MUSIC

BETA

Music player for free time

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Pedagogical guide for use by persons with autism and/or
intellectual disability

Index

■ Who the MUSIC tool is for

The MUSIC tool has been created for use by people with autism spectrum disorders and/or intellectual disability. However, it can also be useful for other people who find it difficult to use conventional music player devices. People with other intellectual disabilities, cerebral palsy, the elderly or other groups of people with special needs may also benefit from using this application.

In this manual we focus on people with autism and/or intellectual disabilities. However, it should be remembered that MUSIC may be useful for other people.

In this guide we use the term "user" to refer to the person with special needs for whom the application is intended. Similarly, the term "tutor" refers to the professionals, family members or friends who undertake the role of preparing the applications for use by the person who requires them. There is a Manual called "Guide to the Tutor Application" which is explains the setup process for MUSIC or any other Azahar application. This Manual is downloaded with Azahar.

■ What is the MUSIC application?

MUSIC has been designed to make it easier for people which autism and/or intellectual disabilities to listen to and manage their music, as they may have difficulty in using and understanding conventional music player devices.

This short manual is intended as a guide for parents, family or professionals who live with the autistic / intellectually disabled person who requires support to access and understand conventional music player devices.

● 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.
3. Think and behave in a flexible manner, for example, to adapt their behaviour to specific situations. This may, for example, mean that the person is reluctant to listen to a song

he/she has never heard before, or always wants to listen to the same song or artist over and over again.

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].

Enjoying music with learning difficulties

Approximately one out of two people with ASD present a related intellectual disability to a greater or lesser degree. This condition can lead to increased learning difficulties, as the complications of autism itself are added to the limitations brought by the intellectual disability. There are also certain social and contextual issues which may contribute to the difficulty of these people to get by in life (for example, the lack of adequate support from an early age).

We believe that many autistic people have not had the opportunity to listen to music and explore this pleasurable leisure activity. Furthermore, many of them restrict themselves to a certain artist or song, making it even more difficult to expand their interests. For this very reason, it is important to offer the opportunity to widen their preferences. We believe that these restricted interests are difficult for autistic people to regulate. For this reason, the MUSIC tool includes strategies for making it easier for the user not to restrict his or her interest to a single artist or song. These strategies are discussed later on in this guide.

Conventional devices can present a huge barrier to accessing and managing music for many people with autism and/or intellectual disabilities. Listening to and controlling music can bring happiness, pleasure, well-being, calm…Literature on the subject refers extensively and

insistently on the level of interest shown in music by autistic people and how they benefit[1] from music therapy. However, we must not forget that the MUSIC application is not designed to be a music therapy device for autism, but that its purpose focuses on making it for the user to access and enjoy music.

Music is pleasurable. It stimulates the senses and in general it is an art which all people should have the chance to enjoy, independently of their condition. For this reason, we need to find means by which autistic and/or intellectually disabled people, can access this valuable art without barriers.

Conventional devices present technological barriers and cannot be always easily used and understood by many people (not only people with autism, but many other population groups as well). For this reason is it necessary to change the procedures used to access music, to others which are more accessible, strongly based on visual support and with formats adapted to these people, in order to provide a fully accessible device.

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[1] The benefits discussed in scientific literature refer to professional music therapy for autistic and/or intellectually disable patients. A large number of references can be found regarding these benefits in the report listed under [12] of the bibliography.

The importance of music

"At the end of a tough day at work I get home and sit down to listen to some music…" "When I'm feeling nervous I listen to my favourite music and I relax straight away…"This is normally done using a cassette player, a stereo, a mobile telephone, an mp3 player or other devices. All these use an operating process commonly accepted by the majority of the population.

However, many people with autism and/or intellectual disability find it extremely difficult to use these devices: for example, inserting a CD, controlling the volume, etc. Consequently, there are a number of barriers and difficulties which prevent many people from enjoying this highly valued art. Managing our own music, choosing the artist we like and enjoying listening to music in our free time…these are actions which help us to take control of an important aspect of our lives. This can be understood to have a significant effect on our quality of life and our self-determination.

