VIRTUAL & AUGMENTED REALITY TOOLKIT TO ENGAGE ELDERLY BRAIN WITH

INTER-GENERATIONAL UNDERSTANDING

ERASMUS+ PROJECT

Intellectual Output 3

An Empowering Guide to Exploiting AR/VR with Seniors

Chapter 1

Overview of the impact of IO2 in the partner countries

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CHAPTER 1 – OVERVIEW OF THE IMPACT OF IO2 IN THE PARTNER COUNTRIES

1.1 Spain

SENIORS

The Spanish seniors felt happiness and a new energy from the very start, while gathering the info too as they were able to remember many things about the moment the pictures were taken and later when they were able to use the Virtual packs and visiting the houses of their childhood, their youth and adulthood they felt even nostalgic.

On the one hand the virtual environment made them feel sad because they were isolated in a world where they could listen to the sounds, watch the videos, the images of their past but on the other hand a strong feeling of wellness invaded them and even if some of them cried they felt happier and better

With the Augmented reality application they felt that it was very easy to use, even if they were old and they were not very skilled in the use of these technologies and they felt safer. Some of them have left the labels created stuck on the fridge, oven and other parts of the house.

Moreover, they felt also proud of being able to share their lives, their past with a younger generation. They had a lot of free time while the younger ones had little time. So it was interesting to reflect on time and life too.

STUDENTS

The Spanish students learnt one the one hand from the experiences gathered while collecting the materials from the seniors because it was a knowledge they could not find in the school books and felt a satisfaction because they felt useful, they could help the seniors to feel better and safer at least for a while. They created an emotional intergenerational link that

By developing this activity, we have been able to know a lot about the person and to create a link that did not exist before

Do you think elderly people can benefit of VR?

For sure, mind and body move and they analyse and remember about their past.

For them it was difficult to keep their past, because loss of quality of pictures and videos or sounds thanks to this project and its tools all the memory are kept in a digital file which keeps the same quality all the time.

They remember in depth by using these project tools, they remember images, music and films at the same time.

For them it has been an amazing experience to be able to see themselves and their time and music through a pair of glasses (googles)

They have realised that technology can be amazing.

This project stimulates emotions thanks to VR

Any suggestion for implementing the project?

I would add an image or video of a toy / game they played in their past.

TEACHERS

Has it been complex to train students on the project tools?

As we had watched the videos and attended the training plus, we have been working with a template it has been quite easy.

Did students feel motivated when asking to get involved in a project with elderly people?

Some of them before the project had never spent a lot of time talking to their elderly or other old people after working in the project, they have learnt they both can share and learn from each other.

Do you think this project and its tools could be interesting for other trainers to be implemented?

This project could be applied to many subjects, as a learning tool not only for the elderly but for students who lack motivation or suffer problems of learning.

1.2 Turkey

IMPACT ON SENIORS

While the seniors were shy about the VR experience, they were also curious. They asked questions to better understand VR. Most of the seniors were enthusiastic about the VR experience. Most of the senior said that the pictures they saw, the songs they listened to and the videos they watched took them back to their childhood and youth. Most of them stated that they were happy. A few seniors were very touched, and their eyes filled with tears.

Senior 1: said, 'the youth years were very good days, I went to those days'.

Senior 2: 'Nowadays people can't live their childhood, we had a very good childhood in our time, we used to play in the street. Frankly, I was excited to see my childhood days like this. It was a nice feeling to enter the room and watch the TV in VR,' she said.

Senior 3: 'I remembered my neighbours, friends, holidays, and family. Those were good days. “I would like to go back to those days,” he said.

Most of seniors said that VR could be beneficial for them.

IMPACT ON STUDENTS

The Turkish students were amazed by using VR-AR in their studies with elderly people. They wanted to learn more and use them in different subjects or diseases.

Student 1: After VR experience, she stated that she was inspired by the transfer of VR technology to the nursing care of elderly individuals. She also stated that she wanted to plan studies in this field by receiving training on VR applications.

Student 2: He stated that he thinks VR technologies can be very useful in the prevention of dementia. He also stated that he is curious about how VR technologies could be integrated into the management of other chronic diseases.

IMPACT ON TEACHERS

Teachers were also impressed by using new technologies and they were eager to integrate them into their courses.

Teacher 1: Although learners have some traineeship and contact with seniors, their ICT knowledge was limited. After watching the project guide, they became more confident to use AR and VR.

Teacher 2: Just from the beginning, seniors were very interested in testing the VR. Some of them had some hesitations at the beginning, but later on, they enjoyed a lot while remembering their childhood and adulthood.

IMPACT ON AKDENİZ UNIVERSITY

The VARTES project had a great impact at the University, especially at Faculty of Nursery and Faculty of Education. It gave an inspiration for Akdeniz University to prepare another KA2 project with current partners and new ones about using VR-AR technologies in the courses given at the university.

1.3 Malta

IMPACT on Education & Training

The MHSA Seminar where the VARTES project was disseminated (http://vartes.eu/index.php/workshop-results/) showed how AR and VR in elderly care can be thought and integrated in the Undergraduate and Postgraduate courses of the Faculty of Health Sciences.

