
Heroes to Meet in Virtual Reality; New Media Content Remediation

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Abstract

The Advance Media Tech Lab, established with the support of the government, created VR content using old photos, old media. Using 3D modelling or an actor requires a lot of money but using already created materials can produce VR content at low cost. Understanding the characteristics of VR and coming up with good ideas is the way to create effective VR content.

Keywords

Virtual reality · Remediation · New media · Old media · VR experience hall · Content production · VR movie · Seodaemun Prison · Advanced Media Tech Lab · Photography

1 Company Description

The Advance Media Tech Lab was established in 2017 with the support of the Korean Ministry of Science and ICT. Korea Economic TV, a leading Korean media company, participated as a cooperative company. Kyonggi University provided space and research personnel. The purpose of the organization was not to provide support for a small number of specialists, but to educate the public and students on new technologies, virtual reality.

The Advance Media Tech, located in the Seoul campus of Kyonggi University, is located in the heart of Seoul. Therefore, it is easy for the general public and students

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in Seoul to access it. These Korean government projects have three main purposes. The first is to build a facility capable of teaching virtual reality in a 300-meter-square space. We have created 10 booths with 10 virtual reality devices to achieve the purpose of educating many people, not facilities for a small number of researchers. One booth was built in a separate room with a size of 2.5 meters square. For the immersive feeling, the connecting line of the HMD was designed as special equipment and installed on the ceiling. Designed with rail and spring devices, the HMD assistive devices help users to experience virtual reality and move around. For safety, the monitor was installed outside the booth and the computer was put on the wall to clean the inside of the booth.

The second goal of the project was to provide virtual reality education to many people. To this end, we prepared the virtual reality contents and education curriculum necessary for youth and general education. Educated people are divided into students and ordinary people, and divided into people who experience once and those who participate in high-level courses. Cooperation with the local community was important to recruit participants. The Korean government operates a variety of programs for vocational education for young people, and the organizations responsible for the programs are located in each region. We collaborated with the organizations and made a lot of effort in the training of the vocational experience using virtual reality. In 2017, 2760 people provided virtual reality education, and by 2018, 9355 people were carrying out virtual reality education.

Finally, Advanced Media Tech Lab produced virtual reality contents. The purpose of the production of virtual reality contents was to promote the virtual reality industry and to give educational effect to the public. Among the various ideas at the planning stage, it was decided to create content for Seodaemun Prison, which is very close to Kyonggi University. Korea was ruled by Japan for 35 years (1910–1945) in the early 1900s. During that period, there are many heroes who have endeavoured for Korean independence. Seodaemun Prison is the place where many Korean independence fighters were kept under the control of Japan and is now used as a place to commemorate that time. Many students come to visit as part of their school classes. It preserves well the original form of the prison, and it shows the cruel torture of Japan and the suffering of the Koreans by making wax figures for the situation of that time. We chose one of the prisons to make a virtual reality content that meets the hero who was in that prison. It is important for young people to convey patriotism and history education in an interesting and entertaining way (Fig. 1).

2 Project Summary

Advanced Media Tech Lab produced virtual reality contents in Seodaemun Prison in Seoul. In order to produce popular and educational virtual reality contents on a limited budget, we used existing historical data and animation technology.



Fig. 1 The Advance Media Tech Lab

3 Project Details

Korean independent hero virtual reality contents began planning in September, 2017. The goal was to create content that allowed visitors to the Seodaemun prison to have greater impression and historical education. The content of the third part is divided into the first intro part, the actual hero’s talking part and the last ending scene. The intro and ending were made possible to skip, and in the scenes where the heroes were talking, the user was able to choose between two stories. Experiences must listen and respond to the heroes. The reason for continuing this choice is for the active participation of the participants.

The sources of our virtual reality content are all historical records. It is a fact that comes from the photographs taken by the Korean independent heroes while they were alive, the letters they exchanged, and various records. Therefore, virtual reality viewers will see the most-watched hero’s photos again through the HMD and listen to the most famous words left by the hero. Our goal was to bring existing historical data effectively into virtual reality. This method not only saves production costs but is also very efficient.

Finally, it was very important to distribute our virtual reality contents. We have released two versions that can be downloaded for free from Google Play Store and experience using Samsung Gear VR. This was the best choice at the end of 2017. However, the contents of the Google Play Store were not responded to because of the difficulty of advertisement and the 360 screen resolution. We operated an experiential zone using Samsung gear VR at Seodaemun prison. Since the virtual reality devices were available in small quantities, it was difficult for the group visitors to experience it. In order to improve these points, we set up an independent large space in 2018 and facilities for 15 people to experience together (Fig. 2).



Fig. 2 Seoul Seodaemun Prison and the prison inside the past scene reproduction dolls

3.1 Challenge

The budget allocated for the production of virtual reality content in 2017 was about \$ 50,000. The researchers at the institute were paid separately, and they undertook the role of planning, scenario, supervision and producer. We made progress with computer graphics and unity work to external game companies. The amount of \$ 50,000 was not enough to shoot a virtual reality movie, and it was not enough to make a good game. And most importantly, the content we were going to create was not a movie or a game. The solution to these difficulties was to borrow content made from other media. The content that was created in the past media is applied to the new virtual reality media.

