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# Evaluating visitors' experiences at St Augustine's Abbey (Canterbury)

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## Abstract

This paper discusses ongoing research which evaluates visitors' experiences at St Augustine's Abbey before and after in-situ projections of reconstructed imageries of non-existent Abbey artefacts. The research is based on the contrasting opinions of Viollet-Le-Duc and William Morris on reconstruction and how it should be wrought. The paper introduces a case study on visitors' experiences at St Augustine's Abbey focused on visitors' views on themes associated with digital reconstruction such as authenticity and realism. The results indicate that a considerable number of respondents thought in-situ digital reconstructions of the Abbey artefacts would have a positive impact on their visitation experience. The results also simulate that visitors associate authenticity with accuracy and factuality and inauthenticity with not being original. Respondents stated that digital reconstructions are more hyperreal than real as they create an illusionary vision of reality. The case study also analyses visitors' perception of the 16th-century Virtual Reality (VR) of the Abbey with emphasis on immersion, and quality of the information provided. Lastly, the paper introduces methods for digital reconstruction of non-existent artefacts for future workflows of the research.

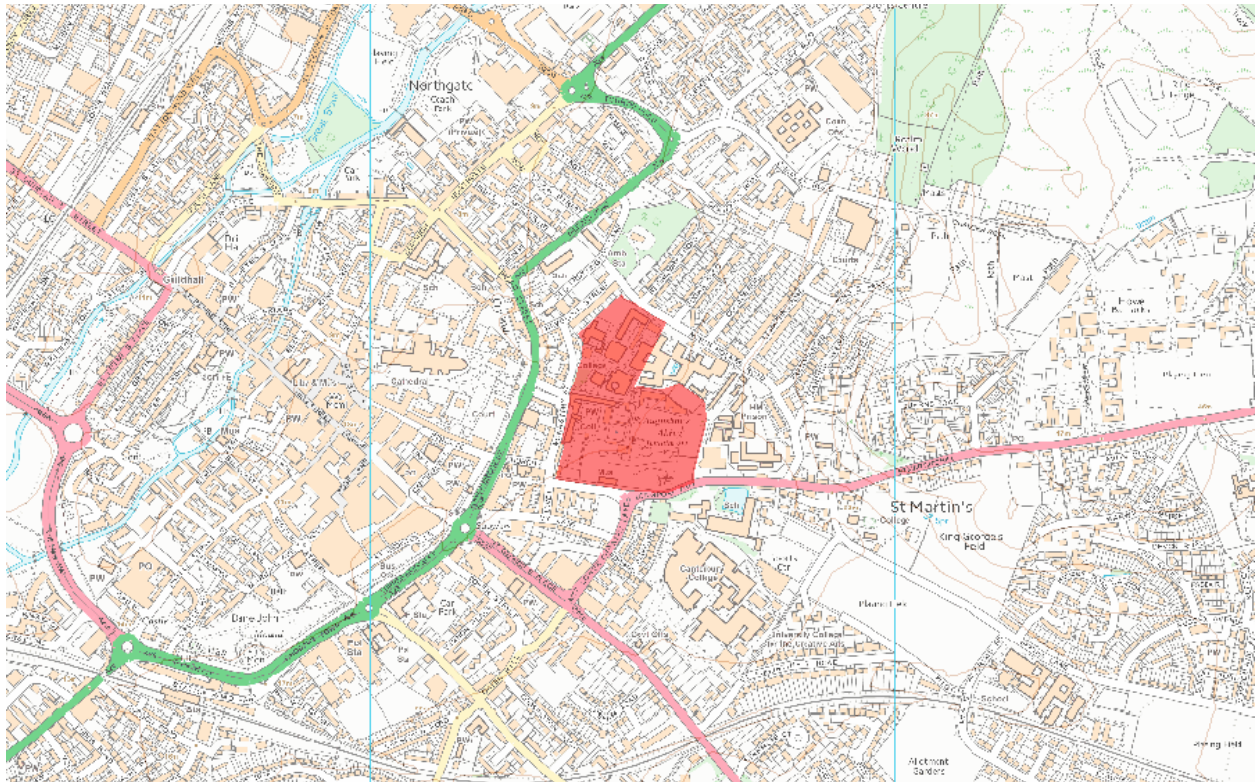
**Keywords:** (digital reconstruction, St Augustine's Abbey, visitor experience, authenticity, realism)

