POSSIBILITIES FOR INCREASING AUDIENCE OF THE VIRTUAL REALITY EVENT "TRAIL OF ANGELS" IN KLAIPĖDA

Andželika Bylaitė, Deimantė Razgauskytė SMK College of Applied Sciences, Lithuania

Abstract

This article focuses on the audience branering of "Trail of Angels", a virtual reality (VR) experience event in Lithuania, that started on 29 August 2018. The virtual reality event "Trail of Angels" uses VR glasses, that help travel through 60 different paintings of the famous Lithuanian artist Mikalojus Konstantinas Čiurlionis ("The Altar", "Serenity", "The Sun", "Eternity" and etc.). Participants can rotate 360° while in the VR environment, which means they are able to swivel in the chair and see the whole space. The "Trail of Angels" has won three prestigious awards (in 2018-2020). Currently this VR event offers its services in six cities: Vilnius, Kaunas, Alytus, Šiauliai, Druskininkai, Klaipėda (AngelųTakais.lt). Using written surveys and descriptive the article analyzes the possibilities for increasing the audience of this event in Klaipėda city, because unlike other major Lithuanian cities, participation in Klaipėda is the most uneven. The quantitative research obtained results show that it is influenced by a restrained audience of Klaipėda city, a lower level of involvement, limited availability of information channels.

Keywords: virtual reality, event "Trail of Angels", audience development.

INTRODUCTION

Research topicality. The accessibility of culture and the participation of residents in events in Klaipėda, as one of the three major cities in Lithuania, is not even, which results in the need to increase the accessibility of innovative cultural forms related to community engagement strategies (Skopas, Mejerytė-Narkevičienė, 2024).

Virtual reality (VR) projects can be one of the most innovative measures for audience development. Within the recent several years virtual reality has become an increasingly important tool in organizing events, providing viewers with new immersive and interactive experiences (Shehade and Lambert, 2020). VR and 360° images cause stronger psychological and physiological reactions than traditional photos or static visualization (Chen, 2023). During events virtual reality enables users to feel as if they are physically present in the event, despite the fact that they are elsewhere. VR technology provides viewers with a possibility to choose different angles of observations or even communicate directly with others in the virtual environment. This not only helps to increase involvement, but also creates a stronger emotional bond with the event, a deeper effect of immersion and improves the ability of the audience to assimilate information, promotes longer interaction (Yang et al, 2024).

The uniqueness of the VR event "Trail of Angels", presented in Lithuania, is that for the first time an innovative VR service based on the works of the famous artist Mikalojus Konstantinas Čiurlionis has been adapted to the museums, providing a unique cultural experience to visitors (Skopas, Mejerytė-Narkevičienė, 2024). Considering the importance of these technologies it is necessary to better understand how users react to such cultural experience and what would be the possibilities for developing the audience of this VR event in Klaipėda city, where unevenness of culture consumption is one of the specific challenges among the major Lithuanian cities.

Research problem. What are the possibilities for increasing of the virtual reality event "Trail of Angels" in Klaipėda city?

The aim of the research. To analyze the possibilities for increasing the audience of the virtual reality event "Trail of Angels" in Klaipėda city.

Research methodology. A quantitative research type was chosen for the research and scientific literature analysis, written surveys, and descriptive statistics methods were used.

Research results. The research results showed that the audience of the VR event "Trail of Angels" in Klaipėda is quite restrained, but curious and have insights into audience development for the organizers of the VR event "Trail of Angels": the participants lack games, competitions, learnings, that could better educate the society about the event of this type. Wider coverage of the event and greater publicity coverage are also desired.

Originality/Value of the article. The research analyzes the under-researched but unique and acclaimed VR event "Trail of Angels" in Lithuania. This research was ordered by the organizers of the VR event "Trail of Angels" believing that the results of the research will help to identify the strengths and weaknesses of the event and ways in which the event could be expanded in Klaipėda and the specific challenges of uneven participation of the society in the cultural activities in Klaipėda city.

THE CONCEPT AND SPECIFICS OF ORGANIZING VIRTUAL REALITY (VR) EVENTS

Events must be designed so that they strengthen experience and aesthetic feeling aiming at involvement of participants. Since favourable design of events directly and positively affect experience of participants, visually pleasant events, that tell a story or provide a cultural context, can be psychologically stimulating and provide visitors with an unforgettable experience (Yen, 2022). During the pandemic, VR became an important alternative to traditional participation in events, enabling viewers to experience mega events without leaving home. This has not only reduced travel costs, but has also enabled a wider audience to attend events, regardless of their geographical location. VR technology changes event experience, providing both viewers and organizers with more involvement, interactivity and new opportunities (Kunz et al, 2020). According to Shehade and Lambert (2020), virtual reality is becoming an increasingly important tool in organizing events, providing viewers with new engaging and interactive experiences. It enables the participants to immerse in the digital environment, where they can observe events from unique perspectives. VR technology is especially significant when people cannot physically attend events, but can experience them virtually. However, there are also challenges – VR can isolate the user, there is a lack of social interactions and development of hardware and software can be expensive. Despite that, VR potential in the sector of events is growing, providing new possibilities for interactivity, learning and emotional involvement.

VR can help overcome geographical and physical restrictions, providing access for people with disabilities, allowing them to experience places they couldn't realistically go to. This technology also provides distant participants with a possibility to "attend" events without leaving home, which is especially important for international conferences or tourism exhibitions (Tibaldi et al, 2020). Virtual people can be used as guides, narrators or even interactive participants, who help visitors to better understand exhibits or historical contexts. In museums virtual people can imitate the characters of a historical epoch, who communicate with the visitors, telling stories or explaining the meaning of exhibits (Karuzaki et al, 2021). Within the recent several years, most famous museums and art galleries, such as Helmut Newton foundation, Louvre and "TateModern" organized VR exhibitions, providing the audience with unique and interesting experiences (Evrard, Krebs, 2018; Jusseaux, Bishop, Chen, 2020; Ramires, 2023). Though some users experience dizziness when wearing a headset, and immersion and comfort levels can vary considerably depending on the VR display method, and visitors may also encounter difficulties with the operation of the technological devices, the design of VR is crucial to the success and quality of these exhibitions. VR offers education, entertainment and immersion; improves the overall experience; and promotes to attend the physical museum. VR technologies are popular, because they reduce costs and increase technological availability and admission of users (Lin et al., 2024).

