Educating and engaging museum audiences in contemporary times is becoming even more important, considering the persistent information society, which has created the need for museums to utilise new methods of communication. Digitisation has therefore become the new instrument for access and preservation in museums. However, the process of digitisation has brought about many challenges for museums, one of the most problematic is deciding what to digitise in the first instance from the wide range of collections. This paper presents a case study of the Hermitage museum and its process of digitising a small part of its large collection, as well as the procedures and strategies regarding the main selection criteria for the objects to be digitised. This study is based on qualitative research using a case study of the Hermitage museum utilizing interviews with the museum’s officials responsible for digital collections and projects managers of the International Business Machine (IBM) Corporation, who developed the digital library for the museum.

The study employs the analysis of the empirical material and draws on the theoretical frameworks of Walter Benjamin, Fiona Cameron, and others. It reveals that the selection process of the objects being digitised is still crucial and relevant for the current agenda of digitisation in museums. The results of the analysis suggest that such a selection process should be more open and should rely on the opinion of interested communities and museum stakeholders.

1. INTRODUCTION

Aleksei Bogdanov described the Hermitage museum housed in the Winter Palace Russia as one of the most ‘leading edge’ museums in the world (Bogdanov 2003, 27). Indeed, the Hermitage Museum has one of the greatest collections in the world similar to the Louvre, British Museum and Metropolitan Museum in New York (Norman 2007). Despite the terrible trials of the history in communist and post soviet Russia, such as the Bolshevik’s nationalisation, Stalin’s purges, hunger during the siege of Leningrad, and finally economic crises of new Russia, the museums’ collections have been preserved to keep the legacy of many centuries (Norman, 2007). Becoming a part of the international community after the breakup of the Soviet Union, the Hermitage faced a new challenge to make its collection more visible and accessible for scholars, artists, and all interested individuals around the world.

As a part of its new mission, creating a digital collection and developing a website has become an ongoing project. With the help of a two-million-dollar grant from the IBM, the Hermitage was able to create the digital library that represents so far only a small share of the museum’s enormous three-million-exhibits collection. Though the ultimate goal is to preserve all the artefacts in a digital form, in the last decade the museum was able to digitize only 10,000 objects from its collection. Considering this speed, one can suggest that completing the whole digitisation process might take the next three thousand years (unless a new technological solution is developed to expedite that process). In this regard, the selection procedures and strategies in the museum become vital as they define what objects from the Hermitage funds will be available to the humanities and will be accessible by public for research and appreciation.
This study looks closely at the process of the digitisation and creation of online digital library at the Hermitage Museum. The research analyses the challenges encountered in this process and the solutions that have been developed. Also, the study discusses the issue of authenticity as related to the digital copies of the original artefacts. The paper first outlines the conceptual theoretical framework of the study and then moves to analyse and discuss the case study of the Hermitage Museum’s digital collection; finally, the concluding part provides a summary of the major findings.

2. CONCEPTUAL BACKGROUND

2.1. Digitization

McLuhan argues that “we become what we behold that we shape our tools and thereafter our tools shape us”. (McLuhan 1964) He argues that new ways of perceiving the world, embedded in knowledge structures, enable the development of tools that emulate new social and theoretical ideas. These tools thereafter have the ability to offer a range of possibilities beyond those originally imagined through technological innovations. In this regard, digitisation is vital not only for the heritage preservation but more for social interaction and transformation. Challenging the original mission of museums which was more about the preservation of artefacts, Hooper-Greenhill argues that it should be more about the dissemination of information (Hooper-Greenhill 1995). The concept of digitisation targets contemporary audiences who may not be used to reading labels and text but are accustomed to having information supplied to them visually (Williams 1987). With a new type of audience and saddled with the responsibility of making the inaccessible accessible, museums embrace new methods of representation and dissemination in the form of digitisation.

Digitisation thus refers to the process of converting, creating, and maintaining any type of original, be it paper, photographic prints or slides, 3D objects or moving images into a digital format which can be viewed via computer and other devices. (Astle and Muir 2002) It is an innovation associated with the development of digital electronic storage and transmission of cultural expression converted into binary codes that can be read and stored by computers (Hesmondhalgh 2007). These definitions recognise that museums work through material objects therefore digital technology is not a move to replace the impact of material artefacts but to enhance the real objects and improve accessibility. As a result, a digitised artefact is consequently in a position of being viewed as a reproduction, or imitation.