## 1. Introduction

This paper introduces themes around digital reconstruction in the context of cultural heritage artefacts. It presents two philosophical concepts of authenticity and realism that are interwoven with the subject of reconstruction. It refers to pro and anti-restoration manifestos about reconstruction and restoration, as well as which values must be acknowledged in the act of recovery of a cultural heritage object.

St Augustine's Abbey is part of a UNESCO World Heritage Site designated in 1988. Over time, the Abbey has been significantly demolished and reduced to its foundations. Based on a qualitative case study with 65 participants at St Augustine's Abbey in Canterbury it evaluates the perception of visitors regarding three notions: firstly, the public acceptance of having digital reconstruction in heritage sites, including users' opinions on already available Virtual Reality (VR) headsets and their thoughts on having digital installations in heritage sites; secondly, visitors' views on authenticity and how they perceive it; thirdly, the public's understanding of the concepts of the real and the hyperreal compared to how the terms of representation and simulation are defined in philosophical discussions.

The final section of the paper presents workflows of digital reconstruction and exemplifies the reconstruction of heritage sites using such methodologies.



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Fig 1. Ordnance Survey, St Augustine's Abbey, 1:10000, Historic England.

## 2. St Augustine's Abbey, what remains and whether to restore non-existing artefacts?

St Augustine's Abbey is a Benedictine monastery in Canterbury (Kent), in the southeast of the UK (Fig 1). It was founded by St Augustine in 588 who was sent on a mission by Pope Gregory the Great to reintroduce Christianity into the south of England. It was a centre of learning and spirituality for almost a thousand years until suppressed by order of King Henry VIII as part of the dissolution of the monasteries (Roebuck, 1997). The Abbey is part of the UNESCO World Heritage Site 'Canterbury Cathedral, St Augustine's Abbey, and St Martin's church' designated in 1988. It is of Outstanding Universal Value according to the selection criteria (ii) of the 'Operational Guidelines for the Implementation of the World Heritage Convention' due to its exhibition of "an important interchange of human values, over a span of time and within a cultural area of the world, on developments in architecture or technology, monumental arts, town planning and landscape design" (UNESCO, 2017, p 25). The influence that St Augustine's Abbey had in the Middle Ages extended far beyond Kent and Northumbria in Anglo-Saxons kingdoms (ICOMOS, 1988). The Abbey, as a consequence of a series of developments, demolitions, natural disasters and indeed the dissolution, has been reduced to its foundations. At present, the remains of the Abbey are ruins of stone foundations (Fig 2) in the site and a collection of excavated and preserved artefacts housed in the Abbey museum as well as at the English Heritage collections.





Fig 2. Remaining foundations of the Nave area at St Augustine's Abbey (Canterbury, photo by the author)

Historically, two very opposing points of views have been expressed on the subject of restoration. At one end of the spectrum, there are pro-restoration manifestos that welcome and encourage restoration of cultural heritage artefacts, and at the other end, there are anti-restoration theories which prohibit the recovery of an object created in the past. To Viollet-le-Duc, restoration meant an act of re-establishing an edifice in a finished form, which actually may have never existed. Two questions arise within the context of restoration from Viollet-le-Duc's point of view: whether to restore an edifice according to its original state or to restore it taking into account later developments and modifications that occurred to the structure. What matters in restoring an artefact is to retain its integrity (Viollet-le-Duc, 1854).