"Self determination refers to those activities and skills which a person requires in order to act as the primary causal agent in one's life, making choices and decisions regarding one's quality of life, free from undue external influence or interference" Wehmeyer [3]

■ Managing music

Many people with autism and/or intellectual disability find it difficult to access the music they like. This is because they find it hard to understand the process used to listen to it (example inserting a CD, pressing Play, etc). Consequently many of these people "depend" on those around them in order to listen to music.

Some autistic people who have developed certain skills to a high level may possibly be able to use a conventional device, for example an mp3 player. However those who find great this presents a large barrier are limited to someone else providing them with their music. If we consider the communication difficulties normally encountered in autistic people, we realise that often having to ask someone to play music for them can be tremendously complicated. It is even more complicated to indicate the artist or CD they want to hear. However, there are many people with autism and/or intellectual disability who manage to communicate their musical preferences via Alternative Communication systems or even by speaking.

Although it is valuable for people close to those with autism to help them to listen to music, it is completely reasonable for our objective to be for them to be able to use their own music device, choose their favourite artists and songs, etc., just like those who do not have autism, all in a comprehensible and user friendly format. We believe that being able to choose is much more important then giving them what everyone knows they like [4].

Given all the above, using the MUSIC tool is a learning process in itself for the person in question. Obviously this learning process is dynamic, meaning that the person can start using the device with a very simple process and then move on to more complex operations. For example, starting at a very basic level, all the user has to do is press an image to listen to a song. Later,

once this level is controlled and it is considered appropriate to move on, the application can be set up so that the user has to press the MUSIC icon and then choose the desired artist, finally selected a song from a list. Obviously this requires a gradual learning process for the user, and it is the Tutor who chooses the most appropriate mode, depending on individual needs.

■ The MUSIC tool

This tool offers the possibility of handling music in a simple and accessible way. The application also includes a series of optional visual supports which can be used or not, at the discretion of the person in charge of managing the device. The visual supports are used to facilitate the use of different icons of images. Naturally there are a number of adaptations which can be made to facilitate their use, and of course, each user can customise his or her own music, images or make other suitable modifications. It is important to plan this support with care, and decide the exact use to be made of MUSIC.

• Possible uses of MUSIC

Music can be used for a number of different purposes with people with autism and/or intellectual disability. The following table illustrates some examples of the functions for which MUSIC can be used:

To enjoy favourite music and expand musical preferences

- For breaks or rests (as entertainment).
- When arriving home after daily activities.
- At weekends.
- On journeys (as entertainment before arriving).
- When getting up or going to bed.
- During walks.
- At any other moments of free time the user may have.

For relaxing or avoiding uncomfortable situations

- To calm the user down with the music he/she likes, for example, when he/she is having a "bad day".
- To avoid potentially conflictive situations (for example, the bustle of a bus, music in a shopping centre, the noise of the vacuum cleaner, etc.).
- To make it easier to handle long waits (for example, listening to a favourite song in the doctor's waiting room).
- Some people find that listening to music can make mealtimes easier. For example, in the case of autistic people with restricted diets who are hypersensitive to the taste/smell of food [5], music can ease this hypersensitivity by distracting their attention from the food and focusing them on the music.

For changing activities, completing tasks...

- As a prompt for starting an activity. For example, after hearing the song *Buenas noches, hasta mañana* ("Good night, see you tomorrow") by the Lunnis (animated children's television series), it is time for bed. This is a way of associating a song to each different activity over the course of the day.
- To indicate that a task has finished (for example, listening to a song which indicates to the user that it is time to put away the material, or that a certain job is finished). The educator or a family member can record an appropriate song which can then be used with the tool.

- For certain people it can be helpful to use MUSIC in order to avoid distraction in noisy places or simply as entertainment while a task is being completed. Take care with this, as it is only beneficial in certain cases.

As reinforcement

- As a reward as completing an uninspiring or difficult task. For example, after cleaning his/her bedroom, the user can listen to his/her favourite artist.
- To reward good behaviour. For example: If the user has completed all his/her tasks, he/she can listen to a favourite song.
- After a good day's work. For example: When all tasks have been completed in the day, the user can listen to the music he/she likes.

