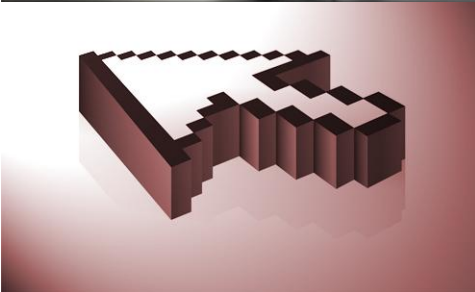


MY THINGS
BETA

Connecting Azahar to other applications



MY THINGS BETA

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Pedagogical guide for use with people with autism and/or
intellectual disability



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■ Introduction

The application MY THINGS has been designed as a result of a demand from the organizations involved in the Azahar project who have requested the possibility of connecting this platform to any other document, application or website that the person habitually uses on his/her computer.

MY THINGS allows any other programme installed on the device to be linked to the Main menu of Azahar, making it simpler for the person with autism to use the computer and collating all commonly used applications into one (Azahar). This refers to, for example, drawing applications (e.g. Paint), computer games (e.g. Pipo) or internet browsers (Such as Mozilla Firefox or Internet Explorer, linked to each user's favorite websites). This is very important aspect, as it means that Azahar is no longer limited to the set of 10 applications on offer, and is open to any other application or document which the user may have on his/her computer.

It is of use both if other Azahar applications are in use and if it is the only application used, as it removes the complexity of the Windows menus and desktop, condensing it into a single, simple Main menu to access all the user's favorite applications.

■ Who the MY THINGS tool is for

The MY THINGS tool has been created for use by people with autism spectrum disorders and/or intellectual disability:

● Autism Spectrum Disorders:

Autism Spectrum Disorders (ASD) is a relatively recent term used to describe people with a series of characteristics in common. These characteristics are known as the “triad of impairments” [1]. These people are affected in their ability to [2]:

1. Understand and use verbal and non-verbal communication.
2. Interpret social behaviour, affecting their ability to relate to others. The MY THINGS tool is an aid for overcoming this difficulty, at least in terms of starting to communicate.
3. Think and behave in a flexible manner, for example, to adapt their behaviour to specific situations.

Asperger’s Syndrome, High-Functioning Autism, Classic Autism and Kanner’s Syndrome are considered to be sub-groups of Autism Spectrum Disorders [2]. However, people with autism spectrum disorders all tend to be very different in terms of abilities, and strong and weak points.

People with a wide range of abilities may have an Autism Spectrum Disorder, and this may occur in conjunction with other disorders (for example, sensory disability, intellectual disabilities, Down’s Syndrome, ADHD – Attention Deficit Hyperactivity Disorder – or language difficulties).

● **Intellectual Disability**

“Intellectual disability” refers to developmental difficulties causing cognitive disorders and affecting overall intellectual capacity and adaptive behaviour. Adaptive behaviour is understood to be the set conceptual, social and practical skills which we learn in order to live our daily lives correctly. Limitations in these skills affect both daily life and the ability to adapt to changes and demands around us [3]. This disability appears before the age of 18 [3].

■ Accessibility, autism and intellectual disability

We will now review some of the notions of accessibility (to the internet, computer, etc.) as it is very important to bear them in mind when choosing which applications to link to the Azahar platform, as many of them do not have a sufficient level of cognitive accessibility to be operated autonomously by the child, or adult with autism and intellectual disability.

Accessibility is a complex concept which can be broken down into three areas to be checked for any system [4]:

1. Access to the computer: hardware (devices) which allow access to the computer. In general, the Azahar project ensures this accessibility to people with ASD and/or ID via the use of touch screens to prevent the need for using a mouse.
2. Accessibility to the browser or IT application [5,6]: features which make a programme accessible to certain people. When we talk about the different applications forming part of Azahar, each application must be studied in depth. It is important to assess whether the application accessible to people with cognitive difficulties, or whether it presents certain barriers or excessive complexity which may prevent these people from using it.
3. Accessibility of Web or content: this refers to the accessibility of website we visit using a browser and documents we open with an application (such as, for example, PDF files).

As we can see from the above, there are three levels where barriers can be encountered. It is essential to ensure accessibility at each level. If just one of the three levels (device, application or content) fails, we have a serious accessibility problem, even if the other levels are perfectly resolved.

In the particular case of websites, the WAI (Website Accessibility Initiative) establishes a classification system whereby sites are grades "A" (complies with basic standards), "AA" and

“AAA” (full compliance with accessibility standards). We must say at this point that a website with the maximum score (AAA) may still not be accessible for a person with autism and intellectual disability [7]. For example, on a website with this score, as per WAI criteria, it is not necessary to include indicators for users to know when they have to make a choice – whereas this is a key aspect in the presentation of information to people with ASD/ID.