Contemporary to Viollet-le-Duc, John Ruskin and William Morris expressed their strong anti-restoration opinions. For example, in the manifesto of *'The Society for the Protection of Ancient Buildings'* (1887), Morris draws attention to the need to apply as little intervention as possible and to prevent further decadence by carrying out everyday care. Ruskin considered 'restoration' as the worst destruction a building can undergo, involving false descriptions of the ruined monument. He believed that each piece of work of art is unique and cannot be redone without creating a fake, also that a restored monument would not be a genuine manifestation of the original and that we do not have the right to intervene with the creations from people of the past unless unconditionally necessary (Ruskin, 1849).

In his manifesto, Morris points at the opposed approaches towards restoration. What distinguishes the two is how restoration is wrought and what the outcome is. Firstly, the act of restoration which was applied in the fashion of the time of restoration. For example, a historical building of the twelfth century would have been restored in the sixteenth century or later styles. Restoration in this context would have included added to or altered features. Although, "whatever history it destroyed, left history in the gap, and was alive with the spirit of the deeds done midst its fashioning, though harsh and visible enough, were by their very contrast, interesting and instructive and could by no possibility mislead" (Morris, 1877, p 1). Secondly, the act of restoration applied contemporary to Morris's time. It attempted to restore a historical artefact to its best time by imagining what former builders ought or may have done to restore it (Morris, 1877). Having said that, the manifesto is concerned with the protection of ancient buildings and the need to pass them on to the next generations with respect and integrity.

In the modern conservation theory, Alois Riegl describes a monument, in its oldest and most unique sense, as a work of man created for the particular principle of "keeping human deeds or destinies (or a complex

accumulation thereof) alive and present in the consciousness of future generations” (Riegl, 1982, p 21). There are numerous associated values to every monument, and these depend on how different people observe its characteristics. Historical values are much more commonly comprehended and are affiliated with what once existed but no longer does. In a modern and more inclusive interpretation of this, the historical value is associated with the belief that “everything that once was can never be again, and that everything that once was forms an irreplaceable and inextricable link in a chain of development” (Riegl, 1982, p 21). Three concerns arise in conserving any object of value: 1. what is considered to be the whole of the object; 2. what is the context of the object; and 3. what is the history of the object. The whole of the object requires considerable attention because due to a habit of classification we tend to scatter the monuments and display them in divisions according to mutual characteristics such as the techniques incorporated in their creation. Thus, a historical monument can be easily pulled into isolated pieces of sculptures, paintings, etc. throughout the museum grounds or gallery displays. The second significant concern is context, which refers to the immediate surrounding of the object which might lead to the truthful interpretation of the object. The context consequently lies in the traditional surroundings of the object and is crucial to the scale, significance and social circumstances when the object was originally in use. If possible, taking the whole of the object and context into account is the best approach to conserve objects in situ and maintaining their full values (Philippot, 1972).

### **3. Themes around Digital reconstruction**

#### **3.1 Technology for heritage context**

The question here is how we employ the digital reconstructions of heritage or archaeological sites in today's context. One adoption of digital reconstruction is in the museum context, which can easily expand the diversity of visitors' groups and their engagement. Digital reconstruction allows cultural heritage to be displayed in museums in different forms through virtual technologies. The procedure of recording, preserving and presenting cultural and heritage significances through “electric manipulations of time and space” forms Virtual Heritage (Stone and Ojika, 2000, p 73). Once digital reconstruction is completed and virtual heritage formed, the question becomes how to incorporate them in a museum context. Virtual media and subsequently, virtual heritage can be displayed in different mediums. Of course, VR headsets or other wearable technologies are broad-ranged possibilities for virtual display and have been extensively applied in the context of heritage tourism. An alternative to VR technologies are visual projections. Projection units embody features which relate to the technological approaches in this research project. The units can be installed in situ to represent the virtual heritage content on-site rather than in remote or isolated locations. In comparison with VR wearables, this project aims to investigate how encountering digital interventions displayed in some form of projection directly on site may influence visitors' experiences.