If considered appropriate, MUSIC can also be used for other purposes. For example, to share the music the user likes with others, or for finding favourite music on the Internet and then putting it into the application.

The person in charge of managing the application can create as many music shortcuts as desired, depending on each different situation. For example: A favourite song for calming down, weekend music, music for arriving home, etc.

- **What can be customised?**

The configuration and customisation of MUSIC and all other Azahar applications is done using the "Tutor application". To find out how to use the "Tutor application", consult the manual which will guide you through this process and advise you on how to configure certain elements of the application.

In principle it is important to know that the following aspects and parameters can be configured:

	Description and options
Learning options	The MUSIC application offers three learning options. These are three levels of complexity which are configured by the tutor depending on the characteristics of the user. It is important to consider that these levels of learning can be offered in combination with one another. For example, the main screen can contain one or more shortcuts to songs, plus a shortcut to an artist, with different songs contained under this shortcut. This allows us to create a progressive learning process adapted to the needs of each user. **Shortcut option (one step)** An icon appears on the main screen (this can be the image of the artist, an image associated to a song or type of music, etc). You can set up as many shortcuts on the main screen as you wish (for example three artists). When the user presses the icon it expands to fill the whole screen and the song or songs associated to this image are played (depending on the number of songs included). **Music icon option (two steps):** This means an icon can be included on the main screen to enter the MUSIC application (a musical note or a customised icon). When you press this icon the images for the different artists, songs or type of music is seen. One of them is then chosen to listen to the song or songs associated to that image. **Advanced option (three steps):** This means a MUSIC icon is included on the main screen. Pressing on this icon accesses the artists or types of music. One of these images is chosen, and after that, the desired song is selected from a list.
Launch icon	It is possible to customise the way in which the user launches the MUSIC application, specifying the icon or image which must be pressed and

and sound	the sound which will be heard when doing so. For example: At basic level this may be the photo of the artist in question, and when pressing on it the name of the artist is heard. At more complex levels it is possible to customise the MUSIC icon (for example a music note or any other image the person associates with music). You can choose and customise as many shortcuts as you wish.
Structured steps	Inspired by the strategies commonly used in the TEACCH programme [6], there is the possibility of including the steps which will be carried out from the main screen until the song is heard. These steps contain visual images and are more numerous depending on the complexity of the application. Examples of advanced structured steps:

■ Pedagogical Guidelines

It is advisable to draw up an action plan for introducing MUSIC. This plan can be used solely for this application or it can be used for the introduction of other similar AZAHAR applications (for example TIC-TAC, or HELLO). The people who know the user best should decide what applications are to be introduced, how, when, why and what effect these will have on the life of the person who uses them. It is advisable to draw up this plan all together, in order to avoid the problems which may arise from an inappropriate use of MUSIC and in order to strengthen the benefits which can be drawn from it. For example: In order to facilitate the transition to activities when listening music, avoiding an obsessive use of music (always listening to the same song, type of music or artist), using music in inappropriate situations…

MUSIC requires a learning process for the person who uses it. In order to do this it is also necessary to assess the progress made using the tool in order to ensure it is being used correctly, that it provides a learning process and that the desired results are being obtained. Later in this guide, we will discuss how these assessments can be made.

- **Process for introducing MUSIC**

As a guideline, we suggest the following process for introducing MUSIC. It is advisable for this Plan to be agreed between all those who are close to the person who is to use the device: family, educators, and other key people in the user's life. This group of people need to meet together in order to drawn up the plan. Naturally, this Plan should be based on the needs and interest of the person in question, and the user should also be allowed to decide and take part, as far as possible, in drawing up the plan. This work method is known as Person Centred Planning [6] [7]. If desired this process can be carried out via the website www.miradasdeapoyo.org .

A coordinator should be appointed from within the group of people who meet together (preferably an educational professional). The coordinator and all other participants in the group have a role to play as specified in the Annex at the end of this guide.

