

ABSTRACT

3D Technology for the Making of Replicas and Mounts

Presenter:

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For the Carried Away Exhibition 2019 at the Auckland War Memorial Museum we confront the challenge of making the mount for 155 bags, all of them had a different story but there were three hero bags that had a more interesting history than the others. One of them was the Netsuke bag that is a Japanese bag made of wood and ivory due to the clothes at that time didn't have pockets the men used to wear them to store personal objects like tobacco, money or medicines.

To help to tell the story of this bag we had to make a video showing how it was used before but first we had to solve the issue that the actors of the video couldn't handle the object for conservation reasons. As a solution I made a replica where I use the 3d scanner and 3D printing techniques for the making of it.

The result came out really good and besides it was a detailed prop for the video it was also used as a model to realize the mount. It was useful for the mount making, giving us precisely dimensions and more freedom to handle the "object".

The 3d scanner that we use is a Creaform Go!50 the way it works is the laser scanner projects one or many laser lines on an object while white-light devices project a light and shade pattern. Both will analyse the resulting deformed projections to extract the 3D data. Handheld scanners rely on two cameras to create what is called stereoscopic vision. This enables the device to determine the scanner position in relation to specific points, which could be positioning targets, the object's natural features or textures.

Sometimes the positioning of these targets gets complicated because one side of the targets sticks to the surface and in some objects it is impossible to do this because it could leave glue residues so we had to think in alternatives to keep the objects safe like covering the sticky part of the targets with materials that have been previously tested or attaching the targets to a clear cord for later positioning on the objects.

Once you have your targets positioned is when you can start scanning your object. The 3d scanner will take the colour and the texture of your objects with a lot of accuracy. Some materials are easier to detect than others for example wood and bones will be good and easy to scan and others like glass or shiny objects will get really difficult to the 3d scanner to detect and that's related with the reflection of light of these materials.

After having your 3d scanning ready there is some post-production to be done like cleaning your scan as well that some 3d modelling work for example if you want to get a profile from a specific section or to get the negative part of your object for doing some nesting.

Having a good 3d model of your object will allow you to use the 3d printing technology to replicate it and later use it for making a mount or replicas.

BIO



Bebay Gonzalez Millan has an industrial design degree with experience in different fields such as digital fabrication, product design, jewellery, retail display and museography. She has been working at the Auckland War Memorial Museum for almost 3 years.

Bebay applies the use of 3d technologies for the making of mounts, for the design of exhibition interactives and displays. She has experience using 3d modelling programs to represent design concepts and prototyping using digital tools to produce her creations such as 3d scanner, 3d printer, CNC, laser cut.

Bebay is interested in the application of new technologies to make the process of design and production more efficient and is always looking for opportunities to make use of digital tools into her work.