Piia Rossi, Kaisa Penttilä, Ritva Kannel

Paving the way for equal access to culture

Is your collection a part of Finnish national heritage? Do you believe that the national heritage should be available to be experienced by every citizen? Do you also feel that it is the responsibility of museums to make the national heritage accessible? If so, this article is for you.

Vaihtoehto Vitriinille project

Vaihtoehto Vitriinille (loosely translated from Finnish "An alternative to a display case") is a working group of three Finnish women who want to advance accessibility in museums and other cultural organizations for the vision impaired. The group was formed in 2012 by a vision impaired Kaisa Penttilä, who is a is a hungry culture seeker but after couple of years of fondling smooth class cases in museums around the world got frustrated and decided to do something about this. Kaisa invited an architect Ritva Kannel and an artist and an art pedagogist Piia Rossi to brainstorm how to assist the blind that want to access museum exhibits.

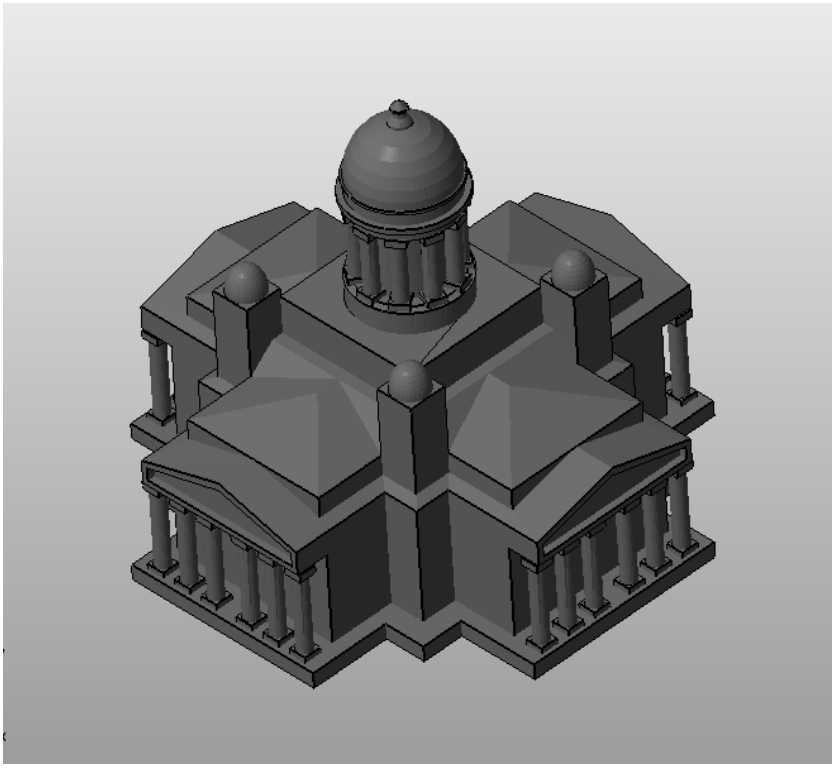
"Oh what a wonderful display case, so smooth class, sharp corners, rather cold. I wonder what's inside?" This is the experience a blind person gets from a museum visit. The reasons for the use of display glass cabinets for fragile and valuable objects are obvious. However, Vaihtoehto Vitriinille argues that there is no reason at all not to provide equal cultural experience to the vision impaired by supplying model replicas alongside the original exhibit. The use of the models doesn't serve only the vision impaired, but also benefits a diverse range of other viewers who perceive their environment in a different way, such as children, the elderly and the autistic persons, as well as the people who experience physical limitations. Instead off a once-off multisensory type of an experiment, Vaihtoehto Vitriinille project looks for a simple, permanent, affordable and aesthetic solution that has a potential to became a standard method of display in museums.

The Vaihtoehto Vitriinille project began its inquiry into the use of models to support museum experience by sourcing various technologies for making replica models, and pretty much immediately it became obvious that the method to harness for this purpose is 3D printing.

3D printing technology is (our) future

"3D printing: The technology that changes everything" – a headline from The NewScientist magazine. "3D printing technology that could be the new locomotive for Finnish industry after

Nokia", from a recent YLE interview with Director of Research Erja Turunen from VTT, Technical Research Centre of Finland.