1 Draw up the Introduction Plan for MUSIC.

This guide includes a template (see Template 1) for completing this step.

The Plan, which is drawn up in the meetings by the people who are closest to the user, consists of agreeing the following:

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- the desired objectives of using the MUSIC application. The template includes some proposed objectives, although new ones may arise over the course of the meetings.
- The date MUSIC is to be introduced, depending on the purpose for which it is to be used. It is useful to introduce the application gradually according to its functions. For example: In February it will be introduced for enjoying music, and in April for reinforcement purposes. There is no problem with introducing MUSIC at the same time for different purposes, provided that all those involved agree on how this is to be done and the necessary support mechanism is in place.
- People who will be with the user when using MUSIC and the role of each in this process.
- The support mechanism to be provided. For example: Additional visual support (artist image, pictograms, etc)

The information collated will include other aspects such as the user name, the level of complexity of the application (basic, medium and high) - bearing in mind that the level of difficulty can be increased gradually -, the date of the meeting, the name of the coordinator and those attending. All these aspects are covered on Template 1.

2 List of artists

Complete this step using <u>Templates 2 and 3</u>

It is necessary to draw up a list of artists of preferred type of music to be included in MUSIC. This list should be based on the preferences, tastes and needs of the person who will use the device. This list may include information regarding the name of the artist, the name of the song or type of music, the associated image and the simultaneous support material which will be

used. MUSIC should be updated as the user acquires greater skill in using the device and it is considered appropriate to expand his/her preferences.

Should no difficulties be encountered in drawing up a list of preferred artists for including in MUSIC, use <u>template 2</u>. However, it is advisable, in order to adhere to the true preferences of the person who will use the device, to use <u>Template 3.</u>

Should difficulties arise in drawing up the list of artists or type of music, first use <u>Template 3</u> (then Template 2) and the following guidelines:

Some people with autism and/or intellectual disability may find it very difficult to transmit their favourite artists or type of music. Furthermore, the people around them may have difficulty in identifying these preferences. Consequently, it is often difficult to draw up the list of artists. It is therefore advisable to complete a "systematic preference assessment" [7] of the music heard in order to create a list based on the true tastes of the user.

The "systematic preference assessment" process consists of drawing up a list of the possible artists of type of music which that person may like (the "my favourite songs" list which will be completed by those closest to the person). The next step is to present the different artists or types of music to the person and then observe his/her reaction. It is important to bear in mind that an appropriate time gap should be left (depending on the user's response time) [8] between each piece of music heard. If for example the person smiles when a particular artist is played, this means he/she likes it. The people closest to him/her will be able to interpret these signals best.

It is important to record all this information using record sheets (provided with this guide). Ideally these sheets should be completed by different people and in different contexts. However, if

it is not possible to involve different people, the assessment should preferably be completed by a professional.

One person will be responsible for reflecting on the results and drawing conclusions in order to define the list of artists or music (preferably the group coordinator mentioned above).

By way of example, a table is shown below. A table for completion is also provided at the end of this guide. On the example table, each colour refers to the colour assigned to the assessor. For example, the colour green on the table refers to the assessment completed by the centre educator (green) and so on. The table should be adapted to the number of people who will be taking part in the assessment. The group coordinator, preferably a professional, will give the most appropriate instructions to be followed for this assessment. Below is an example:

Assessor	Date
Centre educator	12th April
Parent of the user	20th April
Monitor	25th April

The person in charge of this assessment should add up the scores marked by the different assessors for a particular artist or type of music.

Artist name	Score						How this is shown
	Not at all	Indifferent	OK	Quite a lot	A lot	Total	
Joaquín Sabina	1	②	3	4	5	8	Calms down, relaxes and smiles
	1	2	③	4	5		
	1	2	③	4	5		
Shakira	1	2	3	4	⑤	15	Waves hands, feels happy and smiles a lot.
	1	2	3	4	⑤		
	1	2	3	4	⑤		

It is important to include an explanation of how the person reacts to an artist or type of music heard. This can prevent misunderstandings and gives the group a means of understanding how the person shows approval, disapproval or indifference to something.