The decision to digitize involves an active process of value judgement and meaning making equivalent to that of physical objects: enacting the curatorial process of selecting what is significant, what should be remembered and forgotten, and what categories of meaning such as classification, cultural values or aesthetical values are given pre-eminence (Cameron and Kenderdine 2007). Cameron maintains that the value of the real is increased through being digitised by enhancing its social, historical and aesthetic importance owing to the resources required in the digitisation, and through distribution. Consequently, the procedures employed in selection of material collections for exhibition are transferred to the process of selection for digitisation.

Digital representation, as pointed out by Pavlov and Paneva, brings the ability to share and update information encouraging relevant feedback due to access anywhere and anytime. (Pavlov and Paneva 2005) Though the digitisation indeed provides innovative methods for preservation of the artefacts and facilitates an access to the cultural heritage, it raises many issues around the authenticity of the electronic copies of the objects.

2.2. Authenticity

The discussion about authenticity can be traced back to the eighteenth century when this notion implied that every individual is endowed with ‘a moral sense, an intuitive feeling for what is right and wrong’. (Taylor 1991, 26) Phillips also suggests that authenticity is seen as a product of culture, which means that material world goes through different characteristics including, history, its chain of custody, and its relationship to other objects. (Phillips 1997) In contrast to Phillips’ idea, Jones argues that culture might allow authenticity to be wrapped around any object irrespective of its unique history and its materiality if authenticity is a product of cultural construct (Jones 2010).

Authenticity is the attribute given to artefact that is true to its origin in terms of its date, material, form, authorship, workmanship, primary context and its uses. (Pye, 2001, Jones 2010) From the above suggestions, it can therefore be argued that authenticity plays a meaningful role in cultural practice within museums, because museums traditionally work with material objects.

Authenticity for this paper is understood in line with Pye and Jones, as mentioned above, though not limited to material objects, but extended to include digital images that capture all the necessary information related to the object. The extension to include digital images is owing to Benjamin’s suggestion that photography (which can also be
digital) can bring out those aspects of the original that are unattainable to the naked eye but accessible to the lens. (Benjamin 1999). Authenticity is thus not inherent in an object, rather it is a quality that is culturally constructed and ascribed to it. This quality varies according to who is observing the object and in what context the object is being viewed (Larsen 1995; Rubridge 1995; Jones 2010). The above suggestions imply that the definition of authenticity can be based on individual viewing, which can be affected by the context of the individual's culture and not in the context of the museum exhibiting the object. The issues of authenticity along with digitisation will be further discussed in regard to the Hermitage Museum digital collections.

3. METHODOLOGY

Case study methodology is employed in this paper following the tradition of Yin. (Yin1984) He states that a case study is a pragmatic inquiry that investigates a contemporary observable fact within its real-life context, especially when the boundaries of the observable fact and context are not clearly evident. This is particularly important for the analysis of the Hermitage case due to the historic, cultural, economic and political situation in a broader national context where the museum operates.

The Hermitage museum was selected for the analysis because it represents one of the most significant internationally recognised museums containing the largest collection of cultural artefacts after the Louvre. Furthermore, the museum was one of the first cultural organisations who started the digitising project; and this process is still in progress. It was also significant for our project to find a case where the project is implemented with outsourcing forces. In the Hermitage case, the IBM Corporation developed the IT solutions for the Hermitage digital library. The system was worked out through the efforts and collaboration of a highly international team. This ensured that a certain amount of openness is remained in the museum to the issues of international communication that are so important to address when creating a digital library with a global access.

In order to collect the information, two approaches were utilised. First, the information about the Hermitage digitising project was collected through the analysis of the available literature and information displayed on the Internet, including the history of the museum, history of its collection and the history, challenges, and issues of the digitising project. (Norman 2007; Bogdanov 2003) Secondly, interviews were conducted with the Head of the Digital Collection Department of the Hermitage – Irina Melnikova and the Lead Project Manager from the IBM - John Tolva. In both cases the interviews were conducted mostly via e-mail, though the initial contacts were established through a telephone conversation. Though personal in-depth interviews would be preferable for this type of research, it was impossible to conduct such interviews within a given time frame. Consequently, the telephone and e-mail communication implied certain constraints on the results of the data that have been collected. Thus, through personal interviews we could have gathered more insightful details and interesting facts that are usually missing in a more formal e-mail correspondence. Furthermore, because e-mail can be used later as a written record, interviewees tend to be more selective about the information they are allowed to share with outside researchers. The interviewees were asked to answer the questions concerning the digitisation project in the Hermitage.