While there are no compared and contrasted procedures to ensure cognitive accessibility to the web and IT applications, there are certain recommendations which may be useful when assessing aspects which can aid their use by a child or an adult with autism or intellectual disability [8,9,10,7]:

- *Content and navigation*: it is important for the content to be shown in a grouped format to avoid information overload; they should also be designed with linear navigation (with links for “next”, “back” and “home” always visible); providing stable, easy-to-use site menus. In this regard, the WAI web content recommendations [11] stress that content must be laid out in such a way as to be predictable for the user.
- *Help and support*: use of appropriate language, maximum avoidance of errors and solutions in place to resolve any which may arise; it is equally important to provide information on alternative formats (images and text) to aid comprehension.
- *Design and style*: programmes using very clear typefaces are the most appropriate, removing the need for scrolling or moving around the screen, and do not make use of too many animated features; it is also important to provide simple control over multimedia items (for example, the option of turning off sound if desired).

Another important aspect, whatever programme is used, is for it to provide *structured navigation* [12], as is the case with the set of applications under the Azahar project. This feature is particularly desirable as visual structure is essential for these users, and this is also applicable to the IT context. It is therefore important for all steps for the person to follow to be shown visually.

Another fundamental aspect is for the content and applications we link into Azahar to fully meet the interests and preferences of the person for whom they are intended. In this regard it is important that, once an application has been introduced, we assess the user's degree of satisfaction when using it. For this assessment, direct observation is the strongest tool.

All the above helps us to see that, when a child or an adult with ASD/ID uses MY THINGS, he/she may need more careful supervision than when using any other application on the AZAHAR platform (such as TIC-TAC, MUSIC, INTERNET RADIO, etc.) as for the most part these external applications have not been designed to take into account the needs of these people in terms of accessibility.

■ What is the MY THINGS application?

The MY THINGS application is a tool for accessing any application installed on the computer through the Azahar main menu. This means that the user can open his/her internet browser, video games or any other application just by pressing a button to launch that software.

In order to do this, the tutor must have previously configured MY THINGS, indicating what documents, applications or websites are to be made available to the user. Once this task is complete, the child or adult with autism can access these things without any knowledge of how to operate Windows, as he/she will be able to find them directly on the Azahar main screen, or via a specific category if the tutor has grouped applications or documents together in some way.

This makes Azahar extremely flexible in its use, extending it to cover almost any application considered appropriate.

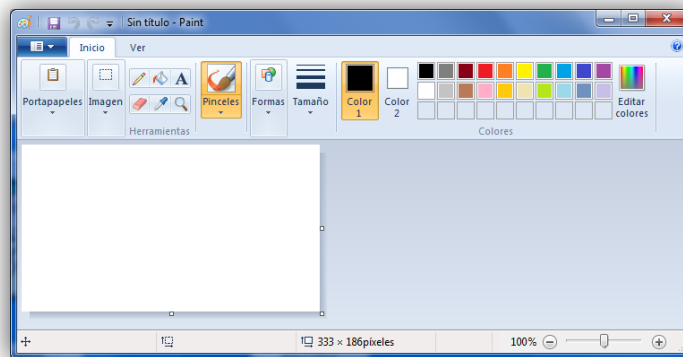
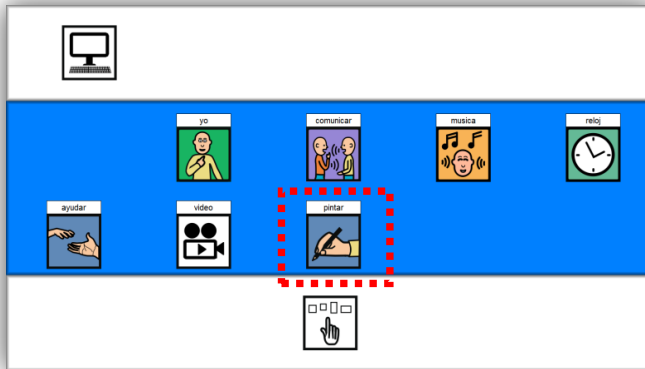
In line with the philosophy of the other Azahar applications, the TUTOR tool makes it possible to create categories in which to group together different types of document using any criteria which may be applicable for the user. For example, categories can be created for games, drawings, or stories. Each of the documents contained in this category may have a different location and be opened using a different programme (some in the internet browser, other with a paint programme, etc.) Categories can also be created depending on when they are to be used (on holiday, for daily use, etc.) or in any other way which may be considered necessary.