After the assessment the list of artists is completed: Template 2.

3 Before using MUSIC: Initial assessment

Use Template 4.

Where the necessary resources are available, it is strongly advisable to establish a "baseline" period before introducing the MUSIC application. The baseline is used in this case to assess the effect the tool has on a specific aspect or behaviour in the person (for example level of attention, inappropriate behaviour, etc.). This consists of completing an initial assessment of the aspect or behaviour prior to introducing the tool. Later, when the MUSIC tool has be used for a certain period of time, the assessment is repeated for the aspect in question (for example, stress) in order to see if it has improved or not with the use of the tool. So, in the case in hand, by determining a baseline we can, for example, assess whether the user's behavioural problems diminish after using the MUSIC application for a certain period of time. Use template 4, included at the end of this guide in order to do this.

4 Introducing MUSIC

The first step for starting to use the MUSIC application consists of installing it on a device[2], and then customising it. This is done using the "Tutor" application, which you can find by going to Programmes, Azahar and then pressing on the "Tutor" icon.

[2] See below in this guide for more information on downloading and installation

Once the Tutor application is running, all colours, sizes, the number of shortcuts and other issues should be customised. You can also add customised music (the user's favourite songs, artists and images). Then save the application, and install only this version on the different devices to be used by the person. Below are a number of guidelines for adapting MUSIC:

If MUSIC is to be used with shortcuts (or at basic level), ideally you should insert an image of album the song is taken from, the photo of the artist or any other image the person associates with what is to be heard. For example, the main screen will show the artist's photo and the song is heard by pressing on the photo.

If you want to provide a music icon which leads to the different artist options, the application comes with a predetermined image. This process is for the medium level of the application. The image is as follows:

If different songs are inserted under the same image, MUSIC copies the general image and adds a number. For example:

Each tutor can insert the image desired based on the needs of the user of the device. Some people with autism and/or intellectual disability may require highly customised images, both for the general icon for accessing the application and for the music stored under that icon. For certain people it may be useful to organise songs by type of music rather than by artist. In this case, the images need to be customised, bearing in mind that the image should be something that the user associates with that type of music.

"D. Park and P. Youderian described the use of visual symbols and numbers by Jessy Park, then a twelve-year-old autistic girl-. *Good things, such as rock music, were represented by drawings of four doors…. Jessy rated most classical music as pretty good, drawing two doors and two clouds.*" *Grandin: 44 [11]*

As can be seen from this example, this autistic girl invented an image to identify each type of music. It is possible that many autistic people who use MUSIC need this type of customised images to be included.

Following the established plan, including the list of preferred artists and making any appropriate adaptations, the MUSIC tool can then be introduced.

5 First step for using MUSIC

The first step for starting the use the MUSIC application should be to ensure that the person relates the image to the artist or picture seen [14]. If the user has difficulty in doing this, a learning period will be required. The following is a series of guidelines for doing this, bearing in mind that all educational processes must focus on the specific interests and needs of each person.

Firstly, show the person the image of the artist he/she likes. This can be done using the device, preferably first on the computer or via an image which can be manipulated. The size of the image should be adjusted, for example, some people require very large images and others can make do with smaller ones. The size can be reduced gradually, if appropriate, either manually, or on the device in use. The MUSIC application offers the possibility of using large or small icons.

Secondly, the person must press or choose the image (if necessary with full body movement by the carer) and the music will then be played. This action should be repeated as many times as necessary until you are certain that the person understands the mechanism and relates the image seen to the artist heard.

■ Autonomous music management

The person using MUSIC may become more independent in handling the application as he/she learns how to operate it, as the Plan is implemented by all those close to the person and as aspects to facilitate self-determination are included.

While it is desirable for the user to manage MUSIC alone, in the early stages, for certain cases, it may be appropriate for the support person to use the application offering "error free learning" [3] In order to do this, depending on each different person, it may be helpful for the user to see how the tutor uses the device or shapes the entire process (the tutor physically moves the user). In this way, there are no errors or confusions and the autistic and/or intellectually disabled person can use MUSIC successfully from the outset.

