Travelling around the world from the comfort of one’s room. Kaleido takes the elderly on journeys using virtual reality

When seniors and patients can’t venture out into the world, the world comes to them in their rooms. Thus can be summarised the Kaleido project, which won a special prize in the value of CZK 700,000 in the Hack the Crisis Czech Republic hackathon organised by CzechInvest and the Ministry of Industry and Trade. The Kaleido project is the result of the work done by the Flying Kale team, i.e. brothers Marek and Filip Háša. These siblings’ ambition is to improve the quality of health and social care through the use of new technologies. Virtual reality is the technology of choice at Kaleido.

My brother has a great brother and inspiring grandfathers

Marek Háša reveals that the initial inspiration came in the form of travel stories told by their grandfathers. “Both of them were avid travellers and like to talk at length about their experiences in the Czech Republic and abroad. Besides enthusiasm, their stories were also marked by a certain degree of disappointment that they could no longer enjoy such powerful experiences.”
After founding Flying Kale, Marek and Filip realised that seniors in retirement homes who could only infrequently leave their rooms because of their health condition must feel such disappointment even more acutely. “We found out that virtual reality had already been verified abroad as a technology with great potential for slowing the progress of dementia, for example. So we decided to develop and validate our idea of virtual travel for seniors,” Marek explains.

And so it happened. Of course, thanks to that fact that Marek already had experience with the subject of digital innovations, on which he had focused when working in the Netherlands. His brother Filip is the owner of the Pixefield digital studio, which has offices in Prague and London. Both men are thus equipped mainly with the required knowledge and they know what they are doing. And what exactly is that?

Curative journeys with virtual reality

Kaleido is used in care facilities for so-called individual activation, when an ergotherapist or social worker visits elderly residents individually in their rooms. Virtual experiences comprise one of the tools with which the team can keep seniors in good mental and physical condition. Seniors choose from the offer of trips, walks or relaxation and cultural experiences that most appeal to them. The activation worker then launches the experience and helps the given user to correctly put on a VR headset. The seniors can then fully immerse themselves in the given experience: in every scene around them, they see wonderful things, hear three-dimensional sound and are
guided throughout the journey by an entertaining narrator as if they were on an actual trip. At the same time, the narrator motivates them to engage in various movements and exercises. The activation therapist then thoroughly discusses the entire experience with each senior, asks them about what they saw on the trip, how they felt, what memories they will retain and where they want to go next time. After the VR headset has been disinfected, the next care-facility client can embark on a journey with Kaleido.

The important thing is that Marek and Filip do not rely on any random recordings that may appeal to them. They prepare all journeys and experiences themselves so that they are appropriate for seniors, who may have never encountered such modern technologies. The recordings are then tested at dozens of facilities, or rather with their activation workers as well as with seniors. They simply want the elderly to enjoy themselves.

Thanks to the prize won in the hackathon, the brothers were able to launch the Kaleido tool in the form of a pilot programme at seniors' homes free of charge for four months. “We could thus enter the market and collect data in such a scope that would not have been possible without the financial injection,” says Marek Háša, adding: “We used the prize money to purchase VR headsets and all of the technology needed for creating virtual experiences, such as cameras and microphones.
We were also able to hire specialists to develop the VR application and the initial libraries of virtual experiences."

The collaboration with seniors’ homes resulted in an extraordinary *study of the usability of virtual reality in social care*. “The study’s conclusions indicate the very strong potential of VR and particularly of our own experiences for the physical and mental activation of seniors, including those with diminished cognitive abilities and physical limitations,” says Marek.

“*We would like to eventually make Kaleido a Europe-wide activation tool.*

*If our virtual experiences can work beautifully for Czech seniors, then why couldn’t they bring similar joy to elderly Brits, for example?*

– Marek and Filip Háša, Founders of Kaleido

With COVID everywhere

The first wave of the pandemic effectively put the brakes on the brothers’ earliest roll-out efforts. According to Marek, it would have been very difficult to bring Kaleido into the world without their participation in Hack the Crisis. From one day to the next, they were cut off from their target group, which to a significant extent had been paralysed without the possibility of taking part in the development of the new tool or paying for it.

Fortunately, the second wave came at the time when Kaleido was already in existence and had been deployed in seniors’ homes, where it could have double the value added during the prohibition on visits. At the same time, the second wave understandably took a tremendous toll on care facilities both financially and in terms of capacity and some participants in the pilot programme were unable to work with Kaleido at all because of the disease.

“We felt bad about the situation mainly because of the thousands of seniors who would again find themselves isolated and in danger for long weeks and months. Especially because of them, we truly and strongly hope that thanks to vaccinations, for example, the situation will finally be brought back under control and families will be able to visit their loved ones at care facilities and give the workers there a bit of a break,” Marek says.
The Háša brothers remain in contact with CzechInvest, which, according to Marek, continues to very generously provide support and has not stopped offering opportunities for further development. Marek and Filip appreciate the fact that, thanks to the hackathon, they have gained useful contacts for establishing various partnerships, as well as support for completing the project at a time when conditions are not favourable for collaboration with seniors' homes. "The connections and consultations with mentors definitely help and the financial prize in the final was undoubtedly the greatest form of support for us," Marek adds.

In cooperation with CzechInvest, the brothers want to continue onward, for example in the CzechStarter programme, which can help them with expansion abroad. They also see an opportunity in potential cooperation with the Ministry of Labour or the Ministry of Health. They are in agreement that they would like to get more involved in the area of deploying innovative tools in the provision of care in the Czech Republic.

Though they are currently focusing primarily on the Czech Republic, they are also taking the first steps toward expanding abroad, with plans to research the market in the Netherlands, Austria and Great Britain, for example. The brothers have prepared several virtual trips with dubbing in the respective languages of those countries and are seeking partners for the initial tests. "We would like to gradually make Kaleido a Europe-wide activation tool. If our virtual experiences can work beautifully for Czech seniors, then why couldn't they bring similar joy to elderly Brits, for example?" Marek and Filip ask rhetorically.

Thanks to their participation in the hackathon organised by CzechInvest and the Ministry of Industry and Trade, the brothers have brought a lot of joy to Czech seniors during a difficult time. If you are interested in the project, have a look at the company’s video.
About the Hack the Crisis hackathon

Hack the Crisis Czech Republic is a two-month virtual hackathon that was launched in spring 2020 during the first wave of the global coronavirus pandemic. Its purpose was to coordinate the needs of the state with the energy and volunteering found in the IT community and the business environment, thus supporting the implementation of relevant projects that can provide assistance in the crisis situation or mitigate its impacts. The hackathon was organised by CzechInvest and the Ministry of Industry and Trade. A total of 206 projects were entered in the hackathon in the course of its duration. Over fifty partners from the public and private sectors also took part in the event. Free mentoring was provided by more than 130 experts in various fields. More information on the hackathon is available [here](#).

Marek Háša of Kaleido (left) accepts a Hack the Crisis special prize from Petr Michník of Hyundai Motor Manufacturing Czech (right). Photo: CzechInvest, Dominik Kučera

The Háša brothers would like to eventually make Kaleido a Europe-wide activation tool. Photo: Kaleido
The recordings are then tested at dozens of facilities, or rather with their activation workers as well as with seniors. Photo: Kaleido

The creators of Kaleido want seniors to enjoy themselves. They are aided in this by virtual reality and special glasses worn by seniors. Photo: Kaleido