MY THINGS allows:

- **Opening a programme or application**

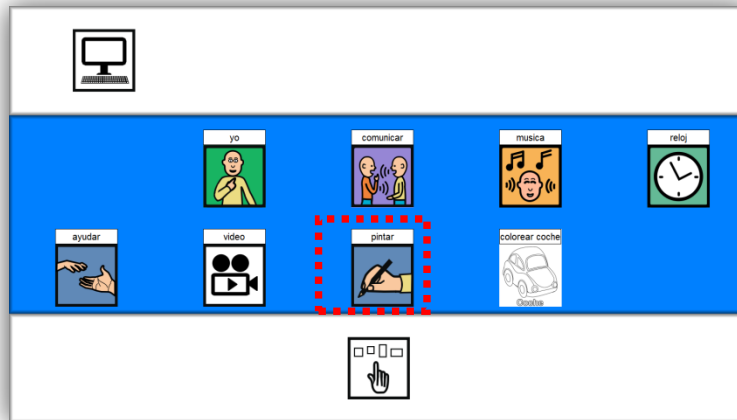
This is done by launching the chosen application, e.g. Microsoft Paint for drawing, creating a new document which can then be saved if the user knows how to operate that programme.

We can use the TUTOR tool to select the correct application and link it to an appropriate pictogram.



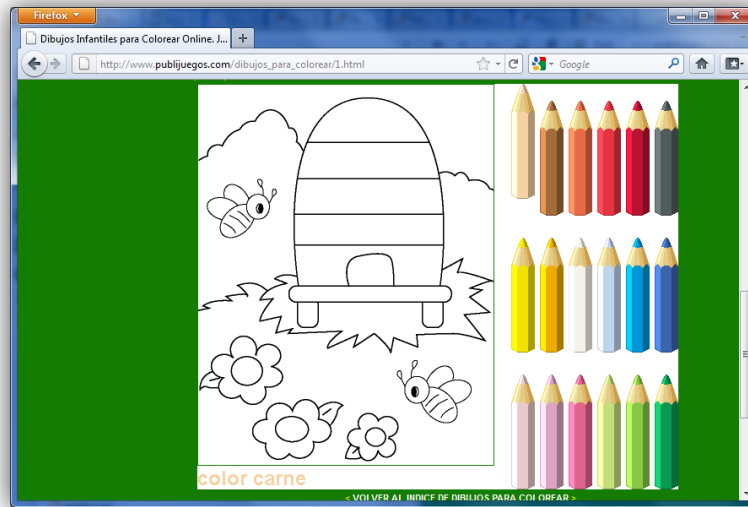
- **Opening an existing document**

Similarly, we can create a shortcut on the Azahar menu to a document that already exists somewhere on the computer. In this case, the associated application will be launched and the document will open automatically. Continuing from the previous example, we could open a specific drawing to be colored in.



- **Opening a URL**

It is also very simple to add a website instead of a document or application. The site is opened automatically on the computer's default internet browser. Continuing with our example, we could link the Azahar button to an online coloring game, as follows:



When linking to websites such as the one above, we must ensure that the user has an internet when he/she is due to use that application.

■ How to use MY THINGS

As we have seen in the examples above based on a coloring activity, we can adapt MY THINGS to open documents, websites or applications for any kind of educational or entertainment purpose.

In brief, the process of using MY THINGS consists of:

1. Identifying what kind of activities may be of interest to and meet the preferences of the child or adult with autism or intellectual disability. If using the application with a touch screen in a classroom or workshop, it is important to bear in mind the interests and preferences of the whole group.
2. Having identified the activities, the next step is to conduct a search (at the centre, at home, on the computer or online) which can be adapted to these preferences.
3. Analysis of the different alternatives, and selection of those which best meet the accessibility criteria discussed above.
4. Use the TUTOR application which comes installed with Azahar to configure access to the chosen documents, applications or websites under the “My Things” tab.
5. Complete one or more tests with the user in order to assess the suitability of the chosen application and the level of support or guidance required to operate it correctly.
6. Complete the necessary IT checks, such as ensuring there is an internet connection where required, checking that no other programmes on the computer can interrupt the user while using these applications (antivirus, automatic updates, energy setups suspending the computer after a certain period of inactivity, etc.) and ensuring that the touch screen or whiteboard is operating correctly.
7. Add the activities to the user’s timetable
8. Complete regular reviews to analyze the person’s experiences with MY THINGS and make any necessary adjustments.

■ Download and Installation

We have done our utmost to simplify the installation and preparation process for this tool. However, we are aware that for some professionals or family members who have less experience with modern technology, this process may seem complicated. In these cases it is highly recommended to obtain support from a friend or relative who is more familiar with the use of computers and other technological devices.

Detailed steps for installation can be found at: <http://www.proyectoazahar.org>

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