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[3] Error free learning is a technique which helps the activity (in this case listening to music) successfully and avoiding frustration. This prevents the activity from being rejected by the user, completing the task successfully. The guided process cannot have any error. Furthermore, error free learning is especially useful for people with difficulty in understanding the meaning of what they are doing, as is the case for many ASD people.

■ Some music related difficulties in people with autism and/or intellectual disability

Some music related difficulties may arise in people with autism and/or intellectual disability. Not all these difficulties will occur in all cases. However, some of the most common difficulties are:

- Limited interests (already discussed in this manual).

- Fascination with a particular sound: People with autism may be fascinated by certain sensory stimuli [5], for example, through their favourite music. It is possible that, in some cases, music may be fascinating for the autistic person, who may have difficulty in diverting his/her attention onto other things. For example: the autistic person is listening to his/her favourite music and his/her mother come over and tells him/her that they are going to visit his/her grandmother, but the person is so engrossed in the music that he/she cannot listen to what his/her mother is saying, even using pictograms. When this happens, what the parent/carer can do is as follows:

Understand that fascination for music provides a pleasurable experience and a state of calm and peace. Given this and other characteristics of autism, it is advisable to wait until that particular song has finished. It is not a good idea to close the application while a song is playing, because we interrupt the state of tranquillity and fascination mentioned above. This it is likely to cause frustration for anyone, but you should remember that for autistic people it can mean more than frustration. For this reason you should wait for the song to finish and then tell them to close the application or say that you are going to close it (depending on each case). The user should watch the process of closing the application and understand that the music activity has finished. Once this is done, tell him/her what you are going to do next (using visual supports if necessary).

On other occasions, this fascination for music can lead to certain problems. For example, the user is walking along the street listening to music and does not realise that he/she needs to stop for a traffic light, go down some steps…The carer should offer the necessary support in order to complete complementary tasks (for example, pausing the music, waiting for the song to finish, etc) and indicate what is going to be done next, etc.

- Headphones. Although the devices used with the MUSIC application usually have speakers – not requiring headphones – it may be a good idea to use them. For example: in order not to annoy other people, to provide a means different music experience, etc…

Some people with autism may have problems using headphones. In these cases, music should be offered only through the device speakers, or where this is not possible, a headphone desensitisation programme should be completed. This means introducing the use of headphones gradually in order for the user to get accustomed to them and be able to use them.

- Hypo-sensitive hearing. Many people with autism and/or intellectual disabilities have hypersensitive or hyposensitive hearing [5]. These sensory perception disorders can affect the use of the MUSIC tool.

Hypersensitive means that the person perceives sounds too sharply. These people may cover their ears, avoid noise, complain about noise, suffer from headaches, etc… They may also get agitated if the music is too loud. For this reason the person adapting the device must bear this in mind for MUSIC and set a low volume level.

Hyposensitive hearing refers to the person having a lower level of sound perception than usual. These people may seem to be unaware of noise going on around them, give the

impression that they are not listening, etc… They may also need music to be played at a higher volume than others. For this reason, the tutor must bear this in mind for adjusting the MUSIC application and set a higher volume level. However, careful attention should always be paid to the user's reaction.

■ Technological issues

Computer or mobile telephone?

The size of a mobile telephone screen can be too small for the early stages of use. For this reason, it is advisable for MUSIC to be introduced using a computer screen. Once the user has become familiar with the programme it can be transferred to portable devices such as Tablets (with touch operated screen measuring around 12 inches), UMPC's (measuring seven or eight inches) or mobile telephones (just four or five inches).

Ideally the device used should be the same, for example a mobile which he/she can carry around, although at first it is advisable for the person to try out the application on a computer, as this can make it easier to use, with the application on a much larger screen than a mobile telephone. It should also be remembered that it is possible to buy devices which are larger than a mobile and smaller than a computer.

If several different devices are to be used, the application must be identical on all of them in order to avoid confusion. Subsequently, as the level of complexity is increased, the application will need to be updated on all the different devices.