3.2 Solution

Most of the virtual reality contents are created through 360-degree shooting or 3D modelling. But both are expensive and time-consuming tasks. So we studied how to reuse existing historical data to take on virtual reality media in order to make good content on a small budget. Instead of acting heroes or creating a virtual model of computer graphics, the heroes seemed to be moving and talking using stereoscopic and animated effects of well-known hero's photographs. Of course, some of the experience might be disappointed that there are no innovations, but it was possible to deliver a stable and realistic story rather than awkward acting or remote computer graphic characters (Fig. 3).

3.3 Benefits

People who first experience virtual reality through HMD become very interested. Virtual reality, which takes up the entire field of view, provides users with a great immersion experience. It is now a fact that fear or interest-oriented contents are the main thing in order to double the feeling of immersion and presence, or to emphasize



Fig. 3 A scene of Korean Independence Heroes Virtual Reality Content

differentiation from other media. Differentiation from existing media is important, but virtual reality media can be used more widely. It is good to have a dramatic experience in a short time, but it can be used more effectively when delivering boring and unpopular content. In Korea, history education is often excluded from priorities. Language, mathematics, and foreign languages play the most important role in the university entrance examination, and young people are reluctant to recall the days of historical hardship. Virtual reality contents are an effective medium to bring out stories that are more effective and familiar to these youths. Therefore, it is our hope that many educational virtual reality contents will be created.

4 Feedback from End Users

The responses of the participants were positive. Most of the virtual reality contents are produced as an excitement, and there are many opinions that it is scary or dizzy. However, most of the opinions of participants who have experienced Korean independence hero contents are very stable and educational. Young people were delighted to experience a vivid experience of meeting forgotten Korean heroes right in front of them, and the elderly were amazed to see living heroes. The stories of the heroes who devoted their lives for the independence of Korea became more and more touching to the experience.

We built a facility to watch VR in the space provided by Seodaemun Prison. The management of the equipment and the operation of the experience hall are handled by Seodaemun Prison. Seodaemun Prison had some difficulties that had to be solved when the VR experience facility was first operated. Firstly, training of operating personnel is difficult. The people who work at Seodaemun Prison are volunteers or



Fig. 4 Seodaemun Prison virtual reality experience hall

young men in military service, who are frequently replaced. Every time the working people change, new training of difficult VR equipment has to be done. Seodaemun Prison wants more manageable equipment and an intuitive content menu. It is said that it is best for the experienced person to enjoy the contents by themselves without any explanation. This may be our challenge as the biggest problem is the inferior mechanical completeness of HMD's appreciation of VR (Fig. 4).

5 Future Outlook/Roadmap

In the future, existing contents should be re-used for virtual reality media. 360-degree stereoscopic photography will be a large-scale project from the technical point of view as well as the limited costumes and props of the actors. The case of 3D modelling is similar. To create a complete 3D character, one designer must do more than a month of hard work. But virtual reality content does not have to be new. Rather than using the existing ones completely, transformation and redeployment are necessary, but they are much easier than creating new ones. Many of these cases have been found in the past. We can find many examples as voices are transferred to books, books are also transferred to radio and movies, and this is transferred back to computers and smartphones. Although there are many obstacles to dissemination and diffusion of virtual reality media, it is necessary to make many contents along with the development of hardware in order to solve this problem.

We produced VR contents for a specific place called Seodaemun Prison. However, the next project is preparing VR contents for more general students. Job experience content is that. One of the greatest features of VR's content is that it enables an inexplicable experience. It is possible to experience flying in the sky or

getting into the water. And the advantage is that the experience is very realistic. So our goal is to enable students to experience something that is impossible in the classroom. For example, students will be given the task of building robots in the world of the future while giving them the programming and engineering training they need. As many students prefer to computer games rather than read books, job experience VR content will help them learn as much as they enjoy computer games. We also believe that virtual experiences of the future can give them dreams and hopes.

And we want to present such content as a mobile service. The problem with Seodaemun Prison is that users must come to a fixed space. On the contrary, the equipment is mounted on a mobile truck and moved to a place requiring education to provide a service. If a VR experience hall is installed in a particular school, only the students of that school can use it, but if they move around making it mobile, they can teach VR education whenever they need it. This can be seen as a form of sharing economy.

6 Conclusion

Audiobooks read the content written in an existing book. Here, the content changes from visual to auditory. But the contents remain intact and do not take much effort. In the past, books made of paper were inexpensive and easy to move, but nowadays many people have access to smartphones and audio devices, so audiobooks can be used without difficulty. Virtual reality media would also be the same. There are still problems with computer speed, screen resolution, and wireless transmission speed, but this will be solved gradually. Then, various contents will be transferred to virtual reality media. Virtual reality media is an intermediate stage to the hologram media, and even if a complete hologram is realized, it will continue to be used due to human physical conditions. It is natural for companies that adapt quickly to new media to achieve great success, and most companies are now investing heavily in virtual reality media. More new attempts should be made to get rid of vague fears about virtual reality media and abandon obsession with existing media.