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Bit the Spectrum

Development of 21 AR exercises on the 3DBear App addressed to students with SEN

SPECIFICALLY ASD

DISCLAIMERS & GENERAL INFORMATION

One of the objectives of the Erasmus+ project ‘Bit the Spectrum - Augmented and Virtual Reality Technologies to Boost Literary and Social Emotion Skills in Autism Spectrum Disorder Students’, co-funded by the European Union (project code: 2021-1-DE02-KA220-VET-000033091), is to provide innovative tools for teachers, trainers and tutors to offer diverse learning methods to students with Autism Spectrum Disorder (ASD).

To achieve this goal, exercises were developed within the Bit the Spectrum project that use augmented reality (AR) in a simple and intuitive way to depict everyday actions and improve the literacy, social and emotional skills of students with ASD.

For educators and teachers, the biggest challenge in using 3D or AR technologies is understanding how to use them in practice. The main obstacle is the lack of knowledge and skills needed to use these technologies and understand their solutions. Why use AR? Because it connects the real world with the virtual world by superimposing virtual elements on what we see. Starting from a real situation, AR enhances reality, helping the user in concrete contexts.
The exercises developed by the consortium are based on the specific characteristics of students with ASD and are designed to be easy to use. The following guide describes the 21 AR exercises developed within the Bit the Spectrum project consortium to support students with autism spectrum disorder in developing literacy, social and emotional skills through innovative AR tools.

DISCLAIMERS & GENERAL INFORMATION

As mentioned, the following exercises have been developed within the consortium of the Bit the Spectrum project to support Autism Spectrum Disorder (ASD) students in developing literacy, social and emotional skills through innovative Augmented Reality (AR) tools.

A set of 21 Augmented Reality exercises is here described in specific templates, considering the expected results, specific learning disorder addressed and possible feedback to be requested from the users (teachers and educator or student, depending on the specific exercise).
The descriptive templates also contain the technical description of the use of the 3Dbear app, the activity to be performed in the exercise, useful instructions for its development, and the AR material needed for each specific exercise (images, text, shapes etc.). The templates have been designed on the features and functionalities of the free version of the 3Dbear app, where the integrated version of the exercises will also be found. The term 'user' in the descriptive templates indicates that these exercises, despite being created for VET students with SEN, specifically ASD, are open to other students or users with ASD in general. The difficulty of the exercises, from 1 less demanding to 3, more demanding, was determined through consultations with the educational staff of the LUOVI partner.
The exercises have been described to support students (users in general) the exercises will be co-developed according to the R2 methodology for Augmented Reality and based on the 3DBears app, but are also transferable to other Augmented Reality platforms available on the market, such as Augmented Class! The exercises are meant to be markerless, which means that augmented information is displayed without the need for a marker such as a QR code or an image.
Moreover, the app itself is designed to be easy to use for both students and teachers.

Key points

The explained exercises are designed for the app 3DBear which can be downloaded for free on tablets and smartphones

The exercises are all marker-less so should be easily developed, however, some exercises might need supervision from teachers

All exercises will not suit every student since every single one of them has specific and unique needs

The exercises are thought to be developed by students with ASD to boost their literacy and social-emotional skills through an informal learning tool: AR

The exercises are part of different categories (linked to the learning potential addressed) for each specific exercise and determined by the partners in the ideation phase. Each category aims to address one learning potential to be boosted through the AR exercises:

1. Imagine\ redesign the world
2. Emotional Skills
3. Worklife
4. Independent Life
5. Assembly

It is important to respect and protect privacy: when framing a part of the housework environment or some public space, the teachers\ educator will have to be careful to ensure to not frame people, personal belongings, or private documents.

The benefits of the exercises will be:

- Increase self-esteem and self-awareness
- Develop awareness about AR
- Increase reading and writing skills
- Increase communication skills with other people
- Boost their interest in people around them
- Understand how to ask for things clearly and specifically
- Boost their focus at school
- Exercises will be available in 3DBear app and open to the public at no cost

INSTRUCTIONS

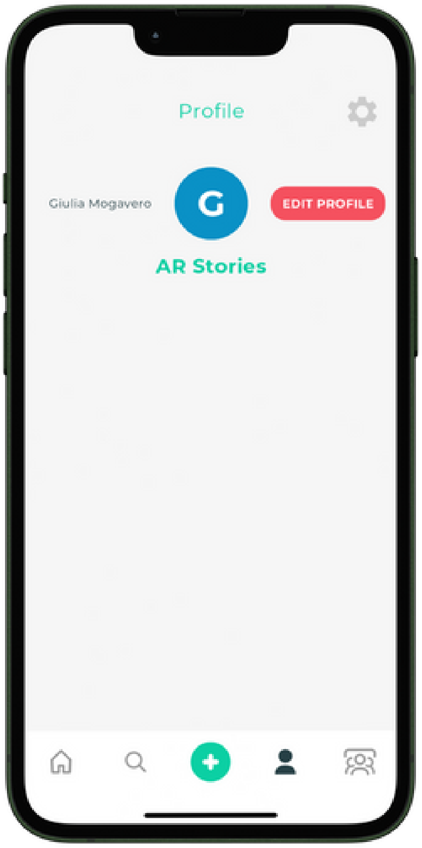
How to Use 3DBear App?

3D BEAR
3D BEAR
The new standard for learning

For Phone or Tablet
Download on the App Store
GET IT ON Google Play
3D BEAR

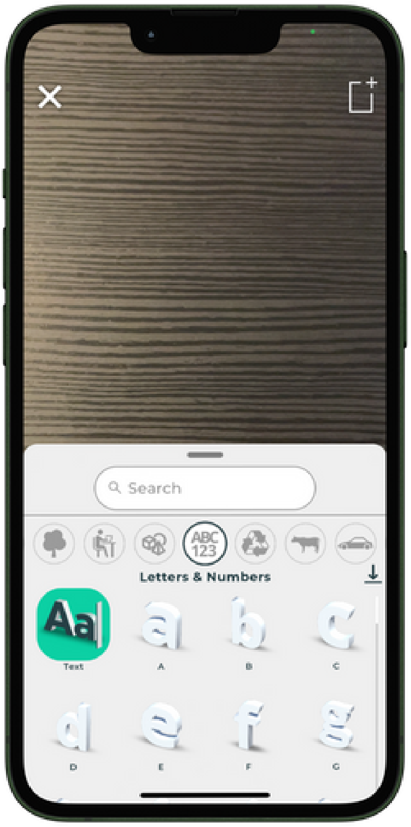
1

Open the 3DBear application (free) on your phone. Install it if it is not installed.