The questions to the Hermitage museum's representatives included those related to the strategies regarding the digital content creation, selection criteria for the objects being digitised, and online publishing procedures. Also, the questions concerned the issues of authenticity and the significance of public feedback. The IBM representatives were asked to share their perspective on creating the digital library for the Hermitage, specifically the questions of the system usability and interactivity. All of the interviewees were asked to share any other related issues and concerns (social, communication, political, financial) they encountered during the project development.

Unfortunately, the digitisation and work flow policies of the Hermitage museum were not available for analysis in the framework of this project and all the requests to obtain the copies of this institutional documentation remained unanswered. However, the study draws on the information that was accessible for collection and analysis and leads to a discussion at the concluding section.

4. THE CASE OF THE HERMITAGE

4.1. Origins of the project

The Hermitage digital collection project started back in 1988 in cooperation with the IBM Corporation. (Interview with Irina Melnikova, Head of the Digital Collection Department,03/2011) As the Lead Project Manager, Tolva points out the initiative for developing this project came from the IBM company. (Interview with John Tolva, Lead Project Manager IBM, 03/2011) In 1996 the IBM granted two million dollars for the development and
implementation of a studio for producing imaging and IT study centre, a museum digital database collection system, as well as a website. IBM supplied advanced technologies in use at the time and made available the best technical specialists, development consultants, and analysts. (Bogdanov 2003, 28)

Moreover, the IBM Corporation provided high-quality scanners developed specifically for electronic publishing that allowed to preserve the original colours of the artefact with particular preciseness. The IBM specialists indicate that digital cameras used in the process delivered colour from the art work surpassing the photographic quality. IBM software developed for this project compressed the scanned image and stored it in the digital library, without altering the colour of the originals and without distorting the forms or shapes. (IBM 2001)

4.2. Cooperation with IBM

The collaboration of the Hermitage with the IBM Corporation was strategically a wise decision. As Karvonen indicates, outsourcing digitisation saves the resources of museums both human and financial. (Karvonen 2000, 217) As a result of such a productive cooperation, the Hermitage benefited not only on access to all the latest digitising technologies and necessary equipment, but also was able to build on a cooperation with a highly multicultural and diverse group of specialists, who influenced the mentality of the museum’s professionals and introduced new ideas and way of thinking. “This produced a new generation of technology enthusiasts in the museum that has had a dramatic impact beyond the creation of the website.” (Bogdanov 2003, 28) The team that worked on the project consisted of distinguished scholars of the Hermitage who worked very closely with the IT department specialists on the development of the digital collection database, as well as the website. (Bogdanov 2003, 28) The partnership of the leading IT company with the Museum was indeed very successful: “as evidenced by the fact that it continued for almost a decade, longer than most of our partnerships” – reveals John Tolva, emphasising also that it was a very smooth and friendly relationship throughout the whole period. (Interview with John Tolva, Lead Project Manager IBM, 03/2011)

4.3. Design of the digital collection

It was challenging to develop a comprehensive system of the digital library, because the Hermitage Collection is very diverse and contains painting, sculpture, folk/applied art, archaeological objects and numismatics. As the Head of the Digital Collection Department, Melnikova, points out, when the digital database was designed they decided that it should be divided into several major categories grouped according to the type of objects/artefacts. (Interview with Irina Melnikova, Head of the Digital Collection Department, 03/2011)

The system was technically designed and developed by IBM in close collaboration with the museum staff. To develop an efficient digital collection database the IBM specialists did consider examples of existing digital libraries developed by other museums in 1998-1999. As John Tolva indicates, the collection databases of such museums as the Louvre, Metropolitan Museum of Art, British Museum appeared good examples that helped tremendously in the development of the Hermitage system. (Interview with John Tolva, Lead Project Manager IBM, 03/2011)

Now, searchable digital collection database includes more than 10,000 high-resolution images from twelve different categories. The collection displayed on the museum’s website enables online visitors to view, study and magnify highly accurate images of the artefacts. In future the complete Hermitage collection of three million works of art is intended to be digitised and added to the digital library.