The University of Malta has in fact launched in 2021 a Master of Science in Digital Health course offered by the Faculty of ICT and Faculty of Health Sciences at the University of Malta. So students are becoming more aware of the use of AR/VR in healthcare including elderly care.

IMPACT on Care Homes

A number of CareMalta Elderly homes have been informed on AR and VR Technology that they can invest in/organize AR/VR session classes with the elderly introducing the technology to help them unite with family, or to go back and recall memories, or to 'travel' virtually.

IMPACT on Businesses

SMEs have been investing in various AR/VR Technologies in different sectors locally e.g. in manufacturing, in cultural heritage, in digital marketing. In the medical field (e.g. EVOLVE – for medical training, Mater Dei Hospital – in pain management, Flying Squirrel - for rehabilitation).

1.4 POLAND

IMPACT ON "Fundacja Badz Aktywny"

The impact on the Polish organization is very significant. We have new local stakeholders like senior clubs, home care, which are interested in using the applications and promoting Augmented Reality (AR) and Virtual Reality (VR) among the seniors. The skills of the staff have improved during their work in the project. We have also improved IT skills and teamwork. The organization has a better knowledge about seniors' lives and their needs. Now, we can work more effectively with a group of the elderly people.

IMPACT ON COMPANIES

The members of Polish companies have been informed about intellectual output. They have noticed that the biggest advantage has been that the IQ output is free and one can easily access it. They have been interested in using it in the future, because intellectual output has given them inspiration to create new tools which can be used with seniors. The applications can be the basis for further development. The population of elderly people is getting bigger, so it can be the target group of new clients. The companies have started to think about the products for the group and people who work with them.

IMPACT ON SENIORS

Most Polish seniors have had contact with Augmented Reality (AR) and Virtual Reality (VR) for the first time, because most often they are afraid of using IT technologies. This application has helped them to become more open and secure about new technologies. Using private photos allowed them to feel more interested and safe about IT technology. What is more they could recall their memories, reflect on them and this experience has been very emotional for them. We could observe different emotional reactions. While sharing the photos they also have had a chance to show and share their past experience with the younger generation, talk about their childhood and youth. They have been able to recall many details about their past and create an intergenerational exchange of knowledge. Polish seniors have been very glad that the application has let them integrate with younger people and feel less isolated in the community. Moreover elderly people notice that this experience will motivate them to use VR more often.

IMPACT ON STUDENTS

The students are more interested in the senior's life and past. They improve their teaching skills, so some of them are interested to continue ¨the career" of teaching. They spend more time with the elder so they are more enthusiastic of intergenerational activities.

1.5 ROMANIA

SENIORS

The seniors in Romania positively perceived using VR/AR applications to improve their skills and overcome fears and doubts related to trust in the VR/AR technologies.

They were thrilled to review essential moments of their childhood and youth in the VR format. So naturally, this generated a nostalgic feeling for them.

The seniors considered the AR very useful and suggested the improvement of recognizing household devices by applying smaller recognizing elements or directly recognizing devices through AI.

They found it useful for therapy, medical recovery, and memory improvement with elements from their past, and using VR when they are in depression, nostalgic, or stressed.

The seniors emphasized the possible risks associated with using VR and AR: addiction, reluctance to wear VR devices/glasses, etc.

TEACHERS

The Romanian teachers were enthusiastic about the project's development and outcome, stating that these applications can be very useful in education and other fields, for example, learning a new language.

Using templates is very easy, practical, and easily configurable.

They suggested using these technologies in interactive courses and virtual field excursions inside the classroom that do not need costs.

The teachers suggested developing tutorials using VARTES application architecture in technical fields like chemistry and physics without the risks implied by using real tools, devices, and substances.

STUDENTS

Romanian students learned a lot by interacting with seniors about developing VR and AR applications through which they can improve seniors' lives.

In the project workshops, the IT students have developed skills in designing and implementing VR / AR applications for senior support.

Students also interacted with teachers and business companies to develop future VR / AR-based projects.

BUSINESSES

The companies suggested developing joint projects with teachers, students, and care centers to assist seniors in virtual travels, improving memory, and reducing depression.

In addition, it would be very practical and helpful in e-commerce and developing VR/AR projects in logistics, construction, tourism, and videogames in which seniors should be involved.

We had positive feedback regarding the development of collaboration based on this project with the NOKIA company, one of our partners.

IMPACT ON WUT

The impact on WUT has been positive through the development of intergenerational relationships between students, teachers, and seniors. In addition, both in the workshops and during the multiplier event, collaboration relationships were created.

Our students have had access to VR and AR applications and have been involved in customizing and applying VR / AR technologies to support seniors.

Through this project, WUT has developed its educational concerns in using VR / AR in courses and projects in collaboration with companies.

Also, by disseminating this project in the business environment, we initiated possible collaborations on this subject with local and multinational companies such as Nokia and other companies.

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