Within the educational process provided for the user (child or adult) small situations can be planned for using the application, with different types of music (relaxation, good morning,

favourite songs, etc). On these first occasions, it is advisable for the application to have just one icon and to use a short song. The number of artists, type of music, and number and length of songs can gradually be increased. Complementary material, such as holding the chosen image, can provide additional support during in this process.

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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■ ANNEX: ROLE OF THE COORDINATOR AND PARTICIPANTS FOR DRAWING UP THE MUSIC PLAN.

The group of people should meet together in order to agree on a plan of action for MUSIC. It is advisable to appoint a person from the group to act as coordinator or facilitator. This person will be responsible for directing the plan and ensuring that there is a respectful atmosphere in the meeting, among other roles. The coordinator has the following responsibilities regarding the plan to be drawn up for the MUSIC application:

- in the meeting, all participants, or at least the coordinator, must be familiar with the MUSIC application and its possibilities. explaining to the participants what the application consists of.

- downloading and adapting the MUSIC application at the beginning, and over time (this task can be shared with other members of the group).

- coordinating the record sheets to be used (completing them based on what the group decides, saving them, and drawing results and conclusions).

- calling further meetings to discuss the impact of the MUSIC application in order to make progress with its operation (any other member of the group may call a meeting if necessary).

Despite there being a person appointed to coordinate the Plan, the introduction of MUSIC and other applications is a shared responsibility. The full commitment of all those close to the user when using the device is important for that person to be able to extend the learning process to all

areas of his/her life and in order for appropriate support to be provided as agreed between all members of the group (remember that this support mechanism is defined and agreed in a group meeting). We want MUSIC to be used efficiently in the different situations arising in the user's life. For this reason the following tasks should be completed for MUSIC by the group members:

- Providing the support mechanism agreed for MUSIC

- Working together to complete the necessary record sheets.

- Attending meetings required to complete the MUSIC Plan.

- Other tasks required depending on different cases and contexts.

■ Templates:

Each template below consists of key questions and the responses which will serve as a guide for putting the Plan into practice. However, they should be customised for each different situation.

Template 1: Planning

Purpose: To complete an adequate planning process for introducing MUSIC. This plan will specify the objectives, date of introduction, place, the carers involved with the user, the tasks assigned to each group member and the support role of each.
When to use it As a preliminary of planning stage for introducing MUSIC. The planning process should be updated on the mid/long term, as considered necessary.
Who should complete it The members of the group should draw up the plan. These people are: family, professionals, friends and any other person who wishes to take part in the plan and who have a close relationship with the user of the device.
What are the results used for? The MUSIC programme coordinator or the person in charge saves the plan and gives a copy to all members of the group at meetings. It is advisable to save this information in digital format, so that all members can access it as required.

User Name:		Date of meeting:	__ /__ /___
Coordinator:		MUSIC complexity level:	basic/medium/high

People attending	…………………………………… ……..	…………………………………… ……….	…………………………………… …
	…………………………………… ……..	…………………………………… ……….	…………………………………… …

Template 2. "Baseline" record sheet for before and during the introduction of MUSIC.

Purpose: To measure, as objectively as possible, the impact of MUSIC on the life of the user.
When it should be used? Before, during/after the introduction of MUSIC.
Who should complete it Those people who are present in the place and situation where MUSIC is to be introduced. e.g.: teacher, mother.
What are the results used for? Observations are included in the last column specified for this on each record sheet used. At a later date, when the evaluation is repeated after introducing MUSIC, the results are compared in terms of each function for which MUSIC has been used.
Further observations: Regarding place: (the record should be made for the different places where MUSIC is to be introduced) For example: Listening to music <u>at school</u>, listening to music <u>at home</u>.