4.4. Collection usability

Melnikova emphasises that the logic behind the design of the digital collection database was determined by the end-user psychology. The designers intended to make the collection database easy to search and navigate through. The specific parameters for digitising the artifact were provided by the professionals from IBM. (Interview conducted with Irina Melnikova, Head of the Digital Collection Department, 03/2011)

However, as Karvonen thoughtfully points out, the digital museum’s collections can be “user-friendly” only if social metadata is accurately developed not only to describe materials with diligence and preciseness but also to enable users to contribute to the information creation. This is quite a challenging task for museums, because providing end-users with rights to add to the social metadata of the collections always creates a potential conflict of reliability of a result metadata system. Finally, a poorly implemented combination of social and museum metadata can be very discouraging for users. On the contrary, a certain amount of the collections’ interactivity implemented properly can enrich digital museum’s content and advance services keeping the required level of trustworthiness. (Karvonen 2000, 219)

Nevertheless, making the digital collections of the Hermitage museums interactive for the end-users was not a priority for the system developers at the
beginning of the project, because at the first instance they wanted to provide an access to their artefacts on a global scale. The website digital library does not allow end-users to contribute to the social metadata creation. Though Melnikova stresses the importance of the public for the Hermitage, the museum does not support the audience’s involvement into the process of building a trustworthy digital resource of the museum’s cultural content and heritage.

Melnikova points out that interaction with the collection of the end-users is implemented on a different level. Thus, she believes that allowing users to manipulate the images of the artefacts by enlarging them on a screen can be sufficient to empower people to define how the objects look and consequently to establish meaningful emotional connection with the artefacts. (Interview conducted with Irina Melnikova, Head of the Digital Collection Department, 03/2011)

Interestingly, John Tolva from the IBM, stresses that the interactivity features of the digital collection have been integrated as it was planned right from the beginning of the project. He points out that such interactivity is implemented in various “site enhancements throughout, including a totally separate e-learning site and an online shop.” (Interview with John Tolva, Lead Project Manager IBM, 03/2011)

As it is illustrated in the above discussion, the developers of the Hermitage digital library from both sides: the museum and the IT Corporation, have different ideas of what interactivity might mean for the end-users. Interestingly, both parties do not perceive interactivity as a means of end-users’ contribution to the content co-creation of a digital museum. This might be due to the fact that the project started a decade ago in the age of the Web 1.0. However, this implies that a further reconsideration of the interactive features of the digital library are imperative with the recent advance of the social media.

4.5. The website of the Hermitage – the window to the museum collection

The access to the digital collection of the Hermitage is provided through the web site www.hermitagemuseum.org. It consists of two basic parts, one of which is an integrated database, the digitised library, built of “dynamic pages” browsing items from the collection upon user’s request. (Bogdanov 2003, 28) The Hermitage curators and collection managers emphasise that the main goal of the website is informational. Consequently, “a great deal of attention is given to the quality of the information placed on the website whatever the topic.” The policy developed for the website stresses the outreach to the widest audience possible, giving attention to both non-scholars, as well as academics (Bogdanov 2003, 29). When the site was first launched in 2001 it received an international recognition and was named the “World’s Best Online Museum” by National Geographic Traveler, “Best Overall Internet Site,” by the Russian Internet Academy, and one of Forbes Magazine’s “Best of the Web” sites. (IBM 2001)

Through the website is aimed at providing the access to the museum collection, Melnikova reveals that that not all the digital copies of the artefacts are displayed and will be displayed on the museum website. The process of the digitisation of the museum artefacts is not over and is an ongoing initiative for the future decades. However, many of the objects are being digitised just for the sake of preservation. According to the museum policies, the access to some artefacts from the Hermitage collection will not be granted to people outside of the museum. (Interview conducted with Irina Melnikova, Head of the Digital Collection Department, 03/2011) This implies that by the time the three million objects collection is completely digitised it still will not be fully accessible online for the public’s education, enjoyment and research.