Creating virtual reality experiences is a complex and costly process, requiring long development times and highly skilled professionals. This is due to the complexity of the software used for virtual reality systems, which includes a variety of technological resources and specialized devices. These include head-mounted displays, motion tracking systems, 3D mice and other custom input and output devices needed to create a quality VR environment (Chamusca et al, 2023). One of the main elements of VR events are interactive 3D and VR components, that enable users to explore exhibits from all angles, review their details or even interact with them.

Organizing virtual reality events requires a specific approach to the experience of users, interactivity and integration of technologies. A key aspect is user-centered design, which ensures that the virtual reality event created are intuitive and attractive to visitors. Whether the event takes place in a physical space or online, organizers have the opportunity to imagine and analyze the event from the participant's perspective. To achieve this, the planning of a virtual event must first consider three key aspects: the purpose of the event, the space and the experience (Dounavi et al, 2022).

Purpose. Most VR events have a common digital strategy, i.e. action plan or specific objectives for the deployment of emerging technologies. An organizational digital strategy is now in place, ranging from website and online ticket shop to immersive and non-immersive digital experiences in galleries. Any integration of VR must be developed in the context of the overall purpose and strategies of the event, and not as a stand-alone individual proposal that meets the criteria set out in the business plans and the guiding institutional principle. The importance of integrating the use of VR technology into the overall strategy and the coherent approach of the event is underlined by stating that if VR technology is not integrated into the overall strategy, it will not be able to contribute to the event's purpose. The VR technology used should be seamless, well aligned and integrated with the overall experience of the event, not just used for the sake of something innovative (Meccawy, 2022).

Space. Since there are many types of VR technologies under formation, events should adapt every technology, drawing attention to a specific need and to how it could be better used, considering advantages and limitations of every VR technology in the space. It is also necessary to understand what VR can offer in the environment of an event. The final purpose of any VR event should be to increase the level of visitor involvement in the original objects on display, without distracting them from the real purpose of their visit. These technologies are most effective when strategically placed in art objects, allowing visitors to bring the knowledge gained from technology into a direct relationship with the physical object (Kim & Ko, 2020).

Experience. When organizing virtual events, it is important to offer a new social experience using technologies that promote social interaction and can change learning. For VR to play an effective role in an event, it should be linked to a basic human need, such as socializing and sharing experiences with others. It is important to create an experience that provides the missing context along with the VR aura that can only be offered inside the event (Lameirão et al, 2024).

VR also must play a certain role in the experience of empathy creation. VR can be used for immersive first-person narratives, or for body-swapping VR experiences that allow you to experience someone's point of view or put yourself in their situation. Emerging technologies used in this way can contribute to a broader experience of social good and create empathy on a wide range of topics (Mahadewi, 2022).

Personalization is important when organizing VR events, and can take place at different levels and have different impacts on the efficiency of usage. Literature indicates three types of adapting through personalization: *adaptability*, that enables the user to set options so that the system adopts the desired behaviour; *context perception*, that is the ability of the system to perceive dynamic changes in the environment and adapt accordingly; *Adaptivity*, that is the

ability of the system to adapt its behaviour by inserting additional content (Benedictis et al, 2021).

To summarize the specifics of organizing virtual reality events, it should be noted that VR technology eliminates geographical restrictions, allow participants to experience events from any place in the world and provides with new possibilities for education and artistic expression. VR also enables people to create unique narratives and experiences that are not possible in traditional events. Virtual event organization is based on three main aspects: purpose, space and experience. The goal determines the strategic direction of the VR integration, and the space needs to be adapted to the chosen technology, taking advantage of its strengths. Experience – is the most important element, that includes both social interaction and emotional connection as well as promotion of empathy. Personalization mechanisms based on user profiling, including their behaviour, preferences, previous interactions and feedback, play an important role. VR events actively apply cooperation tools and interactive interfaces, that enable users to be involved not only as observers, but also as creators. This approach adds value to the cultural content and image of the organization.

Possibilities for Increasing Audience in Virtual Reality Events

The term "audience" has long been known as a collection of individuals with common experiences, traditions, living conditions and needs. This group of individuals differs depending on their social classes, economic interests, religious beliefs and concerns. This group is attributed to local, national and international audience with different interests but a common feature, that comprises all groups of audiences, is that they are all active (Smith, 2022). Cappa et al (2020) divided audience into four stages:

- Audience as a gathering of people: this basically refers to a total unit of people, measured as attention to a particular presentation or products at a particular time. They are often referred to as viewers.
- Audience as the people addressed: this refers to the group of people envisioned by the creators and for whom the content is created. This is also known as the "recorded" or "interpolated" audience.
- Audience as ongoing: reception alone or with an offer as an interactive event in everyday life, contextualized by location and other characteristics.
- Audience as listening: this refers to a participatory audience experience, where the audience is involved in the activity, can participate remotely, or can provide a simultaneous response.

Audience is the basis for the perception of art, because the meaning created by art depends on how it is used by users, not creators. Art forms the world through its audience, thus most viewers achieve the desired perception; in other words, the members of audience can interpret works of art based on their personal experiences. Their interpretations differ from the primary intention of the work of the artist. Every person differently interprets the meaning of cultural texts, has a strong initiative in the creation of meaning. Art creation is the process of constant exchange. When evaluating works, it is important to understand the communication between artists and audiences, not only in a social context, but also in the interactive experience between artists and audiences (Wu et al, 2018).