The study of visitors' experiences at St Augustine's Abbey aimed to observe how participants understood and learned from the site and the museum offerings before encountering digital and creative installations on the Abbey ruins. The evaluation of the study is based on primary data gathered from Abbey visitors which includes individuals who observed the site themselves or attended a guided tour offered by the Abbey site manager. It is based on four predominant subjects. Firstly, the demographic features of the visitors including their interest in and frequency of visits to heritage sites. Secondly, the comparison between visitors' expectations prior to their visit and the experience itself; whether their visit is in line with their expectations of what to see and learn about the site or not and what can differentiate the two. Thirdly, the efficiency levels and usability of the available technological devices for better and more comprehensive learning about the site. Finally, what are the visitors' views on authenticity and realism and by what means do they relate these concepts to reconstructed imageries.

This study aimed to examine visitation experiences of the general public visiting the Abbey as opposed to specialists in heritage, archaeology and affiliated subjects. Hence, participants of the study were recruited from an extensive range of visitors to the Abbey. In terms of the age range, participants of the study fall into extensive classifications. Amongst all, 26.15% of the participants were aged between 18 to 24 years

old, 18.64% were aged between 25 and 44 years old, 18.64% visitors were 45-65 years old, and 36.92% were seniors, aged above 65.

One criterion measured in the study of visitors' experiences at St Augustine's Abbey aimed to speculate whether installing digital and creative installation in the Abbey ruins would influence visitors' engagement, and whether participants would consider this influence to have a positive or negative impact (Fig 3). The results of having a positive, negative or sense of scepticism vary amongst the different groups. The age factor highly classifies the results of having or not having installations in historic ruins. All respondents aged 18-65 years answered that having digital installations in ruins would influence their engagement. Around three quarter of them considered that this influence would be positive. They mentioned that having installations would be engaging for both adults and children. It would help to envisage the site and to narrate part of its history. It would also enhance the appreciation of what is already available on the site by implicating a sense of immersion or realism. However, 14.63% claimed that digital installations in ruins would negatively influence their engagement. Their claims referred to the need of keeping historical sites and modern technologies and creations apart. The participants of such views said that they would like to imagine the site themselves rather than being directed to look at it through modern creations. Additionally, they thought that installations can be distracting for some visitors or can decrease the attention paid to the ruins.