4.6. Importance of accessibility

As Karvonen points out, a decade ago, in 1990s, the driving force behind the digitisation was primary the collection management and preservation. However, with the rise of the Internet, digitising “is increasingly being justified by the benefits of content use and reuse that are provided to society.” The European Commission and the Council of the European Union in the past decade have developed policies for museums of the European community that emphasise the development of user-centred electronic services. (Karvonen 2000, 215)

Bogdanov, the Deputy Director of Operations, indicates that for the Hermitage museum accessibility and dissemination of the museum’s collection is a first priority. This is of great importance for the Hermitage because before the collapse of the Soviet Union, access to the collection for the international public was very limited if not closed. “Relying upon contemporary information technology, the Hermitage intends to guarantee that its collections are universally accessible.” The analysis of the website statistics indicates that the most popular sections are the major collections, the Digital library, and virtual tours and exhibitions utilising three-dimensional imaging that demonstrate that there is a huge interest from the public to the heritage owned by the Hermitage. (Bogdanov 2003, 28)
The Head of the Digital Collection, Melnikova, also stresses the significance of providing an access of the cultural heritage to the broader public, as well as the importance of audiences to the museum. As evidenced above, the strategy of the museum still focuses in the access to the cultural content versus providing interactive experiences. Melnikova does not approve the idea to make every single object in the digital collection interactive and finds it to be rather pointless. The policies of the museum in regard to the digital collections available on the website therefore fit within the Web 1.0 standards. But in recent years, the development of social media urges the Hermitage to rethink its traditional approaches to interaction with the audiences online.

4.7. Selection of objects for digitization and access issues

When selecting cultural material for digitisation, museums often focus their digitising efforts based on a content and use criteria, including the representativeness, significance, uses, and demand of the cultural objects. Karvonen stresses that it is vital to interact with different user groups when selecting materials to be digitised. (Karvonen 2000, 216) For the Hermitage museum interacting with audiences is limited and the selection criterion is based on the significance of the cultural objects. Bogdanov indicates that “digitising the collections is ongoing and the museum will give priority to the more significant and interesting objects from its collections.” (Bogdanov 2003, 28) The Head of the Digital Collection, Melnikova, also reveals that the priority of the objects selection for digitisation was defined by the artefacts ranked as first level. She explains that these objects are usually those that are displayed in the permanent collections of the museum. Only when the digitisation of the highly ranked objects is completed museum will digitise those objects which are stored in the museum’s funds. (Melnikova 2011).

4.8. Authenticity of digitised objects’

Digitised museum collections have a tendency of being perceived as reproduction by audience and museum professionals who see materiality as the only method of recognizing authenticity. In this regard, the opinion of the Hermitage collection’s managers regarding the authenticity of the digital objects is not a surprise. Thus, Melnikova, the Head of the Digital Collection emphasises that “…the electronic copy of the artefacts is just a copy. Only the artefact itself has a real cultural and historic value. ” (Interview with Irina Melnikova, Head of the Digital Collection Department, 03/2011)

Although Benjamin claims that the camera lens can capture unique aspect of objects that cannot be viewed by naked eye, he regarded any objects not in their material form as mechanical reproduction. (Benjamin 1973/1999) They are viewed as a threat to real objects and work of art leading to the loss of authenticity. In line with Benjamin, Baudrillard claims that virtual reproductions will be viewed as a perfect analogue of the “real” object and act as a continuous, faithful and objective reproduction (Baudrillard 2000) Viewing the virtual media as an instrument for destabilising the “real” and “true”, he concurs that all historical and political truth will be reduced to information - a semiotically self-referring existence. This idea seems to be concerned that visitors will not be able to distinguish the replica from the real, because of the ability of the surrogate to engage the senses and trigger emotional response and memory.

But contrary to Benjamin, Weil saw mechanical reproduction (which includes digitisation) as the capacity for wide circulation. (Weil 1994, 121-122) He views the technology of reproduction as a possibility of going beyond the antagonism of contemporary politics and towards a global community united under a common ideology. Digitised collections therefore can be viewed as authentic in their own right, following the tradition of Pye and Jones, because no alteration is made to the original, instead it is a representation, which becomes part of the museum collection. (Pye and Jones 2010)

5. IMPLICATIONS AND CONCLUSIONS

The digital library of the Hermitage museum is a work in progress and there are many challenges that have to be addressed in order to make the collection of the museum “universally accessible", as their mission suggests.