Profile
Giulia Mogavero
G
EDIT PROFILE
AR Stories

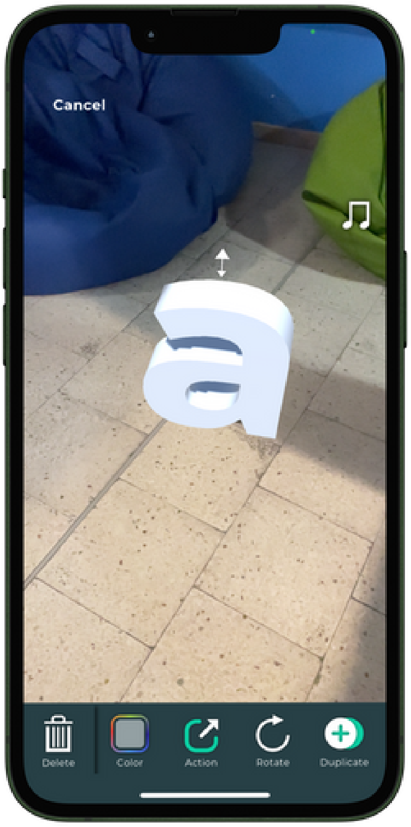
2

Select the “+” symbol


Search
Letters & Numbers
Text
A
B
C
D
E
F
G

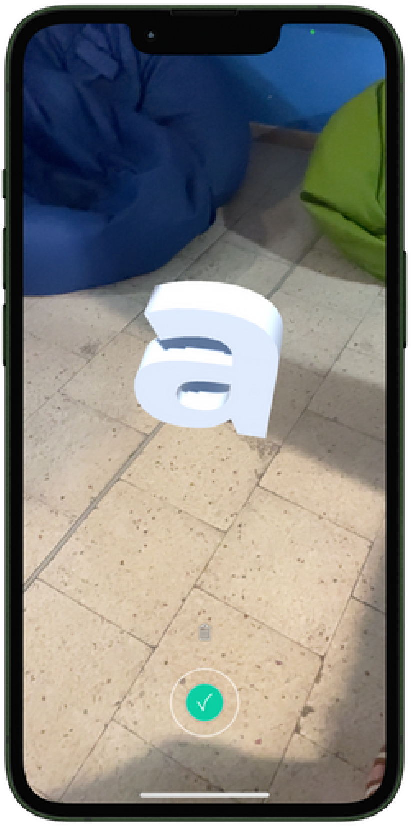
3

Select 3D models from the collections


Cancel
Delete
Color
Action
Rotate
Duplicate

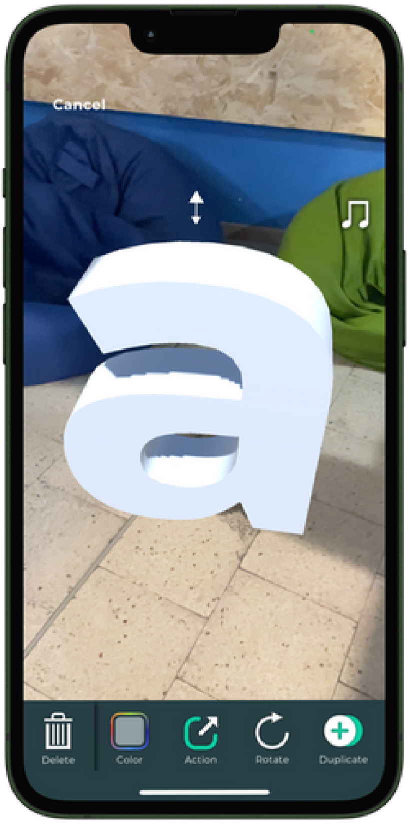
4

Add more 3d-models by pressing the left symbol



5

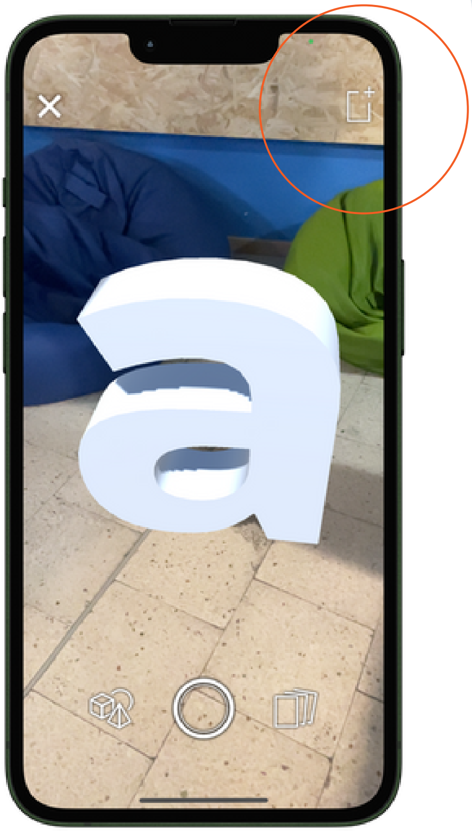
Place the object. When you see this green symbol, you may place the object by clicking it


Cancel
Delete
Color
Action
Rotate
Duplicate

6

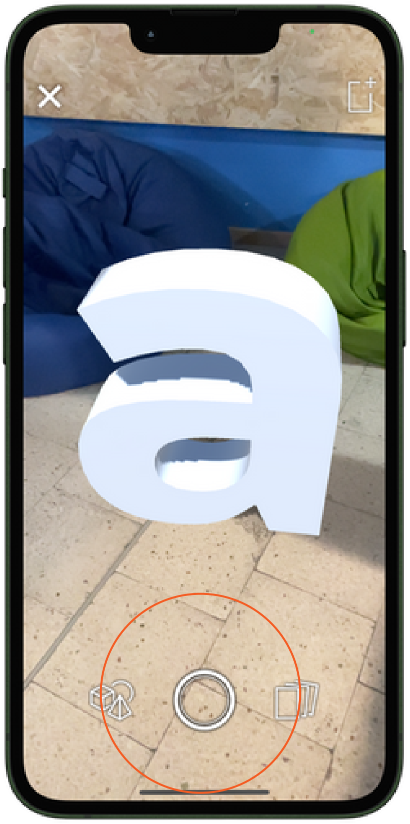
You can change the size of the object by activating the object and moving two fingers simultaneously on the screen

*Tip: You can easily copy the model by clicking “duplicate”.



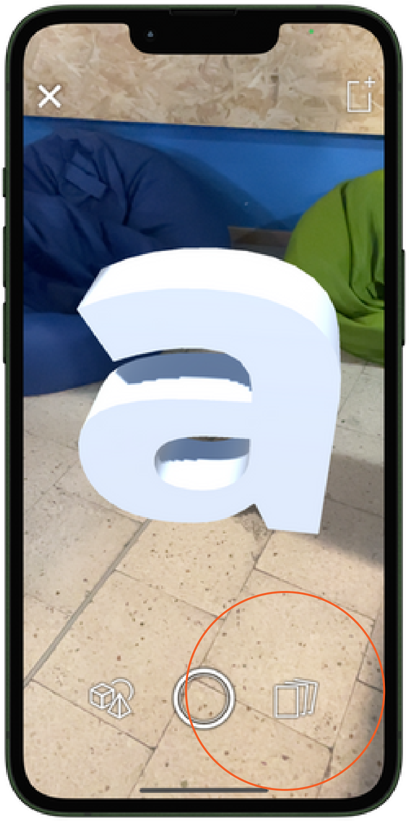
7

If you want to start creation again, press the right upper symbol. This will delete the models and you can start again.



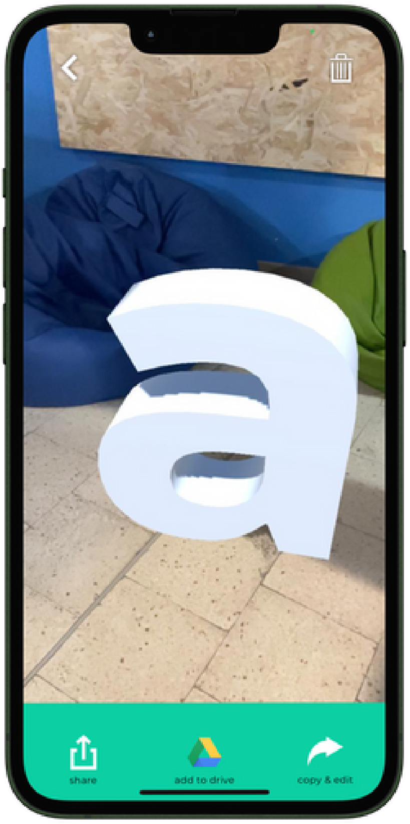
8

Take a picture by clicking on the circle. If you want to take a video, press the button down longer.



9

Check your pictures\ videos from the collection


share
add to drive
copy & edit

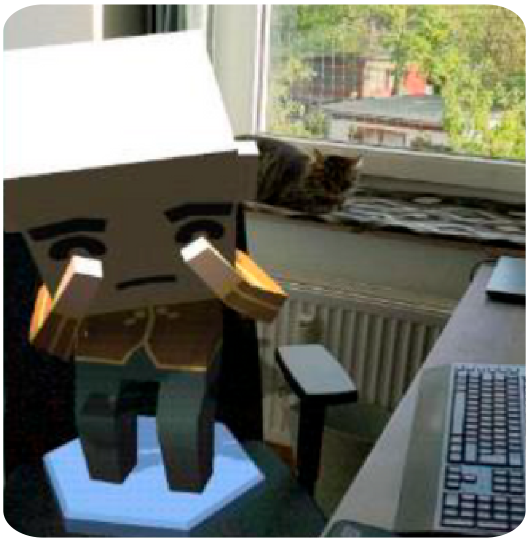
10

From the collection, share your photo\video as instructed

Examples of pictures created with 3DBear App as an outcome of specifically developed exercises

Exercise 2: The furniture I need at home

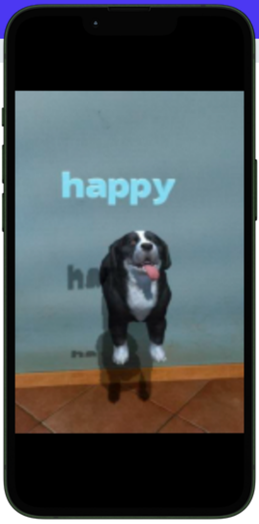
Exercise 6: The elephant in the room – Show something that others may not see



Below is the description of the exercises

Exercise 1

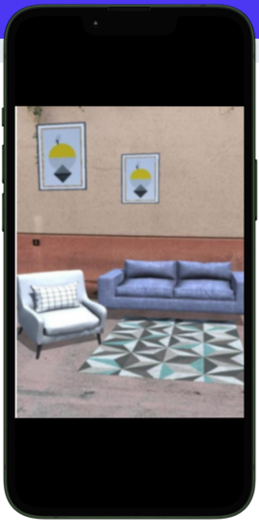
Associate animal to emotion and identify it



GOAL OF THE EXERCISE	The goal of the exercise is to identify different emotions while associating them with animals → animals of the user's choice regarding personal experiences- associations (there is no right or wrong) Suggestions for the teacher\educator: Give a list of emotions (users can choose the animals from collections) and tell the user to try to tell a story or a personal experience.
DIFFICULTY OF THE EXERCISE	2 (medium) It depends on the user's capability and familiarity to identify a different set of emotions.
ACTIVITY IN THE EXERCISE	The exercise consists of framing a blank background\ space and inserting an animal between the ones available on the 3DBear app. After that, the user will select 'text' and write down an emotion that they believe can be correlated to the selected animal (or to how the animal is depicted in the app).
SEN APPROACHED, DESCRIPTION	Recognition and understanding of different emotions, correlation of emotion to how the user perceives it. Recognition of certain gestures that can be linked to a specific emotion
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Communicating with other people -Reading and Writing skills -Communicating and identifying emotions
AR DESCRIPTION	On 3DBear App frame an empty space. From the add button select the animal you prefer from the 'animal section' then Select from 'letters and numbers' the text option and add the emotion you associate with the selected animal.
CATEGORY SYSTEM	2: Emotional skills
HOW TO USE THE EXERCISE	The exercise can be developed by the users alone or with the support of a teacher\ educator if necessary. While developing the exercise, the user will think about their own emotions and how to make others understand their needs and feelings. The exercise can be important for expressing feelings in a creative way.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: animals. Text to be inserted: the word expressing a specific feeling-emotion.
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The goal of the exercise is to allow the user to both express a feeling that he\she\they know and to write it down. In this way, the user will show the teachers-educators the emotions or feeling that he\she knows best and it will be done more creatively, by collocating that emotion to a specific animal that the user might be familiar with. An explanation of the decision made will follow, to allow a better understanding of the knowledge of the feeling and also of some personal background. Ex. If the animal chosen is a dog correlated to the emotion 'fear' it will be possible to understand and maybe talk about an episode of the past that generated this fear in the user and how to deal with this emotion

Exercise 2

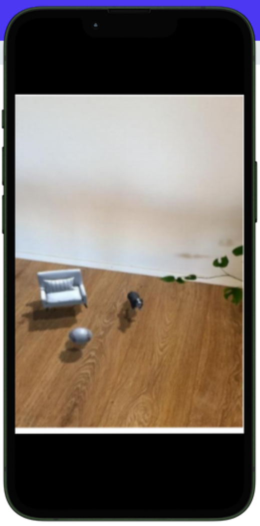
The furniture I need at home



GOAL OF THE EXERCISE	The goal is to be able to understand what elements are functional for an apartment to live in to be independent. Select and understand which furnishing elements the user prefers for their future home
DIFFICULTY OF THE EXERCISE	1 (easier) It depends on the user's abilities and the user's personal needs
ACTIVITY IN THE EXERCISE	The exercise consists of framing a blank background space and inserting objects suitable for that specific home space ex. Living Room, selection of sofa, carpet, lamps etc. The user can choose which room to furnish (possibly more than one) and which elements to consider as necessary to insert (according to personal taste).
SEN APPROACHED, DESCRIPTION	Recognition and understanding of the surrounding spaces and the elements needed in a house to build their own Independence. Recognition of essential elements according to personal needs. Understanding how to plan their future.
LEARNING POTENTIALS ADDRESSED	-Increase self-awareness -Increase independence -Learning own's needs -Increase creativity
AR DESCRIPTION	On 3DBear App frame a space that will be, for example, the living room. From the add button select the specific items of furniture that are considered suitable for that room.
CATEGORY SYSTEM	4: Independent life
HOW TO USE THE EXERCISE	The exercise can be developed by the user alone or with the support of a teacher\educator if necessary. While developing the exercise, the user will understand their needs and enhance creativity by choosing elements that they like. The exercise will be also important to understand what can be defined as 'necessary' in a specific room to live an independent life.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: furniture from a collection on the App. Text to be inserted: none
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The goal for the user is to create their specific room as they desire and according to their specific needs and wishes. The app allows one to choose between different elements, colors and objects so as to create various rooms of the house in a personal way. The user will express in this way their tastes and their real needs through the exercise, if possible, the exercises will be followed by a moment of confrontation with the educator\teacher that will hopefully lead to improving elements of their home to more independent decision-making.

Exercise 3

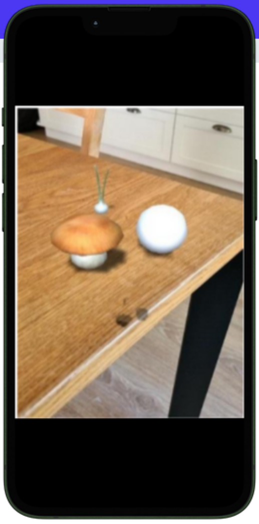
Make the environment more convenient for you



GOAL OF THE EXERCISE	To be able to feel safe in new environments, such as museums, markets etc.
DIFFICULTY OF THE EXERCISE	2: Exercise mentally ‘more demanding’, teacher\ educator support is needed to discuss needed objects for the exercise. 3: A harder version that could be given by the teacher as homework is to create a video as an outcome of the exercise The creation of a picture as an outcome might be considered an ‘easier and initial version’ of the exercise.
ACTIVITY IN THE EXERCISE	The user will leverage their understanding of what they perceive as a safe environment and apply this knowledge in new settings or situations. This exercise requires imagination and the ability to immerse oneself in an augmented reality (AR) enhanced
SEN APPROACHED, DESCRIPTION	A feeling of unpleasantness when entering new environments and situations. A feeling of anxiety when entering new environments and situations. This exercise will make it easier to step into new situations or environments. The idea is that AR will give support so that it is easier to focus and be in the situation. The idea is not to isolate one from the situation but to make it more tolerable (planning of the exercise should consider this carefully).
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness
AR DESCRIPTION	On the 3DBear app frame a selected known space (public or private) such as the canteen of the school, a museum, a bar etc. From the add button select the items that will make that precise space ‘more convenient\ safe’ from the different sections of the App. For example, some lights and fewer people can make the hallway of the school feel safer and more convenient.
CATEGORY SYSTEM	1. Imagine\redesign the world
HOW TO USE THE EXERCISE	This exercise is developed to be done supervised in a case where a new environment or situation is entered. The exercise should encourage to think of ones emotions in the situation and how to manage them.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: furniture\ animals\objects from collection on the App. Text to be inserted: none
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	Instructions that can be given by the teacher\ educator: ‘Think about 3 to 5 places, one per exercise, as an example so: supermarket\ School\ gym\ home\ museum etc. The user will use the AR object to first show the emotions that space arouses in the new situation, and then through the exercise it will be possible to show what elements would make the environment more calming for him (add AR objects to this environment). The exercise will give a way to understand any issues related to that particular place.

Exercise 4

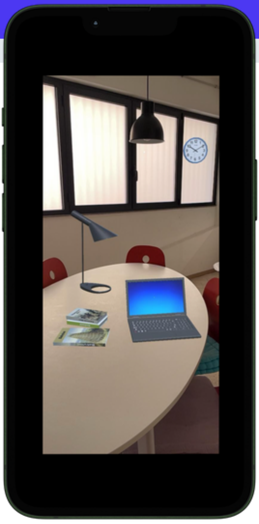
Follow a recipe



GOAL OF THE EXERCISE	To be able to gather the ingredients for a recipe and to follow the recipe
DIFFICULTY OF THE EXERCISE	1-2: Select ingredients by a list previously given by the teacher\educator (easier version) 3: Only provide the name of a recipe and users have to think of all the ingredients (harder version) Important: check the ingredients available from the collections on the app beforehand
ACTIVITY IN THE EXERCISE	The exercise consists of framing a space (preferably a kitchen counter) where the user will place the needed ingredients for a recipe, the ingredients will be AR items selected by using the 3DBear app. Exercise will deepen the ability to follow a recipe and understand what is needed for a specific task.
SEN APPROACHED, DESCRIPTION	-Difficulty to focus, difficulty to follow a recipe
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness
AR DESCRIPTION	On the 3DBear app the user will frame a selected space (preferably the kitchen counter) and select the ingredients from the 'health & nutrition' section of the app and add them to the picture.
CATEGORY SYSTEM	5: Assembly
HOW TO USE THE EXERCISE	The teacher\educator can decide if is necessary to put a limit on 'ingredients' also according to the recipe. This exercise can be done anywhere. The user needs access to a recipe, and using the 3DBear app they will gather all the needed ingredients. The teacher\educator can decide whether or not to give a list of ingredients to look for in the 'selections' of the app or to make users think about the needed ingredients.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: foods from the collection on the App. Text to be inserted: optional, the name of the recipe
TECHNICAL INFORMATION	Decision on color and fonts depends on the selected elements for the recipe
INSTRUCTIONS FOR THE USER	Read the recipe. What ingredients do you need to cook accordingly? Now place the ingredients on a table using 3DBear app. It is possible to duplicate items. The user will take a picture at the end and show it to the teacher\educator to have a feedback. Ex. Recipe: Omelet Ingredients: 1 Egg - 1 Onion -1 Mushroom Suggestion: if the recipe demands 'a spoon of', write it in the picture next to the needed ingredient.

Exercise 5

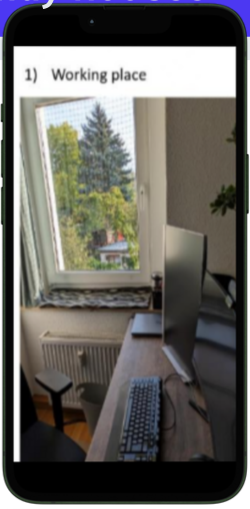
Design your workplace!

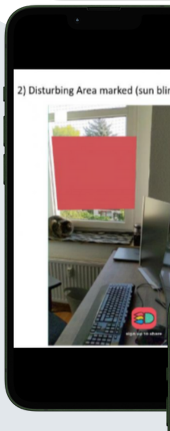


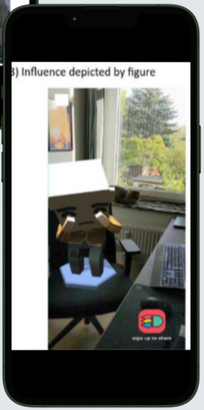
GOAL OF THE EXERCISE	Give the user the ability to design their workplace to their needs and imaginations. The user will be able to creatively show the teacher/trainer/educator or pedagogical staff what the ideal workplace looks like. Enable learners to engage with their needs and desires in the workplace and create understanding between teaching staff and learners.
DIFFICULTY OF THE EXERCISE	2: Even if it strongly depends on the users' abilities and the environment given.
ACTIVITY IN THE EXERCISE	The user designs their workplace according to their individual preferences. Furniture, devices, machinery, plants, and all other types of objects can be used for this purpose.
SEN APPROACHED, DESCRIPTION	-Strengthen imagination -Awareness of one's own needs, dialogue/social interaction (describe to the teacher why the workplace is designed as it is) -Recreate boundaries and limits
LEARNING POTENTIALS ADDRESSED	Student: The ability to recognize one's own needs in the workplace as well as their visualization. -Engaging with one's own work and its content. -Encouragement of creativity and self-determination. Teacher: Understanding the needs of learners in the workplace. -Sensitization to the needs of the learners. Both: Promotion of the dialogue skills.
AR DESCRIPTION	On the 3Dbear app the user will select items from different sections such as 'learning space' or 'home'. Create one personal scenario (no pre-setup scenario is used or necessary).
CATEGORY SYSTEM	1. Imagine\redesign the world
HOW TO USE THE EXERCISE	The user can be supported by the educator\teacher if necessary. Afterward a discussion between user and educator can take place to foster an understanding of the students' needs. This strengthens the students' social interaction and verbal expression at the same time.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: selected items from the app. Description of the workplace by text is possible but not necessary.
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The goal is to create the workspace to personal needs and wishes. The user can design the table/area they are working on as well as their known environment, choose their chair, plant trees, and create whatever they need or wish to exist at the workplace. If possible, integrate machines or tools that are necessary for current\desired future work. Then the user will describe why they designed the workplace in this way to the educator. What was your idea or what was your need that made you choose a specific object or design? The exercises will be implemented in a known and everyday environment.

Exercise 6

The elephant in the room - Show something that others may not see


1) Working place

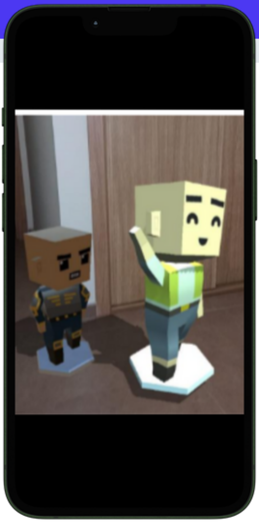

2) Disturbing Area marked (sun blinds m


3) Influence depicted by figure

GOAL OF THE EXERCISE	The main goal of the exercise is to create awareness of the user's needs and perceptions of themselves and others. Observation and reflection of the influence of the workplace on the learner\user. Communication of individual perception to educators..
DIFFICULTY OF THE EXERCISE	3: This exercise requires a lot of understanding and creativity
ACTIVITY IN THE EXERCISE	The activity calls for three major steps to be taken. 1. Observe and reflect at your workplace. Identify and mark the object/area that influences you in a good or bad way. 2. Show, by using the AR app, how you relate to this specific area or object by using objects/emojis/avatars. 3. Try to explain what you did to your teacher. You can also add text to the unit if you find it more convenient..
SEN APPROACHED, DESCRIPTION	-Strengthen the awareness of learner's self-perception -Strengthen the imagination -Learn new ways to express your feelings and perception to others
LEARNING POTENTIALS ADDRESSED	Learner: Ability to detect and identify areas/objects of significance. -Ability to depict your own perception. -Creativity and Self-perception -Communication of perception and needs Educators: Understanding the perception of learners at the workplace. -Learning new communication channels with learners.
AR DESCRIPTION	On the 3Dbear app the user will select items from different sections such as 'home'. Create one personal scenario (no pre-setup scenario is used or necessary).
CATEGORY SYSTEM	1. Imagine\redesign the world
HOW TO USE THE EXERCISE	Users engage in the exercise by themselves. Educators need to foster an understanding of the task at hand. Afterwards, a conversation will be held between educator and learner, to the extent that the learner feels confident, to build an understanding of the learner's perception.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: selected items from the app.
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	This task is split into three major activities. These points are what the teacher\educator can say to the users: 1. For the upcoming challenge we encourage you to go to your workplace and contemplate for yourself what is it that you think is influencing you at your workplace (either good or bad) that others may not recognize. Mark the Area or object(s) that have the biggest influence on your work routine. You can do that by using the 'Cube' form and editing it to your needs. Useful are for example the 1D-scale tool to flatten the cube to a surface or the color tool to add transparency as well as a bright color to highlight marked areas. 2. If you have marked an area, include an object to show how you relate to this disturbance or impact. Example of positive influence: Rainbow eraser on desk → the eraser influences me, because I find it very funny → include a clown emoji Example of negative influence: Telephone on the desk → your supervisor is constantly calling which distracts you from a consistent workflow and you don't know how to tell → include for example a Gorilla (whatever feels right for you) to show the dominance of your supervisor over your workflow 1. Explain to your teacher what you did and why, if possible. Added text to the unit is also possible. Therefore, you can either use the letter forms or insert text, by using the action tool to fill in text inside the adjusted cube/ marked area. Important: You can also detect the biggest problems (ex. bullying in the cafeteria) it can be made simple (ex of the eraser). Suggestion for an easier version: just put a 'box' or an object to mark the area that is for you disturbing, and describe to the teacher\ educator why it is 'disturbing' for you.

Exercise 7

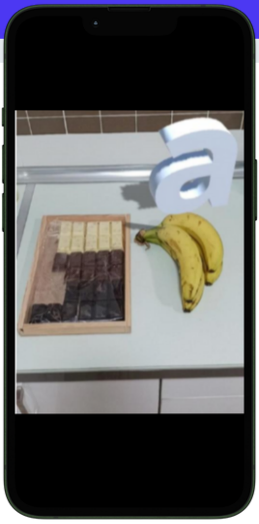
From emotions to words



GOAL OF THE EXERCISE	The goal is to identify one's emotions, and other people's emotions by interpreting expression signs and being able to explain them with words.
DIFFICULTY OF THE EXERCISE	2. Medium difficulty
ACTIVITY IN THE EXERCISE	The exercise consists of asking the user how he or she feels or how another person in the room is feeling and choosing the avatar that matches the emotion. Afterward, the activity consists of naming that emotion and explaining how it feels. Describe how the user feels in the specific situation.
SEN APPROACHED, DESCRIPTION	Recognition, understanding, and expressing emotions. Understanding how ones feels and coping with feelings. Usually, it is hard for the general population and harder for people with special needs to understand one's or another person's emotions and put words to them.
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Communicating with other people -Showing more interest in people
AR DESCRIPTION	On the 3Dbear app the user will select items from different sections such as 'avatar' and 'letters & numbers'.
CATEGORY SYSTEM	2. Emotional Skills
HOW TO USE THE EXERCISE	Use this exercise with learners who have more difficulties expressing themselves and showing how they feel. Also learners that find it hard to interpret people's expressions and not spoken language.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: selected items from the app.
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	1. Open the 3DBear App installed in your phone. 2. Select the + icon. 3. Frame the space you are in and add emotional avatars that can express how you feel, or how the other person in the room is feeling. 4. When the avatar is ready press the circle and start recording a video. 5. Put words into the emotion shown by the avatar selected and explain why you think that emotion expresses why you or the other person feels that way. 6. Send the video to the teacher or person you are working with. What do you think is feeling after your conversation? →Identify emotions in a SPECIFIC PLACE ex. Cafeteria of the school. Suggestion: for students that are not talkative, avatars are going to express their emotions, important for the teacher\educator to think about how to specify differences in the different emotions.

Exercise 8

Nutritional Value



GOAL OF THE EXERCISE

The goal is to identify the nutritional score of different foods.

DIFFICULTY OF THE EXERCISE

3: more demanding exercise, nutritional table needed

ACTIVITY IN THE EXERCISE

The exercise consists of taking a picture of a meal, snack, food in the cafeteria, etc., and labeling it with the official nutritional score guideline from A to E.

SEN APPROACHED, DESCRIPTION

The exercise will help with the difficulty of having good nutrition and choosing a balanced diet, being conscious of what you eat

LEARNING POTENTIALS ADDRESSED

-Increase self-esteem and self-awareness
-Learning to ask for things that they want
-Reading and Writing skills

AR DESCRIPTION

On the 3Dbear app the user will select items from different sections such as 'avatar' and 'letters & numbers'.

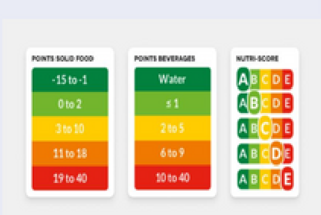
CATEGORY SYSTEM

4. Independent life

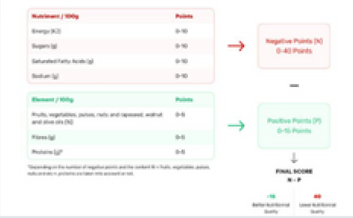
HOW TO USE THE EXERCISE

Use this exercise with learners who have more difficulties choosing a balanced diet or won't eat certain foods.

ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE



POINTS SOLID FOOD	POINTS BEVERAGES	NUTRI-SCORE
-15 to -1	Water	A
0 to 2	≤ 1	B
3 to 10	2 to 5	C
11 to 18	6 to 9	D
19 to 40	10 to 40	E



Nutrient / 100g	Points
Energy (KJ)	0-10
Sugars (g)	0-10
Saturated Fatty Acids (g)	0-10
Sodium (g)	0-10

Element / 100g	Points
Fruits, vegetables, pulses, nuts and rapeseed, walnut and olive oils (%)	0-5
Fibres (g)	0-5
Proteins (g)*	0-5

Negative Points (N)
0-40 Points
−
Positive Points (P)
0-15 Points
FINAL SCORE
N - P
-15
40
Better Nutritional Quality
Lower Nutritional Quality

TECHNICAL INFORMATION

The users will have to check and understand first the NUTRISCORE on the images below, with the support of teachers\educators.

INSTRUCTIONS FOR THE USER

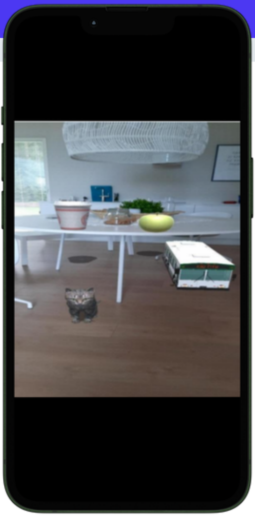
1. Open the 3DBear App installed on your phone.
2. Select the + icon.
3. Focus your camera framing the meal you are going to eat or any food you are seeing at the supermarket or cafeteria.
4. Go to check the nutritional values of that food and then looking at the NUTRISCORE table calculate the points it has.
5. Select the icons of the letters A, B, C, D or E from the 3DBear APP depending on the previous result.
6. Label the food.
7. Take a picture of the food labeled.
8. Send the video to the teacher or person you are working with.

Teachers: based on the learning potentials of the students, teachers might give the nutritional table to make the exercise easier

➔ The picture should be taken on the spot and add elements right away (possibility to use different software)

Exercise 9

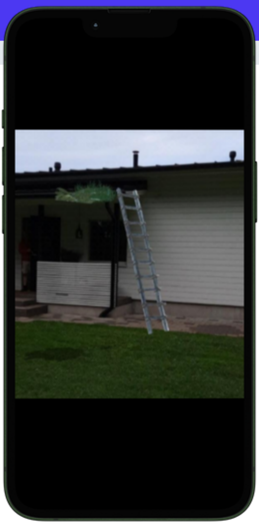
Be on time



GOAL OF THE EXERCISE	The main goal is to learn how to manage time with everyday chores before leaving home or apartment. Going to work, school, or other learning environments early enough and what to take into consideration when getting prepared. Time-management skills. Useful to count the time needed for a specific task (time-management skills).
DIFFICULTY OF THE EXERCISE	2
ACTIVITY IN THE EXERCISE	The exercise involves choosing tasks that need to be done before leaving home to work or other learning environment.
SEN APPROACHED, DESCRIPTION	Supporting time management and everyday life skills and household chores to be done daily before leaving home.
LEARNING POTENTIALS ADDRESSED	-Ability to manage time -Ability to carry on tasks in a needed time frame
AR DESCRIPTION	On the 3Dbear app, the user will select items from different sections such as 'park/playground' or 'home'
CATEGORY SYSTEM	4. Independent life
HOW TO USE THE EXERCISE	Use the exercise with a learner who is practicing time management and needs to for example learn to do basic household chores before going to work or school on time.
ANY VIDEOS, IMAGES, R TEXTS NEEDED FOR THE EXERCISE	1 picture of the home or apartment environment.
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	1. Open the 3DBear application (free) on your phone. Install it if it is not installed. 2. Select the + icon in 3DBear app 3. Plan to take picture of your own environment where you do your morning tasks before leaving to school or work 4. Turn the phone in the direction to fit in the space and add picture-elements that you should take into account when leaving for work or school in the morning. a. For example, if it is important to eat in the morning, you can add a food image to the image. Or if it is important to note the travel time, add a picture of a clock to the picture to remind you that you are paying attention to the morning schedule. Add for example also a bicycle or a bus to the picture to take into account the travel time when going to work. You can also search for other useful images that you should consider managing time. 5. When the picture is ready, press the circle to take the picture. 6. If you want to make a video instead of a picture take a video by long pressing the circle. You can also start over and make a new version. 7. Send the picture from your phone to the teacher or other person you are working with. Important: Consider privacy settings when taking a picture

Exercise 10

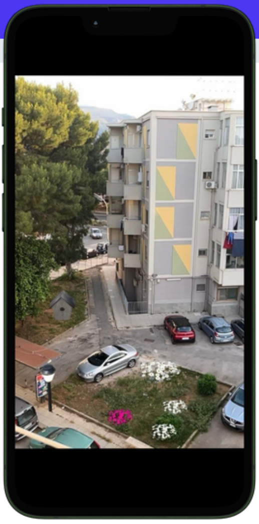
Create a scene of your first day at work



GOAL OF THE EXERCISE	The main goal is to express and talk about the workday. Tell about one's workday or workdays and personal task or tasks.
DIFFICULTY OF THE EXERCISE	1
ACTIVITY IN THE EXERCISE	The exercise describes some tasks that are done at work and for example what tools were used.
SEN APPROACHED, DESCRIPTION	Supporting learners in being able to describe the workday
LEARNING POTENTIALS ADDRESSED	-Ability to communicate and express oneself
AR DESCRIPTION	On the 3Dbear app, the user will select items from different sections such as 'home' 'learning space'
CATEGORY SYSTEM	4. Independent life
HOW TO USE THE EXERCISE	Use the exercise with a learner who is starting work life or having practice days at the workplace and needs to describe and tell of some of his or her tasks at work.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	1 picture of the work environment.
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	1. Open the 3DBear application (free) on your phone. Install it if it is not installed. 2. Select the + icon 3. Turn the phone in the direction to fit in the space and add picture elements that you need to tell about your workday. 4. When the picture is ready, press the circle to take the picture. You can also take a video by long-pressing the circle. 5. You can also start over and make a new version. 6. Send the picture from your phone to the teacher or other person you are working with. Describing what u are going to do\ what u already did, need to take the picture of the workplace \send it to the teacher Important: objects in the app should be checked beforehand since the free version might have limited items

Exercise 11

Outdoor fun



GOAL OF THE EXERCISE	To identify and reinforce a positive emotional experience, to encourage outdoor activities. The goal is that of encouraging the users to go outdoors and support them in this activity by adding the element of fun through the AR exercises
DIFFICULTY OF THE EXERCISE	1 (easier). It gives more freedom to the user 2. Exercise more demanding (involving the group of users)
ACTIVITY IN THE EXERCISE	The exercise consists of taking a picture of the outdoor environment and adding a 3D item that will make the image or the situation comfortable and fun. The user will think about what makes the outdoor situation 'fun and comfortable'. The user will then send the image to the teacher\educator. Some users could also write down what made outdoor recreation or pictures fun. The user either sends the image to the teacher\educator or can show the picture at school (or specific learning environment). If the user is showing the picture to the group that would also add to social/ emotional skills.
SEN APPROACHED, DESCRIPTION	-Recognition and understanding of elements that make oneself comfortable -Recognition and understanding of emotions and items\ elements correlated to the sense of fun -Being able to spend time outdoors
LEARNING POTENTIALS ADDRESSED	-Learning to ask for things that they want -Communicating with other people -Reading and Writing skills
AR DESCRIPTION	On the 3DBear app the user will frame an outdoor space (i.e. garden, park, seashore etc.) then they will choose one or more items considered as fun\ that add fun\ and make one feel comfortable in that identified external context. The items will be selected from one or more selections of the app. Then the user will send or show the image to the teacher or educator to have feedback.
CATEGORY SYSTEM	2. Emotional Skills 4. Independent life
HOW TO USE THE EXERCISE	The exercise can be developed by the users without the support of the teacher\educator, it will enable to spend time outdoors and think about what makes specific environments comfortable and fun in a personal way. A written description is optional, considering the students' potential. Added value: the exercise can easily be adapted to another feeling of choice (take a picture of something that makes you feel sad/angry/...)
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: freely chosen by the users according to what is considered as an improvement of the picture in the sense of fun and feeling comfortable. Text to be inserted: optional
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The goal of the exercise is that to encourage the user to spend time outdoors, explore the environment and to discover what makes it safe or makes it oneself feel safe in it. By encouraging users to spend time outdoors, self expression and independent decision-making play an important role, they will freely select and environment that 'suits' them and then add -with the app- items to improve it and make it more 'fun' hence more personal.

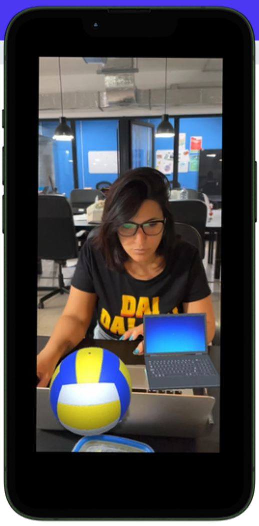
Exercise 12

What is the place where you feel good

GOAL OF THE EXERCISE	This exercise is similar to the previous one, although the main goal here is to focus more on individually thinking about a place (indoor or outdoor) where the user feels good and safe. The main goal is to identify places where it is good to be, identify the elements that make it this way and strengthen the competence to utilize places where people feel good.
DIFFICULTY OF THE EXERCISE	1-2: Exercise less demanding, only needs to identify with the app the place 'where you feel good' 3: Exercise more demanding, the user will describe the reason behind the positive feeling in that space
ACTIVITY IN THE EXERCISE	The exercise consists of identifying a place (outdoor or indoor) probably already well-known by the user and on the 3DBear app, the user will take a picture and think about what elements of the picture make it a safe and comfortable place. On those elements or in the place itself the user will add a 3D heart-shaped element to symbolize that "you feel good" there. (I.e. In a school canteen, put a 3D-shaped heart on the table where they like to sit with friends). The user will send or show the picture to the teacher\educator and write down (or explain) the reasons behind the choice.
SEN APPROACHED, DESCRIPTION	-Recognition and understanding of positive feelings -Recognition and understanding of which elements and symbols are commonly related to positive feelings -Communicating feelings and emotional potential
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Having more focus at school (places in general) -Reading and Writing skills -Communicating with other people
AR DESCRIPTION	On the 3DBear app the user will take a picture of the selected environment following the criteria of 'taking a picture of a place where you feel good and comfortable in'. After that, in the correct section, the user will find the 3D heart-shaped element and add it to the picture, it is possible to add it corresponding to a specific element of the picture.
CATEGORY SYSTEM	2. Emotional Skills
HOW TO USE THE EXERCISE	The exercise is designed to allow users to express their feelings and communicate verbally (or by a communication method of their choice) the reasons behind their choices.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: heart-shaped element that can be added at any dimension of liking
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The user will have to think of a safe\comfortable environment and thanks to the help of the hearth-shaped element symbolize the positive feelings related to it. The user will then talk with the teacher\ educator about why that place is 'good' for Him\her. The user needs to be advised that the heart symbol can be found in the app in the collection "basic forms".

Exercise 13

What makes a person good-natured or bad-tempered

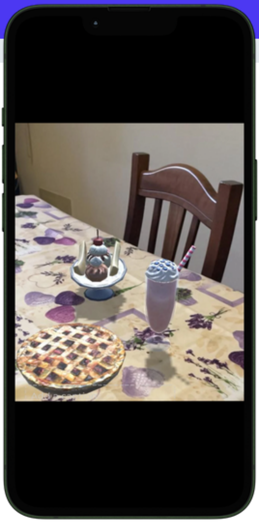


Example: Considering the person in the picture, watching films on PC will negatively influence that person who will become lazy and not responsive (item selected: PC).
On the other hand, sports will positively influence the person who will become more active and energetic (item selected: volleyball ball). What can be observed?
The user analysed the person, asked questions and understood 'Laziness and being energetic' as negative and positive feelings.

GOAL OF THE EXERCISE	The main goal of the exercise is to identify and enable discussion about different emotional states. Strengthening social skills in interaction. Support for interaction, emotional expression, and verbalization of emotional states.
DIFFICULTY OF THE EXERCISE	3: more challenging exercise, that requires collaboration with a partner
ACTIVITY IN THE EXERCISE	The exercise requires continuous collaboration and conversation between the user and another person (i.e a friend, a colleague, a teacher, a parent, an educator). The goal is to make the user comprehend and empathize with the other's emotions, understand and differentiate between 'positive' and 'negative' behaviors, and understand what actions and words increase a positive feeling. Always remember that each emotion is worth to be felt and expressed.
SEN APPROACHED, DESCRIPTION	-Identifying positive and negative behaviours and how to symbolise them -Understand other people's emotions -Show interest in others
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Learning to express feelings -Communicating with other people -Showing more interest in people
AR DESCRIPTION	On the 3Dbear app, the user will take a picture of a person and select different items (at least one positive and one negative) to symbolize what, in their personal opinion will make that person's image 'feel good' and what other item will negatively influence that person's mood. I.e. a strawberry will negatively influence a person that is allergic to it. The person taking the picture will choose the 'positive' and 'negative' elements according to what they believe the person in the picture feels in accordance with what the two talked about in their past or during the exercise.
CATEGORY SYSTEM	2. Emotional Skills
HOW TO USE THE EXERCISE	The exercise will be developed in pairs, it can be either guided by a teacher\educator or only supervised without giving help. Supervision is useful for understanding the expression of emotions and feelings and how one relates to others.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: freely chosen by the users according to what is considered as making that person feel good and bad. Text to be inserted: none
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The student will choose a work partner. Open the 3DBear app on the phone and use it to take a picture of the teacher or other agreed staff member. (Remember to ask for consent to take pictures). Talk to your partner about what kind of 3D image to add next to the person's image that will make the person's image feel good. Add a 3D image next to the person on the other side, which will make the person's image feel bad. Discuss what things increase good mood and what influences bad mood.

Exercise 14

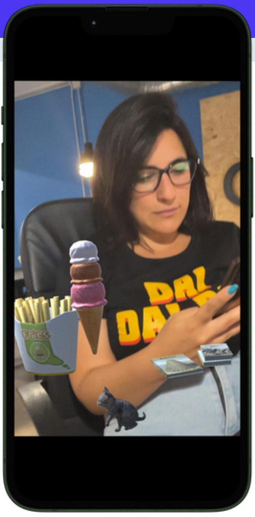
A picture that increases good mood when sad



GOAL OF THE EXERCISE	This exercise aims to identify emotions and strengthen the ability to deal with feelings of sadness and well-being. Increase the skill of discussing emotions.
DIFFICULTY OF THE EXERCISE	2 medium 3. more demanding, asking in advance to identify something nice\ wonderful or something considered bad\ awful
ACTIVITY IN THE EXERCISE	The exercise requires creativity and allows self-expression, to strengthen the capability of understanding owns emotions and how to express them. The exercise is similar to the previous one but focused on understanding one's own emotions.
SEN APPROACHED, DESCRIPTION	-Communicating emotions to others -Identifying positive and negative elements in one's life
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Communicating with other people -Showing more interest in people
AR DESCRIPTION	Open the 3DBear app and use a blank background to recreate the desired environment or use creativity without being influenced by the background. Then the user adds a 3D object that they think will make them feel better when sad. For example, the image can be a pet or other animal, food, sports game etc. Then the user will have to think about things that make them feel good. Send or show the picture to the teacher\educator and write or explain what makes them feel good.
CATEGORY SYSTEM	2. Emotional Skills
HOW TO USE THE EXERCISE	Remember that sadness is also a good and necessary feeling, and it is not always necessary to try to be in a good mood when sad.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: freely chosen by the users according to what is considered as making themselves feel good and bad. Text to be inserted: none
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The user will show the picture outcome of the exercise to teacher\educator and communicate what increases good mood. In pairs, it is possible to replicate the exercise, training communication skills, understanding and listening to others, and being supportive, which is also key to understanding what increases good mood in other people.

Exercise 15

Things that put you in a good mood



GOAL OF THE EXERCISE	The main goal of the exercise is to identify and reinforce a positive emotional experience. Strengthening social skills in interaction. Support for interaction, emotional expression, and verbalization of emotional states. The exercise is similar to the previous one but specifically focused on what increases good mood.
DIFFICULTY OF THE EXERCISE	2 medium
ACTIVITY IN THE EXERCISE	The exercise requires creativity and allows self-expression, to strengthen the capability of understanding own emotions and how to express them. The exercise also allows understanding other's intentions (being good-tempered\ good-natured) more, as well as their feelings and increases empathy and interest in others.
SEN APPROACHED, DESCRIPTION	-Communicating emotions and intentions to others -Understanding other people's expressions and how emotional states are shown -Understanding what puts oneself in a positive mood and increases self-awareness
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Communicating with other people -Showing more interest in people
AR DESCRIPTION	Do the task in pairs. On the 3DBear app the user will take a picture of themselves or, if agreed, a picture of another person. Here is what the teacher\educator can say: Option 1: take a picture on the app where you look good-natured (ask somebody to take the picture) and add 3D elements that you think put you in a good mood, ask for feedback and confrontation to your friend in pair with you. Option 2. take a picture of a friend (or the person who is doing the exercise with you) that looks good-natured, and then you choose the 3D objects to describe what makes your friend good-tempered. Remember to ask permission for the picture. The user will add 3D items to the image, the items have the scope to make the depicted person good overall. Use the exercise to tell the partner what kind of things make you feel good.
CATEGORY SYSTEM	2. Emotional Skills
HOW TO USE THE EXERCISE	Information that can be useful for educators\teachers to approach the exercise and use it
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: freely chosen by the users, insertion or description of images\ texts to be added for the realization of the exercise (if necessary)
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The exercise is to be done in pairs, if the person agrees you can take a picture of him\her, the picture must depict one of the two elements of the pair. The user should try to figure out what makes them (or the other person) happy and what puts them in a good mood. In the photo, the person will be depicted as 'good-tempered' to stimulate conversation about how emotional states are expressed verbally and especially physically. The exercise may require support from educators\teachers.

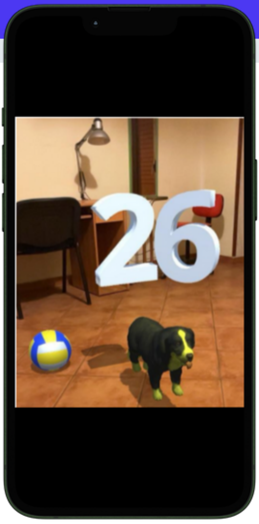
Exercise 16

If you had a pet, what would it be?

GOAL OF THE EXERCISE	The main goal of the exercise is to identify and enable discussion about different emotions or activities. Strengthening social skills in interaction. Support for interaction and putting emotions or actions into words.
DIFFICULTY OF THE EXERCISE	1-2: less demanding, depending on the user's learning potential
ACTIVITY IN THE EXERCISE	The exercise focuses on enabling creativity and giving space to the verbalisation of the hopes and dreams of the user. In the exercise, the user will select a desired pet (or more than one) and describe the reasons behind the choice and how to take care of the pet.
SEN APPROACHED, DESCRIPTION	-Communicating wishes and desires -Communicating personal feelings -Putting into written words wishes and requests
LEARNING POTENTIALS ADDRESSED	-Learning to ask for things that they want -Reading and writing skills -Communicating with people
AR DESCRIPTION	On the 3DBear app, the user will take a picture of a part of the room or situation where an animal could live. Then add a 3D image of an animal that the user would like to have as a pet. Then the student will think about what feelings that owning or caring for an animal brings and then send or show the picture to the teacher\educator. The user will also write on the picture or write after the feelings that owning that pet would give.
CATEGORY SYSTEM	1. Imagine\ redesign the world 2. Emotional skills
HOW TO USE THE EXERCISE	The teacher\ educator will support and be present in the interaction of putting emotions or actions into words. After the exercise, the user will put into written words what emotion owning that pet would give.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images to be inserted: any desired pet from the 'animal' section of the app Text: optional in the app, emotion owning that pet would give
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The exercise has to be done individually, teacher\educator can give support and register what are the wishes of the user, the exercise can allow for better expression of what the user wants and how to ask for it. Animal objects can be found in the app in collection "animals"

Exercise 17

Who are you? Introduce yourself using an AR app

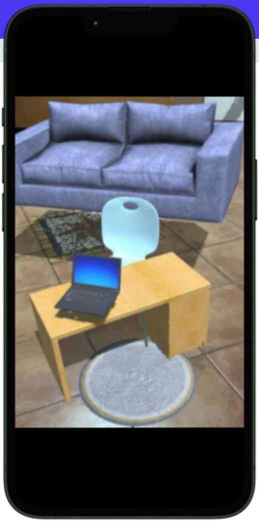


Example: I am 26 years old,
I have a dog and I play volleyball

GOAL OF THE EXERCISE	The main goal of the exercise is to enable the user to introduce himself to others in an alternative way, strengthening self-expression, creativity, self-awareness, and communication skills.
DIFFICULTY OF THE EXERCISE	3, more demanding exercise
ACTIVITY IN THE EXERCISE	In the exercise the user will focus on selecting items that are considered representative of his\ her personality
SEN APPROACHED, DESCRIPTION	-Communicating to others -Learning how to use an AR app -Identifying personal traits, interests and skills
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Develop knowledge on AR -Communicating with people
AR DESCRIPTION	On the 3DBear the user will take a picture of anything. The photo can be of oneself or of an environment. The user will use the app to do a personal description-presentation, by adding a variety of 3D items or words to describe who he\she is. (i.e. Chocolate bars if the user loves it, basketball if he plays that sport or wishes to). Then the user will send or show the picture to the teacher\educator. It is possible to write something down or, when showing, tell more about personal thoughts, describing the selected items and the reason why.
CATEGORY SYSTEM	1. Imagine\ redesign the world 2. Emotional skills
HOW TO USE THE EXERCISE	The teacher\ educator will support and be present in the interaction of putting emotions or actions into words. After the exercise, the user can put into written words what items were selected and why.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images: any item that the student thinks can describe him\her Words: optional, personal descriptions
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression)
INSTRUCTIONS FOR THE USER	The exercise has to be done individually and needs support of the teacher\ educator in the final part. The teacher can understand more about self-awareness of the student from how they decide to describe themselves to others.

Exercise 18

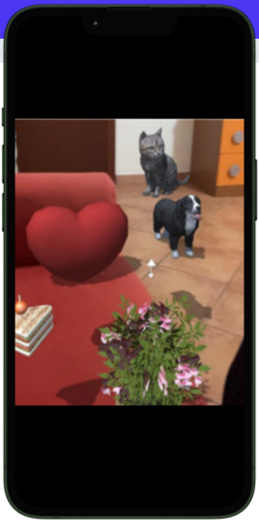
Furniture and other accessories necessary for living. Group assignment



GOAL OF THE EXERCISE	This exercise is similar to exercise n.2 but is a group assignment and requires communication and collaboration with other users. The goal is to allow self-expression, develop a sense of independence and strengthen social skills.
DIFFICULTY OF THE EXERCISE	From 2 to 3: depending on user's learning potential and number of users (ex. Students) involved
ACTIVITY IN THE EXERCISE	The exercise is a group assignment and teacher-led discussion. The exercise is guided by the teacher and the assignment has to be developed in collaboration with users who then will share their thoughts on what elements are needed in a household to be independent. After an initial description by the teacher, the users will collaborate to choose which items from the app to select as "necessary housing equipment".
SEN APPROACHED, DESCRIPTION	-Strengthening social skills in group interaction -Supporting interaction and verbalisation of actions and thoughts -Deepening self-expression and communication of requests
LEARNING POTENTIALS ADDRESSED	-Learning to ask for things that they want -Having more focus at school (other places) -Communicating with people
AR DESCRIPTION	The teacher\educator takes a picture of a room in the 3DBear app, where pictures of furniture can be placed in the app. The teacher guides the group to discuss housing, more independent living and the necessary housing equipment. Together with the group, they look at 3D images of furniture or other household accessories in the application. The group selects and adds 3D furniture images to the background picture. Have a discussion like: What furniture would you need in your home to make it good and safe to live in?
CATEGORY SYSTEM	1. Imagine\ redesign the world 4. Independent life
HOW TO USE THE EXERCISE	The exercise will be developed by the users in collaboration and led by the teacher. It will be important to understand how the users (for examples students in a classroom) collaborate, how they ask for things they want and their focus in doing a task.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images: any item that the users accordingly decide are necessary furniture for a house Words: none
TECHNICAL INFORMATION	Decision on color and elements will be personal (to allow self-expression). The decision has to be taken in collaboration.
INSTRUCTIONS FOR THE USER	The users are required to collaborate with others, respect other's people turns to talk and follow the teacher's requests.

Exercise 19

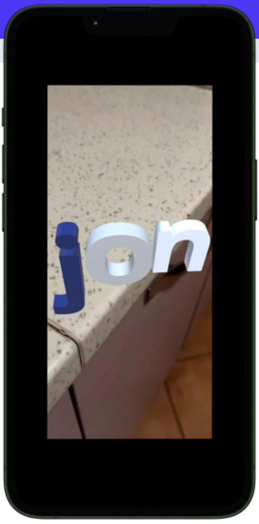
Important things in life



GOAL OF THE EXERCISE	The main goal of the exercise is to identify interests. Strengthens interpersonal skills and communicate them.
DIFFICULTY OF THE EXERCISE	2: medium
ACTIVITY IN THE EXERCISE	The exercise consists of framing an environment and using it as a base to allow creativity and self-expression by adding from 3 to 6 3D items selected from the various sections of the app. These selected items will represent the important things in life, the user will then show the picture to the teacher\educator and express personal thoughts.
SEN APPROACHED, DESCRIPTION	-Communicating thoughts and believes -Allowing self-expression -Strengthening the understanding of the personal perception of life
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Learning to ask for things that they want -Communicating with people
AR DESCRIPTION	The user will open the 3DBear app and use it to take a picture of anything. The photo can be taken of a person, a blank space, a known one, or another environment. Choose 3-6 things that are important in life and add 3D items selected from the app to describe them. The user will then send or show the picture to the teacher\educator\. It is possible to write the feeling on the image or, when showing it, tell more about personal thoughts.
CATEGORY SYSTEM	1. Imagine\ redesign the world 2. Emotional skills
HOW TO USE THE EXERCISE	The exercise has to be developed individually to better allow self-expression. The teacher\educator can support the selection of the items from the app but has to allow the user to decide which element better describes ‘what is important in life’.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images: any item considered an ‘important thing in life’ Words: optional, considered as a description of ‘important thing in life’
TECHNICAL INFORMATION	Decisions on the color of the elements will be personal (to allow self-expression).
INSTRUCTIONS FOR THE USER	The user will select from the app any desired item that can describe what is important in life in a personal way. The teacher\educator will support if necessary and allow the self-expression of the user, this exercise can help to better understand the necessities of the user and the personal perception of life..

Exercise 20

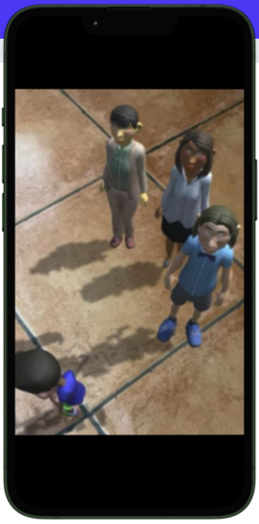
Who are you + letters



GOAL OF THE EXERCISE	This exercise is similar to exercise n. 17. The goal is to strengthen written expression and use of letters and to allow the user to introduce themself to others in an alternative way. The exercise requires also requesting something from others, to strengthen communicational skills.
DIFFICULTY OF THE EXERCISE	2: medium
ACTIVITY IN THE EXERCISE	The exercise consists of allowing the user to introduce themselves in an alternative way, that is, by writing their name (and other personal characteristics if deemed appropriate) through the elements provided by the app. The exercise will then train literary skills of writing and reading as well as communicating with others (the user should ask to have his or her picture taken).
SEN APPROACHED, DESCRIPTION	-Recognition and understanding of letters and words -Improvement of self-awareness -Communicating with others
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Reading and Writing skills -Communicating with people -Learning to ask for things that they want
AR DESCRIPTION	The user will open the 3DBear app and ask a friend to take a picture of you for the background picture. Then use the letters in the app to enter his\her first name, the user can choose any colour and font for the letters.
CATEGORY SYSTEM	1. Imagine\ redesign the world 2. Emotional skills
HOW TO USE THE EXERCISE	The exercise has to be done individually; it will allow the user to introduce himself\herself to others in an alternative way strengthening self-expression, creativity, self-awareness as well as communicational and writing skills. The teacher\educator will support if needed and check together with the user the written outcome.
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images: optional, any item that the user thinks can describe him\her Words: mandatory, words that the user thinks can describe him\her
TECHNICAL INFORMATION	Decisions on the color of the elements will be personal (to allow self-expression).
INSTRUCTIONS FOR THE USER	The exercise has to be done individually and needs support of the teacher\ educator in the final part. The teacher can understand more about the self-awareness of the user from how he\she decides to describe himself\herself to others.

Exercise 21

Introduction to the discussion about disputes, solitude or group building



GOAL OF THE EXERCISE	This exercise is similar to exercise n. 17. The goal is to strengthen written expression and use of letters and to allow the user to introduce themself to others in an alternative way. The exercise requires also requesting something from others, to strengthen communicational skills.
DIFFICULTY OF THE EXERCISE	3: more demanding exercise
ACTIVITY IN THE EXERCISE	The exercise will be developed by the users in collaboration and led by the teacher\educator.
SEN APPROACHED, DESCRIPTION	-Understanding to recognize own emotions and how to handle them -Recognition of feelings of loneliness, sadness, exclusion and how tow to approach and handle them -Exploration of feelings and behaviours in groups
LEARNING POTENTIALS ADDRESSED	-Increase self-esteem and self-awareness -Communicating with people -Showing more interest in people
AR DESCRIPTION	On the 3Dbear App the teacher show a picture and ask to imagine the situation together with the app. The printed picture can be of course as a “background” in the app, to which the user can add characters or items from the various sections of the app. The teacher\educator leads the group to discuss, for example, fighting or loneliness. Images of the app's characters are added to the background image: a person on one side and several people in a group on the other. The group discusses the themes of loneliness, being alone, being excluded from the group, ways to be part of the group, and other characteristics of being in a group.
CATEGORY SYSTEM	2.Emotional Skills 3.Worklife (optional)
HOW TO USE THE EXERCISE	The exercise has to be handled with sensitivity and care, and will be carried out in groups (during in-the-moment dialogue about feelings such as being excluded and feeling alone particularly).
ANY VIDEOS, IMAGES, OR TEXTS NEEDED FOR THE EXERCISE	Images: avatars or characters of people to form a group and of one person alone on the other side Words: none
TECHNICAL INFORMATION	Decisions on the color of the elements will be personal (to allow self-expression).
INSTRUCTIONS FOR THE USER	The exercise is a group assignment and teacher-led discussion. The users (especially students) will need to collaborate and stimulate their interest in others by listening to them. The teacher\educator will always support and guide the explanation and discussion about the topics that emerge from the image that will be created, such as loneliness and a sense of exclusion.

GENERAL INFORMATION

All exercises were created on the basis of the features and functionality of the 3Dbear app but can also be replicated on other similar apps.

The exercises were created as an expected result within the project Bit the Spectrum, co-funded by the European Union's Erasmus+ programme.

The consortium partners endeavoured to gather technical information, develop exercise prototypes and collect feedback from professionals in the field (teachers of students with ASD) in order to ensure the most appropriate result possible. The development phase of the exercise design also relied on important feedback from students, feedback that enabled and ensured adjustments in the development of the AR exercises.

The exercises were created with the aim of being open to the public in a totally free and accessible manner.
The project partners collaborated constantly to achieve this result:

OGVU University from Germany
SkillsDivers from Spain
IRSEI ETS from Italy
Luovi Vocational College from Finland
3DBear Oy from Finland