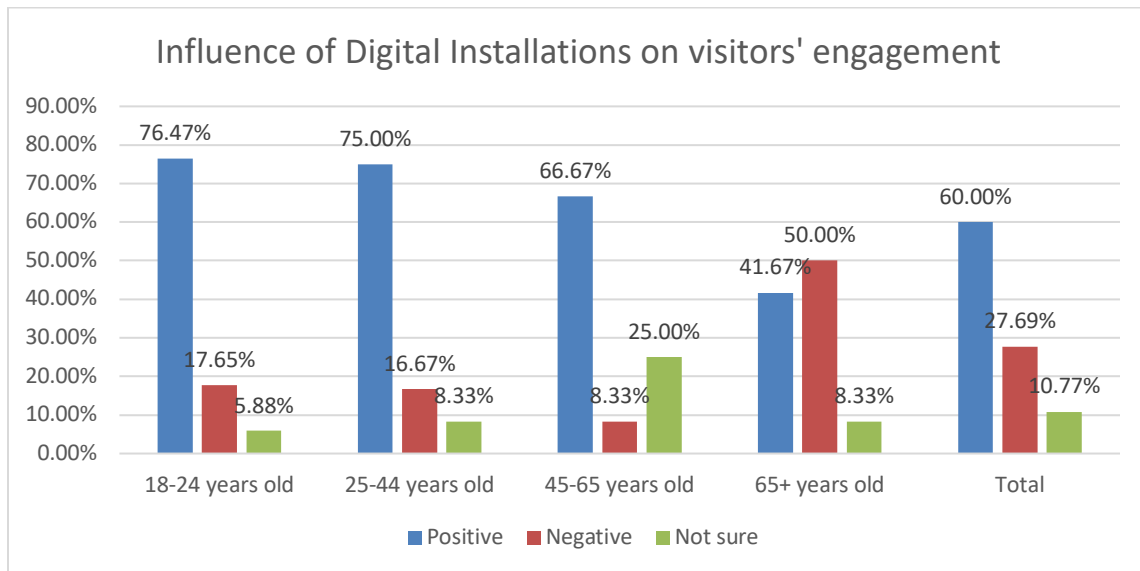


Fig 3. Influence of Digital installations on visitors' engagement

The responses to this question varied and was significantly different in the senior age group. The willingness of having digital interventions in ruins varied from positive to negative points of view. Also, some respondents expressed a sense of scepticism towards having digital installations on the site. As an example, 41.67% of the senior age participants said that digital interventions would have a positive impact on their engagement. However, the greater majority of them expressed negative views on having digital interventions installed on the site. The positive attributes towards having digital interventions included that such installations, in different forms, would be a further reference to the artefacts existing in display. However, the negative views suggested that encountering installations would spoil the experience or give too much direct information, which hinders independent thinking process and imagination. Additionally, 12.20 % of the 18-65 years old and 8.33% of the senior respondents were not so sure about how digital installations can influence their engagement. A sense of scepticism was expressed about the installations before seeing them. A few have mentioned that they would have to encounter the installations first to be able to evaluate the positive or negative influence on their experiences. Furthermore, they claimed that not

knowing the form and setting of the digital interventions in the ruins also caused a sense of doubt about their influence.

It is evident from the statements made by the study population that incorporating technology in the heritage context can cause a dichotomy. It may raise concerns that affect the visitation experience in terms of appreciating the ruins or on the contrary it may be of aid in better envisioning the site as a whole and have a greater understanding of the remaining relics. In this regard, Augmented Reality (AR) offers a solution which whilst meeting the interest of the younger generations in experiencing heritage in digitised modes, also takes into account concerns around preservation and reconstruction of cultural heritage. On the one hand, digital installations in AR provide visitors with visualisation enriching their visitation experiences by offering visualisation of artefacts that are not available for observation. AR broadens the chances of learning and appreciating cultural heritage whilst intervening in the site least. Additionally, AR can be coined in many modes such as wearable or portable devices, temporary and permanent installations. It, therefore, expands the possibilities of integrating and benefiting from heritage visualisation in many ways.



*Fig 4. Augmented reality projection of tile patterns at St Augustine's Abbey, photo by the author*

### **3.2. Defined and perceived authenticity**

The subject of authenticity has historically been interlinked with conservation and reconstruction of cultural heritage artefacts. Authenticity can be discussed from two points of view: on the one hand, from a theoretical point of view which defines authenticity according to philosophical discussions and the 'Operational Guidelines for the Implementation of the World Heritage Convention' and on other hand, from the perceived authenticity in relation to the objects and domains interwoven between them, people and places. Authenticity, in 'Operational Guidelines for the Implementation of the World Heritage Convention' was initially defined based on four degrees of workmanship, design, materials and settings. In 1994, upon the realisation of the Nara Document, the definition of authenticity was expanded to acknowledge "social and cultural values of all societies" (ICOMOS, 1994). Siân Jones (2009) refers to the dichotomy between the two definitions of authenticity as "materialist" and "constructivist" approaches. The constructivist approach to authenticity, derived from the Nara Document, looks into objects beyond their objective and materialistic features. However, the constructivist approach is culturally erected and can vary depending on by whom and in what context the object is being perceived.