First, it is an issue of time, because with such a great number of artefacts it might take many years (decades, if not centuries) to complete the project. This makes the selection procedures for the objects to be digitised and published online crucial in the process of digitisation. Because a broader public will not gain an access to a complete Hermitage collection in the nearest future, it is vital to make the selection process more open and negotiable with interested communities. Making the selection a democratic process for wider group of stakeholders, can help the museum to understand what particular objects have vital social and cultural meanings for communities that don’t have an access to these material artefacts.

Pickover thoughtfully points out that “there is the danger that everything that is not digitised will not
only become unimportant but also will, to all intents and purposes, cease to exist." We would add that everything that is not published online for an open public access might also "cease to exist", because we live in the information society where the Internet defines many aspects of human existence. Pickover continues: "...whatever is available on the Internet becomes the history, all the history there is." (Pickover 2009, 6)

Bearing this in mind, if the Hermitage museum does not allow public access to all digitised objects online, this might "erase" those artefacts from the social-cultural history of humanity. Furthermore, such a position in regard to the artefacts that museum rates as second-level (those that will be digitised but never published online) challenges the mission of the Hermitage that claims to provide a "universal access" to the cultural heritage owned by the museum.

Drawing on the framework of Benhamou and Ginsburgh (2006) Hernandez understands digitisation as a form of re-evaluation of an original object. Because museums are always bound with their choices of what to digitise first, the process of digitisation raises the value of the originals, while enhancing the object significance based on the fact that only the "most important" artefacts can be selected first for digitisation. Cultural objects that have been digitised gain more recognition on the international level, because more people throughout the world can have an access to them and they appear more frequently in the global cultural content. (Hernandez 2010, 5)

The implication of that illustrates that those objects that are left without attention for further decades lose their cultural value and consequently might stay forgotten, because according to Bruno Latour copies ensure the survival of the original objects for further generations. (Latour and Lowe 2010)

In this regard, in the case of the Hermitage museum there is a big danger that many cultural objects that will not be digitised in the next several decades might lose their importance. Consequently, when they will eventually acquire electronic forms they might still remain inaccessible. First, because the museum policies might not allow publishing these electronic copies online. Second, because the cultural connection of these artefacts might become irrelevant by the time they will be "accessible" online. As Hernandez emphasizes, an access to the digital artefacts is linked to the valuation process that occurs on two levels. Initially, when the object is selected for digitisation and publishing, and later when selected by an end-user to consume the digital artefact. Therefore, if the user does not know about the digital heritage item it is very unlikely that he or she will eventually access it, or such an access might not result in a successful communication transaction. (Hernandez 2010, 7)

The discussion regarding authenticity of digital artefacts adds even more importance to the digitisation issues discussed above. Considering the traditional opinion of the Hermitage digital collection managers who do not support the idea of the authenticity of the digital artefacts, it is not surprising that the museum has rather strict policies keeping a large number of the collection closed for a broader public access and interaction.

There is no doubt, that there might be a reasonable logic behind the museum’s policies, which do not allow online publishing of second-level artefacts. However, if such policies exist in a museum, there should be more negotiation involved with interested stakeholders in order to make the selection process of digitising and especially of online publishing more democratic and open. The artefacts that the museum ranks as second-level objects which are stored in the funds and rarely appear in the exhibitions (and might never appear online) can be of special interest to academics, researchers, or just ordinary people from different communities in Russia and across the globe who can have a historical connection to these artefacts. By involving these individuals in metadata creation and information sharing the museum can tremendously enrich its digital collection content and moreover find extra human and financial recourses to complete the digitisation project.

Furthermore, the digital library of the artefacts displayed on the museum’s web site could benefit tremendously by employing more elements of interactivity and participation. These participatory features should aim at providing the opportunity for the audience to co-create social metadata and contribute to the information creation. By building on the available Web 2.0 applications connecting the contemporary audiences with the cultural content, the Hermitage can step forward from providing an access to its heritage to creating enriching cultural and educational experiences for people from around the world. Though in the next decade a lot of work is still needed to be done to produce digital copies of the entire museum’s artefacts, a certain amount of efforts should be focused to rethink how to make the digital heritage of the Hermitage not only “universally” accessible, but also communicative, interactive, and culturally meaningful for the next generations. We believe, that only in this way the goal of preservation of cultural heritage can be fully achieved.

6. REFERENCES