For changing activities, completing tasks…				
As reinforcement				
Others				

User Name:		Date	_ / _ / ___
Person who completes the information		Page number:	
Moment assessment is made:	☐Before using MUSIC: ☐During or after using MUSIC		
Place:			

Function	Key Questions	How is this shown?	How often?	Observations / Conclusions
For enjoyment and expanding taste	**How much does the user enjoy it?** Not at all / A little / A little / Quite a lot / A lot		Not at all / Quite a lot / A lot	
	Are there behavioural problems? Not at all / A little / A little / Quite a lot / A lot		A little / Quite a lot / A lot	
	Are his/her musical tastes varied? Not at all / A little / A little / Quite a lot / A lot		A little / Quite a lot / A lot	
To relax or unwind	**What level of stress is shown?** Not at all / A little / A little / Quite a lot / A lot		A little / Quite a lot / A lot	
For changing activities, completing tasks…	**Is he/she happy / satisfied…?** …before starting the task? Not at all / A little / A little / Quite a lot / A lot		A little / Quite a lot / A lot	

	….during the task?		A little / Quite a lot / A lot
	Not at all | A little | A little | Quite a lot | A lot		
	….After the task?		A little / Quite a lot / A lot
	Not at all | A litttle | A little | Quite a lot | A lot		
	Does he/she complete tasks and/or activities correctly?		A little / Quite a lot / A lot
	Never | Hardly ever | Some times | Often | Always		
REINFORCEMENT	When a reinforcement (specify) _____ is given, does the desired behaviour increase?		A little / Quite a lot / A lot
	Never | Hardly ever | Some times | Often | Always		
OTHERS			A little / Quite a lot / A lot

Template 3: List of artists, songs and types of music.

Purpose: To finalise the list of music to be added to the MUSIC application (this may be songs, artists or types of music).
When to use it Before introducing MUSIC, although it should be updated regularly.
Who should complete it The person in charge of completing the record sheets will compile the results of Template 3 and complete this list.
What are the results used for? They are used for adapting the MUSIC application. A copy is given to each of the people involved in planning the use of MUSIC and above all those who will be with the person when using the application. It is advisable to save the information in digital format in order to allow all those involved in the planning process to have access to this list.

User Name:	
Person who completes the list:	
MUSIC level:	Basic/medium/high

	Date	___/_____/_____

Name of artist, song or type of music	Number of songs	Image to be used	Simultaneous support

Template 4: table for drawing up list of artists

Purpose: To determine user preferences in terms of music.
When should it be used? Before completing the list of artists for MUSIC. It is advisable to repeat the assessment on a number of occasions in order to obtain the most reliable results possible. The template should be updated regularly, as the user's tastes may change over time.
Who should complete it This should be completed by the person(s) who work with and/or are closest to the person who will be using the device. Each person who fills in information is represented by a colour to match the colour of the data filled in.
What are the results used for? The coordinator or person responsible for record sheets will fill in all the responses. The artists with the highest scores will form part of the list. The types of music or artists repeated the most over the course of the different assessments will be those taken to be preferred music. On the table, in addition to indicating whether the user likes them of not, there is also a section for "Neutral". The list of artists or type of music indicated at this level will be considered to have obtained a result of "indifferent". These artists will be used to expand the interests of the user. The artists with a neutral score allow you to offer the chance to increase the user's response to a new artist. This means that we need to introduce both the favourite artist and the least favourite artist (which is scored as "maybe" – not to be confused with "dislike") as this reduces the chances of becoming over accustomed to (bored with) the favourite artist [8]. It is important to remember that people with autism and/or intellectual disability can loose interest in an artist or type of music (just like any other person) if they hear it over and over again (even bearing in mind the limited interests shown). Ideally you should introduce these (neutral) artists once the user has achieved a certain level of control over the use of the device. The lower scores for artists can be used for the process of learning to choose. In order to do this, consult this section in the pedagogical recommendations.
NB: Should it not be possible for this assessment to be completed by a number of different people, it is advisable for the same person to complete assessment several times. In this way, the colours on the table can be used to differentiate each separate assessment.

Name of the person who will use MUSIC: ………………………………………………………………………

Assessor	Date
	_/_/___
	_/_/___
	_/_/___

Name of artist, song or type of music	Score						How this is shown
	Not at all	Neutral /Indifferent	A little	Quite a lot	A lot	Total	
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		
	1	2	3	4	5		

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Grupo de Autismo y Dificultades de Aprendizaje.

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