In this study which evaluates visitors' experiences at St Augustine's, participants were asked to present their views on how authentic they perceive digital reconstructions of the Abbey artefacts to be. Additionally,



what attributes could distinguish authenticity and inauthenticity of reconstructed imageries in digital format? The responses to this question varied from a definite yes, acknowledging the authenticity of reconstructed imageries to relatively uncertain views and definite disagreements. Indeed, 53.85% of participants expressed that reconstructed imageries are authentic. Their reasoning mainly falls into three themes. Firstly, reconstructed imagery is authentic if it is based on in-depth research, and there is sufficient knowledge backing up the creation. In that case the outcome would accurately reflect the references, and also if a specialist (i.e. a historian) approves of the quality of the content that the reconstruction aims to demonstrate. Secondly, the execution of the reconstruction has to be of professional standard. The equipment enabling the reconstructions has to have high-tech qualities, and the imageries need to be clear and have detailed visualisations. Thirdly, in the absence of the original object, the reconstructed imageries are considered reminiscent of the original, even though they are presumptions nearing the real.

27.69% of the respondents said that reconstructed digital imageries might be authentic depending on their qualities and contexts. For example, participants mentioned that digitally reconstructed imageries might be, to some degree, authentic because it is not possible to absolutely achieve the authenticity levels of a historical element, or that the imageries can be an outcome of subjective reconstructions. In terms of the context, respondents said that digital reconstruction could be considered authentic if they help the visitors to visualise or interpret the objects or provide them with a concept about the artefacts. Accordingly, the aesthetic and technical qualities of the reconstructions define the authenticity levels of the imageries. On the contrary, 13.85% of the respondents said that digital reconstructions could not be authentic due to three reasons. Firstly, reconstructed imagery is not the original and cannot replace the original, and is therefore not authentic. Such justifications relate to views that correlate authenticity with originality and genuineness (Jones, 2009; Pye, 2001). Secondly, reconstructed imagery which have contemporary technological qualities cannot accurately represent the age of a historical element. Thirdly, authenticity is associated with keeping historical artefacts untouched.

### **3.3 Realism and hyperrealism**

In 'Simulacra and Simulation' (1994), Jean Baudrillard defines the real and the hyperreal and what differentiates the two notions. He reflects on hyperreal as simulation which "is the generation by models of a real without origin or reality" (Baudrillard, 1994, p 1). In hyperrealism, as Baudrillard claims, the reality can be produced an indefinite number of times without the need of being rational as it no longer compared to an ideal. Simulation feigns what one does not have. It is not a matter of imitating or duplicating but alternating the signs of the real for the real. Also, it is not an act of pretending because it relies on the difference between the "real" and the "imaginary" not the "true" and the "false" (Baudrillard, 1994, p 3).

In the responses associated with identifying projections as real, the vast majority of survey respondents (69.23%) said that projections are not real. They mentioned that projections are hyperreal, not real and that there is a distinction between them. Hyperreality, and thus projections, only implicate an illusionary vision of reality which can be comparable but not equivalent. Their justifications were based on the fact that projections are representational tools for delivering visual contents. In the case of projections within the cultural heritage context, participants of such views said that projections could not be real because they are to some extent based on guesswork and are not as authentic as the original content. The concept of 'representation' according to Baudrillard (1994) initiates from the sameness of the sign and the real even if from a utopian point of view. 16.92% of participants were uncertain of projections being real. However, they said that they would need to encounter one first to judge the realism depending on the content simulated and its conjuncture with the surrounding area.

13.85% of participants claimed that projections are indeed real. Their explanations are related to the characteristics of the projections and the implications that projections make on humans. The reasoning as to why projections are real includes that they are light rays that create physical and tangible experiences. Viewers can see projections, interact with them and be influenced by them as well as being influenced by the content the projections display. Projections can immerse viewers and portray photo-realistic scenes. Even though projections are real, the content they visualise is not. The content can only relate to evidence



in reality. However, Eugene L. Arva (2008) claims that visual imageries are more than a representation of the reality, they are evidence of and hence the reality.

