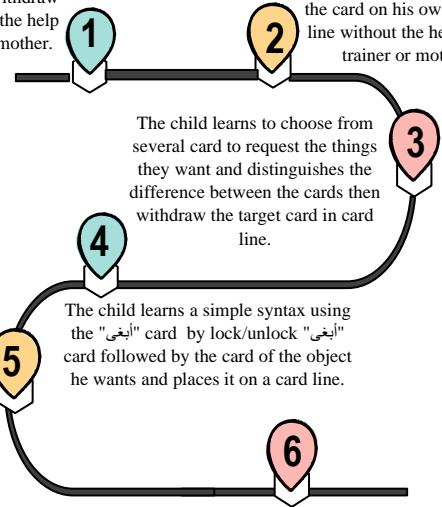
Introduction:

Communication and linguistic disorder is one of the most important problems in children with autism, because it finds it difficult to communicate or express what it desires or feels, and as a result, parents also find it difficult to know and understand their children.

Nowadays, technology has become involved in everything in order to help children with autism. Therefore, there are many applications using the Picture exchange communication system in the Arabic language,English and European language. However, no application using general dialect for arabic language and it achieve the terms of the system in full, so we decided to develop a software application that using general dialect for arabic language and it achieve the terms of the system in full.

Related Work:

Babnoor

It is not available for free. Also, it only provides few accents (Standard Arabic, Saudi accent, Jordanian accent, Emirati accent), which is not helpful in other Arabic countries Finally, it doesn't apply all PECS levels.

PECSII, PECSIV+

The weakness of PECS III, it just applies the first three levels of PECS, Similarly, to other executing applications PECS IV+ Does not implement all PECS levels only from three to six levels. It also does not support Arabic language and not available for free.

Proloquo 2 GO

It supports English language, Spanish language, French language, and Dutch language. and not available for free does not support the Arabic language,and does not apply all PECS levels.

Trainig and Testing :

Development Tools:

Methodology:

1. The child recognizes only one picture and withdraw on card line with the help of the trainer or mother.

2. Automatic performance in the sense that the child pulls the card on his own on card line without the help of the trainer or mother.

3. The child learns to choose from several card to request the things they want and distinguishes the difference between the cards then withdraw the target card in card line.

4. The child learns a simple syntax using the "أبغى" card by lock/unlock "أبغى" card followed by the card of the object he wants and places it on a card line.

5. The child learns to answer the question "أنا أبغى" by using hint on card " أنا أبغى".

6. The child learns here how to answer questions such as: "What do you see?", "What do you hear?", And "And what is this?". Without help and also learn how to build sentences that start with " أنا أشوف", "أنا أسمع", "أنا أحس","أنت.

Program Flow :

Future Work :

At the end, we build software that help children with autism and thier families to easly communication. We are planning to expand our work to include all the general dialect arabic in the arabian gulf.

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Reference: