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**DIGITISED MUSEUM
COLLECTIONS
FOR ACCESSIBLE
LEARNING AND
REMOTE INCLUSION**

AN ACCESSIBLE APP ARTSEE FOR CHILDREN WITH AUTISM: REMOTE INCLUSION AND DIGITAL LEARNING AT THE NATIONAL GALLERY OF BOSNIA AND HERZEGOVINA (BA).

Institution

[National Gallery of Bosnia and Herzegovina](#)

Location

Sarajevo, Bosnia and Herzegovina

Description

The National Gallery of Bosnia and Herzegovina was established on October 11, 1946, and it is the oldest art museum in Bosnia and Herzegovina. For the last 9 years the Gallery has developed educational programmes and activities for families, school-aged children, elderly people and children with learning difficulties

Size

Today the National Gallery researches and cares for over 6,000 works of modern and contemporary art. The collection is divided into several sub-collections: Bosnian-Herzegovinian art, Ferdinand Hodler's works, Icons, Yugoslav art, International works donated to the Gallery, Photographs and the archive of "NADA" (a fine arts magazine)

Staff members

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Project

The ARTsee app

www.artseeugbih.com

[Google play](#)

Timeframe

June 2019 – March 2020: the first version of the app, which was intended to be used exclusively at the museum.

May 2020 – February 2021: the second version of the app, which integrated the museum and the home versions

Concept

The idea for an assistive form of technology at the National Gallery of Bosnia and Herzegovina was born out of the intention to give additional reasons for people with learning difficulties to visit the museum. The museum already had experience working with this group from the programme "Blue artism" implemented in 2018 and 2019. "Encouraged by the results of researching the visual perception of children on the Autistic spectrum during the implementation of "Blue artism", we came up with an idea to develop an app," museum educator Aida Šarac Berbić said.

Involved parties and process of work on the app

The professionals that developed the ARTsee app were from IT, the education, arts and museum sectors. The museum pedagogue of the National Gallery of Bosnia and Herzegovina was the team leader. She has imagined an interpretational assistive tool that will use three different mediums to 'explain' artworks from the collection. The duo of IT professionals were essential to developed ARTsee from the code. The special education teacher was also a part of the team. She participated in the process of selecting the paintings and alternative

interpretation content, and she created the textual part of the interpretations in easy-to-read standards. The graphic designer created the visual identity of the app, which is based on pictograms and symbols. She also manipulated the reproductions of selected paintings in order to create an alternative visual interpretation of the artwork.

Approach to digital learning for children with learning difficulties

Aida Šarac Berbić: "We have concluded that digital technologies can be a double-edged sword when working with persons with learning difficulties at the museum. For one simple reason, today's children and youngsters are so overwhelmed with digital technologies that sometimes, the presence of tablets or smartphones at the art museum can distract the attention of children/youth with learning difficulties from the original artworks. Fortunately, this can be overcome by persistent and meaningful direction of museum educators towards the original artworks by asking questions and showing the details of the painting. When we offered the home version of the app to our target group and their parents and caregivers, we gave instructions for use. The parent/caregiver should ask the child/youngster to link the visual content to audio, to read with the child, or to read for them. In this manner, by using the ARTsee app at home, the parents/caregivers could work on the development of communication and some cognitive and reading skills in children with learning difficulties".



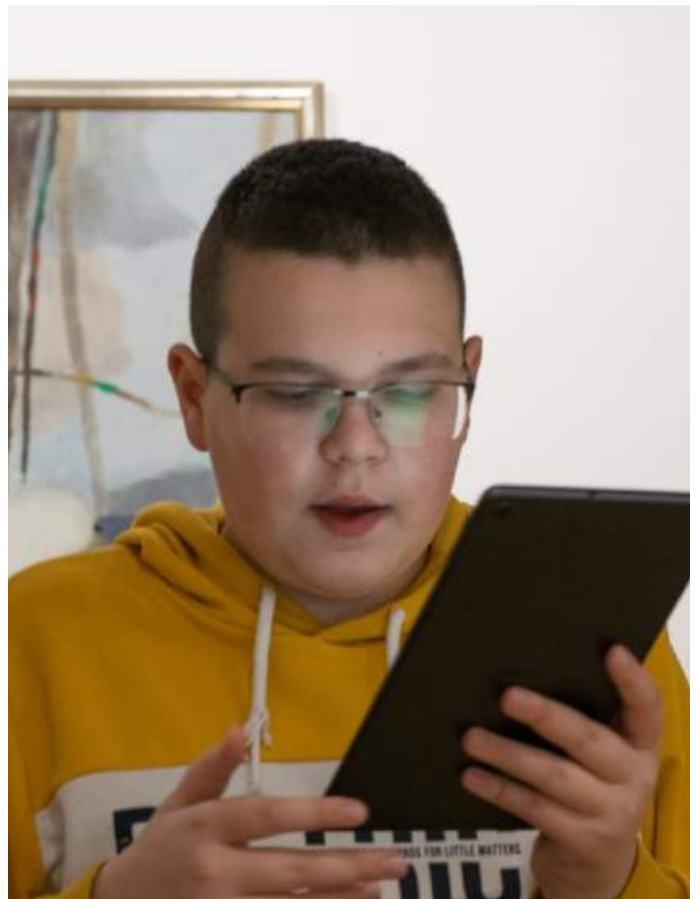
An app ARTsee. Amra Mahmutović Photography (c).

Objectives

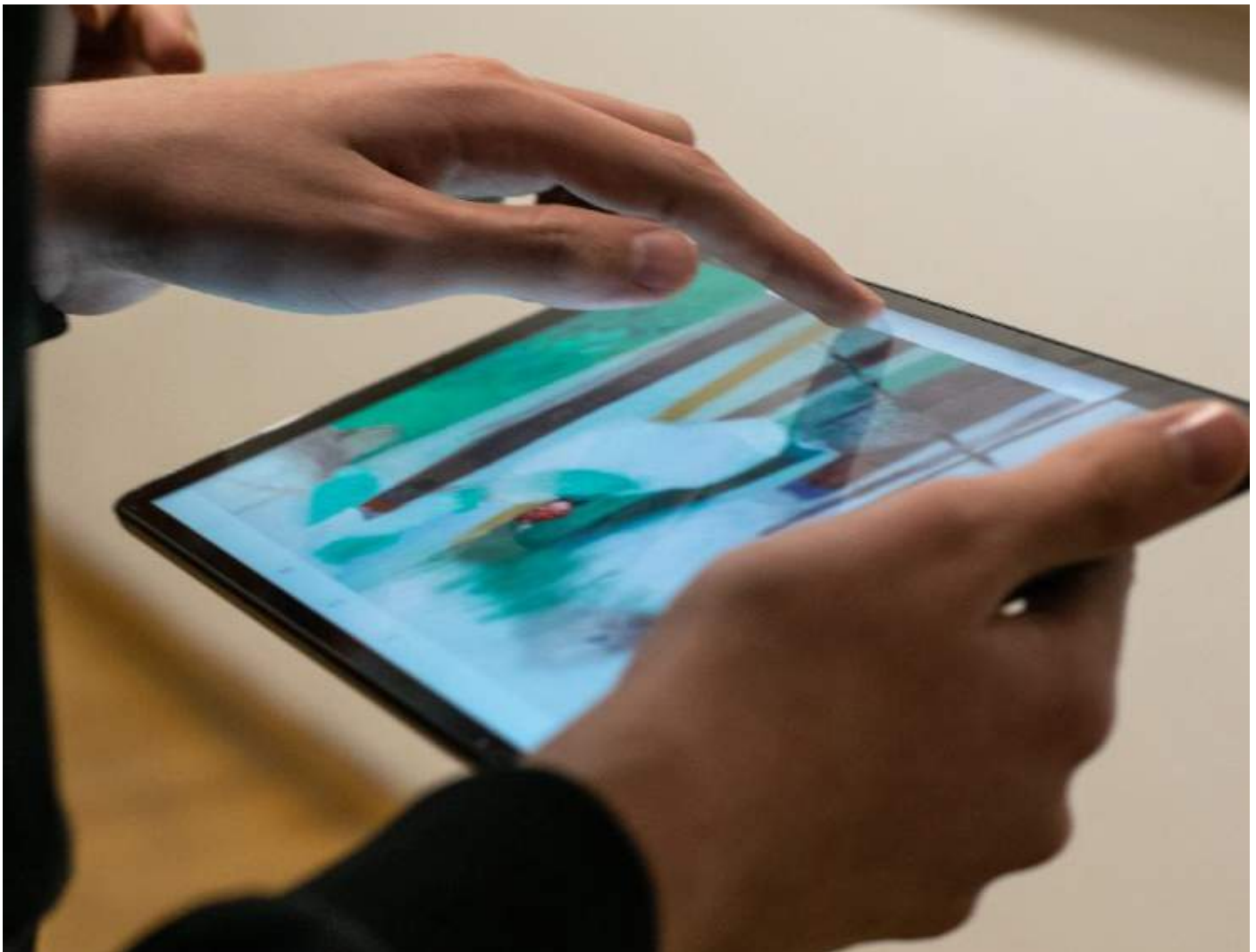
The main objective of the project was to ensure additional motivation for people with learning difficulties to visit the museum. When the Covid-19 pandemic started, the objective was to offer digital content based on the collection for the target group in the safety of their homes. Additional objectives were to explain a particular artwork to a person with different cognitive abilities via animation, sound, and text.

Learning benefits

The artworks were selected on the basis of aesthetic, narrative, and emotional quality. Every one of the selected artworks had to have these qualities to be interpreted through visual, audio, and textual mediums. Every artwork shown in the app explains certain terms or concepts, for example, Safet Zec's «Big Treetop» explains visually, aurally, and textually to a user how the seasons change, or Gabrijel Jurkic's «Flowery Meadow» explains the terms of more and less. In this manner, children with learning difficulties, who are part of the regular inclusive school system, had additional education content based on the art museum's collection during the pandemic, when schooling switched to online formats.



An app Artsee. Amra Mahmutović Photography (c).



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Obstacles

1. Outbreak of the Covid-19 pandemic (for the onsite version of the app).

The biggest obstacle to the project implementation was the global pandemic of Covid-19. At the same time, this obstacle was an opportunity to have one part of the collection available in an online format for remote access. This situation opened the door to digital educational content for the users of the museum programmes.

2. Communication with IT professionals and museum professionals.

Another obstacle was finding a common language with IT professionals. Sometimes, professionals from outside the arts have difficulties understanding artistic visions. In this case, it was necessary to have a clear and concrete visual identity in advance to ensure that the IT developers had a better idea of what was required of them.

Challenges

1. Financial sources.

Aida Šarac Berbić: "Since we spent all the grant money from Goethe Institute for the first version of the app, we were in a situation where we needed to find other financial sources. Luckily, we found additional financial support at the Federal Ministry of Culture and Sport of Bosnia and Herzegovina".

2. Another huge challenge was carrying out the testing of the app in March 2020 because of the Covid-19 pandemic.

"For this purpose, we created focus groups of children with learning difficulties. Also, we created observation sheets that are supposed to track the participants' understanding of the technical features of the app and their social interaction in the museum. Unfortunately, we could not continue with the tests at the museum, because we did not want to expose the children to additional health risks. Instead, we worked for another year on the app development and offered the home version to the target group and their parents and caregivers."

Recommendations

Aida Šarac Berbić: "My recommendations for other art museums that intend to use digitised collections for remote learning and inclusion are to create the content along with the target group, evaluate all of the easy-to-read textual contents with the representatives of the target group, and plan the feedback process from the users. It is important to have feedback from the target group because that way you can fix some technical or content-based issues that you could not predict when developing digital technologies for remote learning."

Also, I would recommend testing the digital content for remote learning activities directly at the museum. In that manner, you can see how the target group responds to the content and how they react to the original artworks in the museum space. In this way, you can also see how the participants from the target group relate themselves to original artworks that are the starting point for creating digital content."