In terms of the content of the visual information available on the site, participants' views on the VR which is built upon the 16<sup>th</sup> century of the Abbey was measured. In total, 70.77% of the participants used and rated the VR headsets. This population is composed of 56.52% first time visitors and 43.48% returning visitors. On the other hand, 54.35% attended a guided tour, and 32.81% were on a self-guided visit. The users rated the immersion of the VR on a scale of 1 to 9, with 1 being not immersive at all and 9 being very immersive ratings. The average rating for VR was 5.97. From this, 10.87% participants rated the VR as low as 1 to 3 ratings on the scale. However, 43.48% ranked it moderately between 4 and 6 and another 45.65% ranked it high from 7 to 9. Some participants (6.52%) rated the VR the lowest of all with 2 points on the scale. On the contrary, 13.04% marked it highest on the scale (Fig 5).

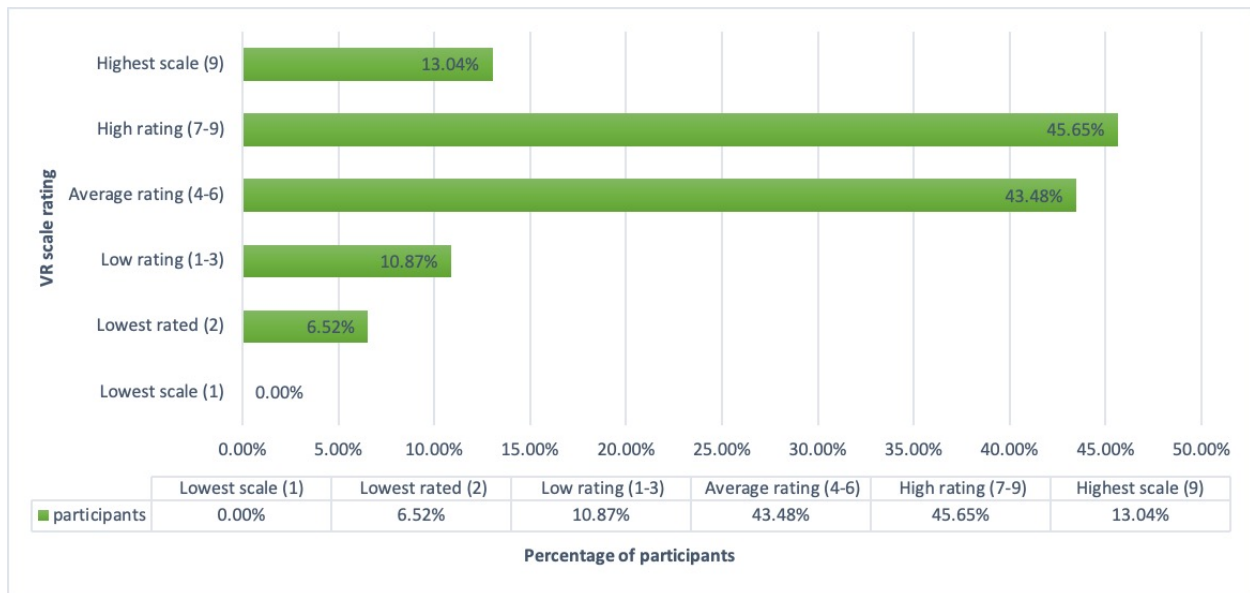


Fig 5. Scale rating of VR immersion

Participants' opinions on the quality of the information that the VR delivers varied from positive to contrary views. In both age groups (18-65 and 65+), more than 50% of the surveyed population expressed that the VR does, to some extent, provide decent quality information. The positive comments on the VR concentrated on the fact that the VR reconstruction gives a good overall sense of the Abbey's scale and primarily its interior and exterior architecture. On the contrary, the negative views on the VR said that there is no proving evidence that the interface has been created based on historical facts. Often users claimed that the VR is not of good quality as it lacks details. Therefore, it is not authentic enough to be believable. Alternatively, some users said that VR is not the best way of representing the Abbey church as it does not reflect on the activities which took place there. Suggestion for a more pleasing VR reconstruction included that it should be livelier with perhaps some simulations or have human characters in it. Also, in terms of navigating in the virtual space, it would be helpful for the VR to guide the user from one environment into another and clarify what is represented in each space. Some users suggested audio tracks to introduce and explain the virtual environments.

