

Integration of 3D technologies to communicate large scale sculpture installation

*Till Rose Case Study*

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'Till rolls' is a temporary sculpture by artist Jill Townsley and was commissioned by the Towner Gallery in Eastbourne. 'Till Rolls' is made from 10,000 till rolls whose middles are extruded up to a height of 3 meters. The sculpture formed a grid 100 till rolls X 100 till rolls covering an area of 5.7 meters square.

**Problem:**

The initial proposal was conceived in the studio and visualised using a 2D graphics package in order to communicate to the gallery how the work may look in the gallery. The problem of installing such a large structure from so many small parts was further compounded by the need to install it quickly in just around 4 days, with 5 gallery helpers.

**Design Process:**

Jill contacted a 3D digital design specialist Dr. Ertu Unver to help to digitally visualise and create a method to communicate the height of each of the 10,000 individual till rolls. After discussion evaluating few tools, it was clear that there was a requirement for implementing a design tool to further develop the overall shape in 3D therefore polygon modelling tools were employed from the initial creation of 3D shapes to final decision and technical drawings of overall shape by generating the form of the final structure. This method offered the team the ability for evaluative comparison enabling creative development. Polygon modelling also facilitated the evaluation of the technical data required to help systemise the installation process.

The data was organised in order to measure individual vertices (the heights of each of the 10,000 individual till rolls). By splitting the polygon structure into 100 rows (simulating each row of till rolls) Each row could then be plotted against a grid that communicated the height of each till roll. The till rolls are offered along the bottom axis and the height is offered in centimetres along the vertical axis. The plotted line shows the height of each till roll plotted against the grid to indicate the form of the sculpture. Each helper worked on 5 rows at a time using the grids to plot the heights of each individual role. The grids also offered a map for the placement of each till role within the whole structure.

## Conclusion:

The digital 3D modelling system offered an opportunity to accurately build the sculpture as a virtual object, enabling the installation to be systemised prior to work beginning. The resulting 100 graphs allowed the many helpers, needed to install the sculpture over only four and a half days, to work independently without compromising the form of the sculpture, idealised by the artist through the polygon modelling. Each of the 100 graphs not only indicated the height of each individual till roll but also its position within the grid of 10,000 till rolls.

Collaboration is one of the main important elements for the researchers for pushing the boundaries or using the current technology in a unique novel way for successfully completing any challenging project as shown in this project with artists, designers, digital specialists.