The audience of art and culture organizations can be divided into five groups: frequent audience, infrequent audience, absent audience, tourists and young audience. Organizations that plan cultural events should diversify, expand and attract new audiences. The purpose of this action is to increase income by attracting a wider audience and to respect their public role. Audience development remains a challenge for many art and culture organizations around the world, as the supply of art and culture grows and people have access to a wider range of

interests, both inside and outside the home, and disposable income decline in relation to the rising cost of living (Mandel, 2024).

Usually, audience development is described as the process of creating and expanding the audience of specific product, service or organization. This includes the understanding of potential audience, its interests and needs as well as creation of strategies how to achieve and involve them (Ayala et al, 2024). Also, as Alnasser et al (2023) and others have noted, the definition of the term "audience development" often depends on the organization using it. It can be seen in two ways: the first is as a goal to increase the number of audiences, and the second is the development of audiences as individuals.

Lipps (2015) categorizes audience development as follows:

- Audience by habit. People who normally participate in cultural activities where access obstacles are relatively easy to overcome and for whom different strategies are used: educating the audience to attract similar audiences that are not currently participating; encouraging a cultural habit to increase and diversify content and attendance. Habit in this system means that these audiences are familiar with the very idea of being an audience.
- Audience by choice. People who are not used to taking part for some life reasons, lack of physical possibilities or financial resources; those who do not have a habit of taking part, or who rarely choose to attend performances or concerts. They can be involved in different artistic activities not only through different strategies, such as extended marketing, but also through education and changing attitudes to participation.
- Audience unexpectedness. Hard-to-reach/indifferent/hostile people who do not participate in any cultural activities for complex reasons related to social exclusion factors, education and accessibility. Their participation is unlikely to be possible without a stimulating, sustained and targeted approach (Lipps, 2015).

According to Kemp and Poole (2016) model of motivation, abilities and opportunities (MAO) involvement in artistic context is necessary in order to participate in arts and develop audience. MAOs are characterized by active, cognitive and behavioural factors, which together promote involvement. In the context of the development of audience art, the important outcomes of involvement are the value created and loyalty. Perceived value is an important construct in consumers' decision-making process, because when consumers attribute relevance and value to artistic creativity, they are more likely to engage in participation. User loyalty is also necessary in supporting art organizations and it frequently turns into memberships, sales of subscriptions or donations (Kemp & Poole, 2016).

According to Walmsley (2019), a user's participation in cultural life depends on the user's time and financial budget, as well as cultural competence (see Table 1).

Table 1. The ability to participate in cultural activities

Resources	Description
Financial opportunities	This resource is related to the amount of money that the user is willing to spend on
	cultural activities. The higher financial opportunities, the bigger probability that cultural activities will be attended. However income does not have a significant
	e l
	impact on the frequency of participation.
Time budget	This resource is related to the available free time and the peculiarities of spending
	free time.
Physical abilities	Self-evaluation if a person is physically prepared to participate in cultural activities.
	This resource is particularly important if the target audience is older people.
Intellectual abilities	Self-evaluation if a person has mental possibilities to enjoy cultural activities. This
	resource is related to the competence of cultural capital construct and information
	processing abilities. Intellectual resources are related to skills to interpret cultural
	symbols. Individuals with high intellectual resources will choose more complex
	cultural activities (activities that require knowledge in order to interpret cultural
	symbols)

Source: compiled by the authors of the article based on Galeati (2024).

According to Galeati (2024), in MAO model, opportunities to participate in cultural activities can be divided into price and place.

Price can mean different signs related to the perceived quality. Firstly, price indicates financial costs and the higher the costs, the less the cultural product is suitable for usage (especially if a similar cultural product is offered for a lower price). Secondly, price can show quality of the product. It can also be applied to cultural products. High price can show the exceptionality of cultural participation where exceptionality is related to the prestige attributed to the cultural product. However, both assume that the user knows the true price.

The relevance of an event can only be determined when users are familiar with the location of the cultural organization. It can be asked whether the user knows where the cultural organization is located (address, part of the city) and how often the user visits the part of the city or the surroundings of the cultural organization. Secondly, suitability of location must be established. The perceived suitability is used as an indicator that shows the extent to which the characteristics of the location can be considered an obstacle (Walmsley, 2019).

Lithuanian theaters, such as the National Kaunas Drama Theater, in their audience development strategies also focus on their loyal audiences, who are often invited to join theatre clubs, offering various membership programmes, long-term subscriptions to theatre tickets and newsletters (Staniškytė, 2018).

Pavlovaité and Griesiené (2019) state that audience development opportunities include a range of strategies and tools that enable cultural organizations to reach and retain a wider audience. The main audience development strategies are as follows:

Education – cultural organizations mostly use learning activities, seminars and other forms of learning in order to involve new audiences and encourage a long-term interest in culture.

Partnerships – cooperation with other organizations, both local and international, helps attract new audiences and strengthen relations with communities.

Audience segmentation – division of audiences by demographic, behavioural and other criteria helps to more effectively create content, that would meet the expectations of different groups.

Market redistribution and entertainment creation – usage of innovative and interactive ways for presenting art (e.g., virtual reality experiences in museums) enables to attract a wider audience.

Increasing inclusion and accessibility – reducing cultural and social barriers helps attract audiences that are traditionally less involved in cultural events.

Digital technologies – usage of social networks, online platforms and other digital tools enables to reach new users and encourage their involvement (Pavlovaitė and Griesienė, 2019).

The latest data show that involvement in one or two main platforms can reach almost all users of social media worldwide. Approximately six platforms have more than 1 billion users a month and at least 17 have more than 300 million users (Chiu et al, 2024).