A digital drawing of the Helsinki Cathedral. Kuva: Ritva Kannel

It has been predicted by many that thanks to the vast advancements in the 3D printing technology anybody will soon be able to make complex products quickly and cheaply. At this moment elementary school teachers are educated to use and teach 3D-modelling and printing to their pupils. And just as easily as with traditional printing: either with a home printer or by using a service provider available locally or globally. The technology is not new, but it has taken massive developmental steps in recent years. Currently desired objects can be either ordered from a internet catalogue or alternatively it is possible to provide your own 3D-drawings that can then be printed out by 3D printers. The types of object printed range from machine parts, blood vessels to decorative objects and toys and even whole rooms and houses. Materials available are also plentiful, such as plastic, wood, paper, metal, composite, food, actually pretty much anything including PLA bio plastic.

Hvitträsk museum in Kirkkonummi is the first museum in Finland who takes part in an EU Partage Plus project. As part of this project 100 exhibits from the Hvitträsk collection are digitized and soon become available to be viewed in the virtual museum on the project website. There are 20 European museums involved in the Partage Plus project.

Pilot

In 2013 Vaihtoehto Vitriinille project together with The Sports Museum of Finland got a grant from the OKM, the Ministry of Education and Culture, to run a pilot to investigate the use of replica models as a part of the exhibition. The investigation takes into account the experience

of the visitor as well as the museum's perspective. The pilot concentrates on accessibility, usability, sustainability, presentation and security. The objective is to produce practical advice to organizations interested in including this type of accessibility into their exhibition planning.

For the 2014 pilot, five exhibits from The Sports Museum of Finland's permanent collection are reproduced as models using the latest 3D printing technology. A careful consideration will go to the location of the replicas so that the object is experienced in situ rather than in a segregated space as is quite often the common practice. Objects for the pilot were chosen by their popularity as exhibits. At the same time, the project is seen as a chance to investigate what type of objects and materials are suitable for replicas, how to deal with size, how does the feel of the material affect viewing, and what techniques are most suitable.

A child studying a model of the Helsinki Cathedral Kuva: Piia Rossi

Pricing

The explosive advancements in the 3D printing technology has meant that the use of models in exhibitions is within the reach of almost any cultural organization. The main price of the object comes from digitization and the material costs. The digitization of larger objects, such as houses, is done manually by photographing and measuring and can be a slow – and therefore quite costly – process. However, smaller objects, like most museum exhibits are, can be digitized by an image scanner, which will transfer all the information needed for 3D printing quickly. The type of the material used for the printing has a bearing on price: silver is naturally more expensive than plastic. Partly for the cost reasons Vaihtoehto Vitriinille

investigates the suitability of the various materials so that the quality price ratio is best possible in order to provide pleasant experience for the visitors. Just as an example, a 5 x 5 cm model of a building made of ceramic material comes approximately to 50 EURO. This is the printing cost only, when the digitization of the building exists. When it does not, the cost will rise by the hourly rate depending how long it takes to scan or photograph the object and render in the language of the 3D printer. Also, when the object has initially been transferred to the digital file, it can be printed out unlimited times, for the material cost of around 50 Euro.

A cultural experience from the Nordiska museet, Sweden. Kuva: Ritva Kannel

Vaihtoehto Vitriinille project aims to show that this affordable method of reproduction of valuable and often fragile museum exhibits can be used to allow much more thorough and accessible viewing for a diverse range of the museumgoers. Does your collection have exhibits that are part of Finnish national heritage? If so, do you feel that it is a right of every citizen, disabled included, to have an access to this heritage? Do you also feel that it is the responsibility of national cultural institutions to facilitate this equal accessibility to all? Vaihtoehto Vitriinille project challenges you to take a lead from The Sports Museum of Finland and find five objects from you collection, get replicas made and provide equal cultural experience to all citizens.

The writers are project group Vaihtoehto Vitriinille; Piia Rossi, Kaisa Penttilä, Ritva Kannel.
Contact information: rossipiia@eircom.net