#### 4. Workflows for digital reconstruction of non-existent artefacts

This section primarily concentrates on the reconstruction of historical and archaeological sites by reintegrating three-dimensional data according to historical evidence. Different methodologies have been introduced over the last two decades. One approach to digital reconstruction is to incorporate the 3D documentation of the site in its existing state which then has to be followed by negotiations between

archaeologists, historians and digital modellers in order to develop a reconstructed proposition. The first step involved in such procedures would be to generate a reality-based model. In a methodological proposition towards the reconstruction of archaeological sites, Guidi *et al.* (2013) introduce three procedures that when interwoven lead to the procedure of reconstructing archaeological artefacts.

The first action is to obtain a thorough and accurate 3D acquisition of the artefact supposing that it is available in some format, for example, ruins or modified substances. The 3D acquisition should be based on the shape and the colours of the artefact in order to assist with generating a reality-based model which correlates with the scale, textures and other specific characteristics. Such data is usually gathered through photogrammetry and laser scanning procedures, and is then processed into 3D textured polygons or 3D cloud points that highly resemble the real objects.

The second action initiates from a humanities viewpoint that is contrary to the first technological oriented actions. It relies on gathering historical and archaeological information from written, topographical, contextual and iconographic sources from the past and present of the artefact (Guidi *et al.*, 2013). In circumstances where the object is no longer extant or was never realised, historical imageries are among the few sources to which we can refer to for reconstruction. In such situations, the comparison of different historical images is very helpful, given that not all the required information is directly provided or measurable (Münster, 2013).

The third action is fulfilled through adjoining the first and second steps. It is through the process of reconstruction that “tangible no longer extant objects or intangible historic issues” become tangible and conceivable (Münster, 2013, p 201). It involves synthesising both the reality-based model and the archival data into a novel digital model. The input of all the mentioned procedures enhances the communication between the technical specialists and historians (Guidi *et al.*, 2013). In this workflow, images are crucial as they can ease the process of transferring and comparing information between interdisciplinary teams (Münster, 2013).

An image-based process of digital reconstruction has been applied on part of the MySon site in Vietnam. MySon was inscribed as a UNESCO World Heritage site in 1999. The site is a complex of Hindu temples which was built between the fourth and the twelfth centuries AD. It was heavily damaged by the bombings of the US troops during the Vietnam War. An accurate 3D modelling of the site was required to document the damage levels and prepare for the restoration of the site. The pipeline of creating a reality-based model of the project included several procedures from data acquisition through images, point cloud creation and 3D surface modelling (Guidi *et al.*, 2013).

## 5. Conclusion

In general, survey participants said that they would like to see digital reconstructed imageries in St Augustine’s Abbey. Most commonly, it was expressed that reconstructed imageries of the artefacts would positively influence visitors’ engagement with the site and enhance their understanding and appreciation of the site. However, a higher number of positive views on this matter come from the younger participants and decreases in the older age groups. According to the respondents, the VR experience in the Abbey provides a sense of scale and a visual representation of a long-gone Abbey building. However, clearer and more detailed imageries that reflect the ageing of the Abbey would have been a more appropriate representation. In general, reconstructed imageries representing or conveying a sense of architecture and design of the artefacts seemed more pleasing to the surveyed visitors.

In terms of authenticity, participants acknowledged digitally reconstructed imageries as authentic based on intrinsic creation features being referential to the object they represent. However, the claims which suggest the inauthenticity of digitally reconstructed imageries refer to the perception of differentiating the original and the reconstructed and the fact that the original cannot be replaced. Concerning realism and hyperrealism, respondents most commonly said that projection cannot be real. They may represent or

simulate the reality but are not the reality. The claims which refer to projections being real mainly focus on the environment that a projection creates in a physical setting.

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