It is also important to mention that involvement of audience in virtual reality events also depends on other different factors such as visual perception, interactivity and specifications of technological devices.

Though research show that colour perception in VR exhibitions can be weaker than in physical exhibitions due to differences in lighting, virtual artworks offer a greater stylistic and aesthetic evaluation. This is due to the possibility to freely manipulate the virtual object, to analyze its structure in more detail and to assess the details of the artwork up close, whereas in physical exhibitions such interaction is limited (Lin et al, 2020).

A higher interactivity allows users to feel more immersed in the virtual environment, which promotes cognitive involvement and enhances their presence. Interactivity has also been shown to trigger emotional reactions in users, making the experience of presence more vivid (Hu et al., 2024).

The highly interactive VR environment allows users to experience a deeper sense of immersion, which is an important factor in improving the quality of the VR experience. Systems that enhance interactivity through real-time prediction and display optimization improve the user experience and increase immersion, while systems that provide haptic feedback enrich the user experience and contribute to immersion. The link between interactivity and immersion enhances immersion by allowing users to experience life-like sensations in a virtual world, which plays an important role in increasing user satisfaction and the quality of experience. These findings emphasize the importance of interaction in advancing VR technology and suggest that appropriate interaction design is essential to maximize immersion (Yang et al, 2024).

A theoretical overview of the possibilities of audience development for virtual reality events thus confirms that a variety of tools are used to develop audiences. They aim not only to attract new visitors, but also to strengthen links with existing visitors and encourage their involvement.

RESEARCH METHODOLOGY

A quantitative research type was chosen for the research. According to Kardelis (2016), namely quantitative research is structured, it cannot be spontaneous and all obtained data must be expressed in numbers.

Quantitative research is used to understand the opinion of the participants themselves of the organization of the virtual event "Trail of Angels". To find out how the participants value the spread of information of the virtual event, technical and artistic aspects, convenience of VR equipment, emotional impact and fulfilment of expectations. It also analyzes additional activities that could strengthen involvement of participants in the event, as well as what is lacking and what would encourage to attract a wider audience.

An online written survey method was chosen for the quantitative research. Based on the analysis of scientific literature, the authors of the article created a survey that included 16 mixed-type questions, online survey was formed in the website "Mano apklausa" ("My Survey") and shared with the participants of the virtual event via "Facebook" and "Messenger" as well as "Instagram" social networks and sent by e-mail with the note that only people who participated in the event can answer the questions of the survey. The data collected during the quantitative research were systemized in Excel using mathematical-statistical analysis.

Paniotto formula $n = 1/(\Delta^2 + 1/N)$ was used to calculate the sample of the quantitative research (Kardelis, 2016). Target sampling was used, i.e. only subjects who had already participated in the virtual reality event "Trail of Angels" were interviewed. The research was carried out in January 2025. Based on the data of "Trail of Angels" team, 1384 participants had already visited in January. To obtain a 99% probability of accuracy, a margin of error of 0.05 was chosen to calculate the research. A total of 310 participants of the virtual reality event were surveyed. This number corresponds to the calculations of the above formula and indicates that the study is sufficiently valid.

The research followed the most important principles of ethics that ensure free will of participants, confidentiality, equal rights, data protection and openness (Gaižauskaitė, Valavičienė, 2016). Before the participation every person was introduced to the nature and purpose of the research, could independently decide on the participation without any pressure or reward. The researchers have assured the anonymity of the participants – their names, surnames and job titles will not be published and the obtained data will be used only in the

research. Respondents to the survey were also informed of the anonymity of the survey and were not asked to provide any personal identification data.

RESEARCH RESULTS AND DATA ANALYSIS

At the beginning of the survey of the participants of the VR event "Trail of Angels" it was determined that the research was dominated by women. They made 81 % of all the surveyed, while men – only 19 %. This suggests that women are more likely to attend this type of cultural events. Based on the age of the respondents, 53 % of the responses indicate, that the VR event "Trail of Angels" audience is youthful, consisting of participants aged 18-24. Other age groups are less active: 23.5 % respondents were from 45 to 64 years old, 19 % – from 24 to 44 and 4.5 % – 65+ audience. This suggests that these categories of age are also interested in this event, but they are less accessible in social networks than the youth.

Since the aim of the research – to increase the audience of "Trail of Angels", the surveyed were asked how they had found out about this event. This helps to decide what ways of information dissemination are currently most effective. The answers obtained show the surveyed know most information of the virtual reality event by word of mouth (45 %), thus the surveyed share their experience with their families and friends. In the second place – social networks (35 %), which shows that "Trail of Angels" actively publish their content in social networks and this is the way how most people know about them. However, advertising in the city, traditional media or the website accounted for only 20% of the responses, which may indicate that these channels are less effective or remain unnoticed. Respondents also shared other (2%) dissemination channels through which they learned about the event, including schools and universities.

94% of the respondents rate the promotion of the VR event and informing strategies as very good/medium. This means that almost half of the people like and use advertising communication. 6% of respondents rated the promotion of the VR event poorly. This is not high compared to other percentages, but it may be a signal that some participants were not reached by the advertising they did not understand it, or that it lacked quality, clarity or accessibility on official channels.

In order to evaluate the experience of the virtual reality event "Trail of Angels", the respondents were asked to rate the quality of the organization of the VR event in terms of the premises, location, screening time, duration of the film, soundtrack, VR effects and the quality of the video on a scale from 1 to 5 (where 1 is very bad, not at all satisfactory; 5 is excellent, 100% satisfied). The responses showed that the participants in the VR event mostly rated all aspects as excellent. In particular, the music track, virtual reality effects, the quality of the organization, the venue and the facilities were the most popular, with as many as 45%-49% of all respondents giving a score of 5. This shows that the majority of the participants had a positive impression of the event and that it fulfilled the expectations of most of them. While many found the quality of the video to be excellent, it received fewer of the highest scores, with only 39% scoring 5 and 33% scoring 4. Although 4-5 points dominated in the length of the film and the convenience of the screening time, as many as a third of the participants rated this as average (3 points). It is worth considering that the visual content and the structure of the film could be improved in order to involve more participants. There were a few 1–2 points – only approximately 5 % of all the responses, but still there were some. It is noteworthy that only 12 respondents gave just 2 points to the quality of the video, while 6 respondents gave even 1 point each to the quality of the organization of the event, the venue and the VR effects. Although this is a minority, it shows that some aspects may have caused discomfort or frustration for some participants.

The next question asked respondents to identify the strengths of the event. The obtained results showed that interpretation of M.K. Čiurlionis paintings was the most popular (24 %).

This shows that art and the content conveyed are important to participants. The second and the third place are shared by just three respondents – VR effects (23%) and overall atmosphere (22%). Looking at these results, it can be seen that the participants appreciated not only the idea of this virtual reality event, but also the overall atmosphere, as they felt emotionally very good. Music and soundtrack (18%) also received quite a high number of votes, presumably because namely the emotional involvement was enhanced by the background music. Less popular but still important aspects were the convenience of the technical equipment (8%) as well as the duration and structure of the event (4%). We can conclude that the idea, art and emotion of the event were the most liked elements of the event, while the technology and the structure of the event itself were less impressive. Also in the "other" column (1%), participants indicated that they did not like anything at all or that they had encountered some technical problems. In summary, the artistic and emotional expression of the event were the most important elements that the surveyed rated as their favourite. This suggests that audiences are more concerned with the meaning, aesthetics and emotional involvement of the content than with technological innovation alone.

Technical equipment and virtual reality effects are the main components when creating VR event "Trail of Angels", therefore it was necessary to analyze not only the general aspects of the event. Participants could rate each aspect on a scale from 1 to 5 points, with 1 being very bad, with many shortcomings; 5 being excellent, with a feeling of 100% satisfaction). Based on the obtained research results the overall technical experience is very good. The respondents gave the highest score (5) to the ease of management (47%). The sound quality in the VR environment and the sense of movement were also highly rated, with more than 40% of respondents scoring 5 points and more than 80% scoring 4 or 5 points, which shows that those who scored 4 points had noticed small weaknesses that could be fixed. The comfort of the VR glasses was the weakest: though 69% of the respondents gave a score of 4-5, as many as 23% gave a score of 3 points, which means that the glasses were rated as neither good nor bad. VR glasses also received the highest score of 2, with 7% of respondents rating them as very bad, which means that the glasses have a lot of disadvantages that make participants uncomfortable. Though the majority of the respondents gave a score of 4 (43%) for spatial view and detail, 2% of the participants gave a score of only 1, which means that as many as 6 participants were not satisfied at all with this aspect. In terms of the reliability of hardware, most respondents (40%) gave a score of 4, but as many as 22% of the respondents gave a score between 3 and 1. Taken together, these evaluations show that the technical aspects of the VR event were positively evaluated, with more than 80% of the respondents rating most of them 4 or 5 points. This shows that the technological experience was fluent and reliable, although the comfort of the VR glasses or the reliability of the equipment may have caused slight or greater discomfort for some participants.

Since the survey asked the participants what they liked most about the VR event "Trail of Angels", it was necessary to ask them what made them uncomfortable or prevented them from fully enjoying the event. Identifying the weaknesses noticed by the participants will help us build a more effective event development strategy and improve involvement of participants. As the survey showed, as many as 30% of the respondents had no complaints about the event and liked everything about it, but this accounts for less than half of the responses. Analyzing the results, we see that the biggest weaknesses are in dissemination of information (16%) and active involvement (16%). These statements account for 32% of all respondents and show that these are the areas of the event most in need of improvement in order to attract a wider audience to the experience. Similar results are shared by duration of the experience (11%), uncomfortable VR equipment (10%) and a high-ticket price (10%). These results suggest that physical comfort is an area for improvement for some participants. It is therefore not surprising if there was a lack of information about the event itself, and participants also gave a poor assessment of the

duration of the event in terms of value for money, as they did not know what to expect and what to look forward to. Plot inclusion was also mentioned (5%), which may mean that some visitors had difficulty "empathizing" or understanding the artistic interpretation. 1% of the respondents also recorded their answers, which included weaknesses such as uncomfortable chairs and noise from extraneous noises that prevented them from enjoying the event. We can conclude that it is very important to strengthen communication, educational and interactive elements in the development of the event to attract a more diverse audience and increase satisfaction.

The next question asked VR event participants to name any physical, psychological or technical inconveniences they experienced during the event in relation to the virtual reality experience. This evaluation is very important because it enables to identify the barriers that can reduce the audience involvement or negatively affect the opinion of visitors of VR events. According to the results of the survey, it is very pleasing to note that as many as half (50%) of the respondents did not experience any inconveniences, indicating that the VR experience was fluent and enjoyable for the majority. However, the VR equipment inconvenience was the mostly indicated weakness (16 %). This is also confirmed by the data of the previous questions that glasses or other hardware is not comfortable for all and this can become a barrier for a specific audience which will try this VR experience for the first time. The inability to concentrate and dizziness as well as nausea were criticized by 9% of the surveyed, indicating that a part of the participants experienced sensory or physiological discomfort. It can be seen that the respondents also had various phobias (7%), which may have influenced the question discussed above about the lack of information of the event: who would be attending it, and therefore the participants were not able to understand what was awaiting them. Also, 7% of the participants experienced technical problems during the VR experience itself, therefore more attention should be paid to the equipment to prevent this from happening again, as the participant loses the opportunity to participate in the whole experience, which has an impact on the value for money assessment. Responses at the category "Other" (2 %) revealed additional inconveniences: noisy visitors, uncomfortable chairs, cord wrapping around the neck. These statements show that not only the VR content itself is important, but also the entire environment and behavioural culture during the event.

In order to expand the audience, it was very important to find out from the existing visitors what methods of VR event involvement would attract them. The obtained data suggest that the respondents would most like interactive games or challenges related to M.K. Čiurlionis (23%). This points to the need for greater involvement of participants through active participation. It is particularly relevant for the event participants because a game of a challenge would reach the wide audience by word of mouth and would expand the awareness of the event as well as the audience of the event. The participants would also like to have more educational activities (19%) and creative workshops (18%). This means that it is important for them not only to participate directly in the VR experience, but also to deepen their knowledge and create art themselves. 14% of the respondents stated that they would like to practically participate in the process of event creation. This shows that a part of visitors considers their influence on the event process important. Social meetings after the event (11%) and discussions with the event visitors (13%) were less popular, however they still show the need of a part of the participants to discuss the experience and to expand it through communication or knowledge deepening. In the "Other" category (2%), some respondents thought they were already well involved, others would have liked questions after the film, and others wanted the film itself to be adapted to different audiences. All this leads us to the conclusion that the participants want a direct communication, challenges and activities that would promote involvement in the event.

Participants usually have some expectations when they go to any event, so the next question was asked to find out what the participants had expected from a VR event before going to it. The results revealed that most participants went to the event only to spend their free time

(27%). The second most popular answer is sensual sensations (23%). This group of participants can be very loyal if the event meets their inner need, because emotional involvement is important for these people, as is a deep experience that affects them not only informatively but also emotionally. Similarly, the physical sensations (19%) and the intellectual experience (17%) were also mentioned, as this is a curious audience whose aim is to experience and learn something new. The smallest part of the participants attended the event "Trail of Angels" because of creative inspiration (13%). Thus, we can conclude that the majority of the surveyed expected to relax in the VR event "Trail of Angels", had physical and emotional expectations, however a significant part of the visitors had educational and creative expectations. This shows that the VR event "Trail of Angels" acts as a multilayer experience and suits different purposes – from entertainment to self-development.

As respondents were asked about their expectations going into the VR event, it is necessary to ask whether these expectations were met. The responses will give an insight into how effectively the event met the participants' prior expectations, which is very important for planning the development and improvement of the event. According to the survey results, the event "Trail of Angels" met the expectations of the majority of participants (58%) or at least partially met their expectations (41%), which shows that the VR experience was of a high quality and left a good impression. However, we can assume that there are aspects that need to be improved, as a large part of participants rated the expectations as only partially met. This may also be influenced by the questions discussed earlier, where participants identified certain inconveniences, lack of information or insufficient involvement. Strengthening of these aspects could help not only to meet the expectations of participants, but also to encourage a repeated participation or recommendations for other people, who are very important in order to the expand the audience. Only a few, just 1% or 4 respondents, said that their expectations had not been met at all.

Considering the situation of meeting the expectations of the participants of the VR event, the respondents were asked to express their views on the need for additional activities in the context of the event "Trail of Angels". According to the survey results, most participants think that additional activities would increase interest in the event (57 %), and this shows that the audience is ready for a deeper and richer format of the event, and a third of the respondents (34 %) say that this would depend on the nature of the offered activities. This strongly confirms the possibility of developing the event in an educational, creative and interactive format in order both to reach new participants and to seek the return of those who have already attended. Only 9% of the respondents felt that the current format of the event is sufficient and would not attract a wider audience. This data show that the event has development potential and can be adapted to a wider audience.

After the participants' attitude towards additional activities, a follow-up question was asked with specific statements on what could attract a wider audience to the event. This question was asked to find out what factors the respondents themselves consider to be the most important for the development of this event. As the results show, wider availability (23%) of advertising was the most frequently selected answer. It means that lack of information is a huge barrier in the event and people need a clear communication. It is necessary to improve dissemination in different platforms – not only in social networks, but also in physical, cultural and educational spaces (21%). Other responses (1%) included marketplaces, military units or even schools, where it is currently possible to invite the VR experience to come to educational institutions. Although the VR event offers promotions for certain groups of people, a more attractive ticket price is considered the third aspect of audience development (19%). A possibility to influence the storyline also attracted a higher number of responses (15%). Less important, but still significant, were the possibility to leave feedback (8%), meetings with creators (7%) and building a community (6%). Namely these aspects strengthen the emotional connection with

the event, encourage involvement, loyalty and feedback. The processed data reveal that in order to attract more visitors to the VR event it is necessary to make it more visible, affordable and accessible in different spaces.

The last questions of the survey aimed to find out if the participants had encountered any technical difficulties in purchasing tickets for the event. This question is important because it is the first contact between the participant and the event, and its smoothness has a direct impact on the likelihood of attendance and on the first impression of the experience. Almost unanimously, participants voted that registration and ticket purchase were smooth (91%), which shows that the technical part of the event is well organized and is a strength that does not hinder audience growth. Only 9 % of the respondents indicated that registration and purchase of tickets were not smooth. The page may have been clogging up, the purchasing process itself may have been unclear, but this does not outweigh the answers of the participants, who were fine. Therefore, the conclusion is that the registration and ticket purchase system works smoothly.

In the final stage of the survey, respondents were asked about the price/quality ratio. According to the survey results, the price/quality ratio was rated quite favourably by the respondents, with an average score of 3.93 out of 5. This shows that the majority of participants are satisfied with the experience of the event for the price paid, but we can also see that some participants did not rate this ratio very favourably (3-1 points), which may have been influenced by the aspects discussed above, such as a lack of information or involvement, or the length of the event being too short/long. It is therefore worth further improving these aspects, as well as communicating more clearly what visitors can expect to experience at the event, in order to increase participant satisfaction and strengthen value for money.

Summarizing the results of the survey, it can be stated that the VR event "Trail of Angels" was a positive experience for most participants. People in Klaipėda share their experiences with their relatives, as this is how most people found out about the event. It means that verbal communication is a very important factor. The vast majority of respondents said that the event met their expectations and registration as well as ticket purchase went smoothly. The aspects of the event that could be improved were also revealed: lack of event information, awkwardness of the VR equipment, lack of advertising in public space, and lack of involvement in the event itself through games or challenges. The responses to this survey suggest that the event has a great potential to expand in Klaipėda, but it is necessary to strengthen communication, increase the accessibility of the event information, and add activities to encourage visitor involvement.

CONCLUSIONS

- 1. Virtual reality events provide viewers with interactive and engaging experiences, eliminate geographical restrictions, enable participants to experience events from any place in the world and give new possibilities for education and artistic expression. Organization of VR events stands out in complex planning, technological preparation and user experience orientation. Event organization is based on three key aspects: purpose, space and experience. Important role is played by personalization mechanisms, that are based on user profiling, including their behaviour, preferences, previous interaction and feedback.
- 2. Audience development uses a variety of tools to attract new visitors and to strengthen the relationship with existing visitors and encourage their involvement. One of the most important groups of tools marketing and communication strategies. Organizations are actively using digital marketing, creating engaging visual content and personalized communication to reach different audiences. Another important area of tools increasing accessibility for visitors and their involvement. This includes free or discounted tickets for vulnerable groups, adapting the physical environment for people with disabilities, supporting mobile devices, or organizing events at different times to reach a wider range of visitors.

3. The VR event "Trail of Angels" is perceived positively by the participants of the quantitative survey in Klaipėda, but there is room for improvement in terms of development. Based on the results of the conducted survey, the VR event has a potential to expand audience in Klaipėda if targeted communication, education, communication of the event experience and additional engaging activities (games, competitions, educations, debates, roadshows, etc.) are actively used to educate and activate the public's involvement in this type of event.

LITERATURE

- 1. Ayala, I., Cuenca-Amigo, M. & Cuenca, J. (2024). Examining the state of the art of audience development in museums and heritage organisations: a Systematic literature review. *A Readeron Audience Development and Cultural Policy*, 324-345. https://doi.org/10.1080/09647775.2019.1698312
- 2. Evrard, Y., Krebs, A. (2018). The authenticity of the museum experience in the digital age: The case of the Louvre. *Journal of Cultural Economics*, 42, 353–363. https://link.springer.com/article/10.1007/s10824-017-9309-x
- 3. Jusseaux, M., Bishop, P., Chen, C.-Y. (2020, 14 of April). Mona VR Recreating an experience an artistic and expressive queueing simulator. In *Proceedings of the ConVRgence (VRIC) Virtual Reality International Conference*, 137–143. https://univ-paris8.hal.science/hal-04376205/document
- 4. Ramires, A., F. de. (2023). *VR Exhibitions: Enhancing the Feeling of Immersion through Interactive Virtual Reality in Art. Ph.D. Thesis.* University of Twente, Enschede, The Netherlands.
- 5. Alnasser NS, Yi LJ. (2023). Strategies applied by different arts and cultural organizations for the audience development: A comparative review. *Heliyon*, *30*; *9*(5):e15835. doi: 10.1016/j.heliyon.2023.e15835
- 6. AngelyTakais.lt (2025). Patirtys. Angely takais. https://angelutakais.lt/
- 7. Skopas, J., Mejerytė-Narkevičienė, K. (2024). Virtualios realybės taikymas Lietuvos muziejuose. *Laisvalaikio tyrimai*, *1*(23), 18–25. doi: https://doi.org/10.33607/elt.v1i23.1459
- 8. Cappa, F., Rosso, F. & Capaldo, A. (2020). Visitor-Sensing: Involving the crowd in cultural heritage organizations. *Sustainability*, 12(4), 1445. https://doi.org/10.3390/su12041445
- 9. Chamusca, I. L., Ferreira, C. V., Murari, T. B., Apolinario, A. L., Jr. & Winkler, I. (2023). Towards sustainable virtual reality: gathering design guidelines for intuitive authoring tools. *Sustainability*, *15*(4), 2924. https://doi.org/10.3390/su15042924
- 10. Chen, J. (2023). Application and challenges of virtual reality (VR) in art exhibition planning. *Applied Mathematics and Nonlinear Sciences*, 9(1). https://doi.org/10.2478/amns-2024-1454
- 11. Chiu, Y.-J., Hong, L.-S., Song, S.-R., &Cheng, Y.-C. (2024). Unveiling the dynamics of consumer attention: A two stage hybrid MCDM analysis of key factors and interrelationships in influencer marketing. *Mathematics*, 12(7), 981. https://doi.org/10.3390/math12070981
- 12. De Benedictis, R., De Medio, C., Palombini, A., Cortellessa, G., Limongelli, C. & Cesta, A. (2021). Fostering the creation of personalized content for cultural visits. *Applied Sciences*, 11(16), 7401. https://doi.org/10.3390/app11167401
- 13. Dounavi, L.-E., Dermitzakis, E., Chatzistelios, G. & Kirytopoulos, K. (2022). Project management for corporate events: A set of tools to manage risk and increase quality outcomes. *Sustainability*, *14*(4). https://doi.org/10.3390/su14042009
- 14. Gaižauskaitė, I., Valavičienė, N. (2016). *Socialinių tyrimų metodai: kokybinis interviu*. Mykolo Romerio universitetas.
- 15. Galeati, M. (2024). Harmonizing digital innovations with Western opera: A literature review of audience development strategies. *IUL Research*, 5(10), 213-237. 15 RASS GALEATI.pdf
- 16. Hu, X & Wang, P. H. (2024). Virtual reality in museum: Exploring the user experience of exhibition narrative. *Intelligent Human Systems Integration (IHSI 2024): Integrating People and Intelligent Systems*, 119(119). http://doi.org/10.54941/ahfe1004530
- 17. Kardelis, K. (2016). Mokslinių tyrimų metodologija ir metodai. Mokslo ir enciklopedijų leidybos centras.
- 18. Karuzaki, E., Partarakis, N., Patsiouras, N., Zidianakis, E., Katzourakis, A., Pattakos, A., Kaplanidi, D., Baka, E., Cadi, N., Magnenat-Thalmann, N., Ringas, C., Tasiopoulou, E. & Zabulis, X. (2021). Realistic virtual humans for cultural heritage applications. *Heritage*, 4(4), 4148-4171. https://doi.org/10.3390/heritage4040228
- 19. Kemp, E. & Poole, S. M. (2016). Arts audiences: Establishing a gateway to audience development and engagement. In *A Reader on Audience Development and Cultural Policy* (pp. 89-98). Routledge. https://www.researchgate.net/deref/http%3A%2F%2Fdx.doi.org%2F10.1080%2F10632921.2016.1150929 ?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19
- 20. Kim, K. & Ko, D. (2020). How to build a sustainable MICE environment based on social identity theory. Sustainability, 12(17), 7166. https://doi.org/10.3390/su12177166

- 21. Kunz, R. E. & Santomier, J. P. (2020). Sport content and virtual reality technology acceptance. *Sport, Business and Management: An International Journal*, 10(1), 83-103. DOI 10.1108/SBM-11-2018-0095
- 22. Lameirão, T., Melo, M. & Pinto, F. (2024). Augmented reality for event promotion. *Computers*, 13(12), 342. https://doi.org/10.3390/computers13120342
- 23. Lin, C.-L. & Kang, Y.-Y. (2024). Exploring the impact of virtual reality on painting appreciation. *Applied Sciences*, 14(16), 7335. https://doi.org/10.3390/app14167335
- 24. Lin, C.-L., Chen, S.-J. & Lin, R. (2020). Efficacy of virtual reality in painting art exhibitions appreciation. *Applied Sciences*, 10(9), 3012. https://doi.org/10.3390/app10093012
- 25. Lipps, B. (ed.) (2015). Culture. Shift: Creative Leadership for Audience-Centric Performing Arts Organisations. A Theatron Toolkit for Strategic Audience Development. Theatron
- 26. Mahadewi. (2022). Hybrid Event: Utilization of digital technology in organizing events during the COVID-19 pandemic in Indonesia. *Proceedings*, 83(1), 53. https://doi.org/10.3390/proceedings2022083053
- 27. Mandel, B. R. (2024). Can audience development promote social diversity in German public arts institutions? In *A Reader on Audience Development and Cultural Policy* (pp. 260-274). Routledge. https://www.taylorfrancis.com/books/mono/10.4324/9781003142102/reader-audience-development-cultural-policy?refId=6eb38904-271b-4604-b392-0773742d1415&context=ubx
- 28. Meccawy, M. (2022). Creating an immersive XR learning experience: A Roadmap for educators. *Electronics*, 11(21), 3547. https://doi.org/10.3390/electronics11213547
- 29. Pavlovaitė U., Griesienė I. (2019). Meno organizacijos auditorijų plėtra santykių rinkodaros požiūriu. *Informacijos mokslai*, 86, 98-115.
- 30. Shehade, M. & Stylianou-Lambert, T. (2020). Virtual reality in museums: Exploring the experiences of museum professionals. *Applied Sciences*, 10(11), 4031. https://doi.org/10.3390/app10114031
- 31. Smith, A. (2022). The Shadow in the Cave: A Study of the Relationship between the Broadcaster, his Audience and the State. Routledge. https://doi.org/10.4324/9781003290988
- 32. Staniškytė, J. (2018). From institutional fatigue to creative communication: audience development in Lithuanian theatres. *Theater and Money. Nordic Theatre Studies*, 30(1), 72–88. https://doi.org/10.7146/nts.v30i1.106924
- 33. Tibaldi, A., Bonali, F. L., Vitello, F., Delage, E., Nomikou, P., Antoniou, V., ... & Whitworth, M. (2020). Real world based immersive virtual reality for research, teaching and communication in volcanology. *Bulletin of Volcanology*, 82, 1-12. https://link.springer.com/article/10.1007/s00445-020-01376-6
- 34. Walmsley, B. (2019). *Audience Engagement in the Performing Arts: A Critical Analysis*. Palgrave Macmillan Cham. doi: https://doi.org/10.1007/978-3-030-26653-0
- 35. Wu, J., Gao, Y., Tsai, S.-B. & Lin, R. (2018). Empirical study of communication of audience cognition of environmental awareness. *Sustainability*, 10(6), 1803. https://doi.org/10.3390/su10061803
- 36. Yang, L., Cheng, N., Jiang, P. & Noriega, P. (2024, June). Virtual Museums: State of the art, trends, and challenges. In *International Conference on Human Computer Interaction* (pp. 226-237). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-61966-3 26
- 37. Yang, X., Cheng, P. Y., Liu, X., &Shih, S. P. (2024). The impact of immersive virtual reality on art education: A study off low state, cognitive load, brain state, and motivation. *Education and Information Technologies*, 29(5), 6087-6106. https://doi.org/10.1007/s10639-023-12041-8
- 38. Yen, H.-Y. (2022). How the experience designs of sustainable festive events affect cultural emotion, travel motivation, and behavioral intention. *Sustainability*, 14(19), 11807. https://doi.org/10.3390/su141911807