

Creative Workshop using product development methodologies



NIJJ AB

Company: NIJJ AB, Luleå, Sweden

Description: Demonstration and practical help in creative product development workshop. Academia, students and company representatives join together to develop company idea regarding removal of snow from rooftops. The workshop was held at Luleå University of Technology using the FUNC³-workshop method developed at Functional Product Development, Luleå University of technology. A Master thesis was also conducted in close collaboration with the project

Final conclusions: The workshop and product development method introduced and practiced during the workshop helped the company and the master thesis student to examine and develop the idea from several different aspects. In the end it brought the product to an alternative solution which solved the product criteria's in a better way. Company is taking the idea further towards physical prototype.



Finite Element Analysis

Svenska Poolfabriken AB



Company:

Svenska Poolfabriken AB, Luleå, Sweden

Description:

Demonstration how Finite Element Analysis may be used when conducting product analysis and optimization. A component in their product was used as a practical case and then a finite element analysis was conducted to examine the product. A large part of the demonstration was to show not only how Finite Element Analysis is performed but also what type of criteria's and information that is needed to be able to conduct it.

Final conclusions:

Company's benefits from case:

- Company understands how their product behaves under certain load conditions.
- Analysis can be used to produce fact when taking important product decisions
- Analysis showed areas of interest that was not known before

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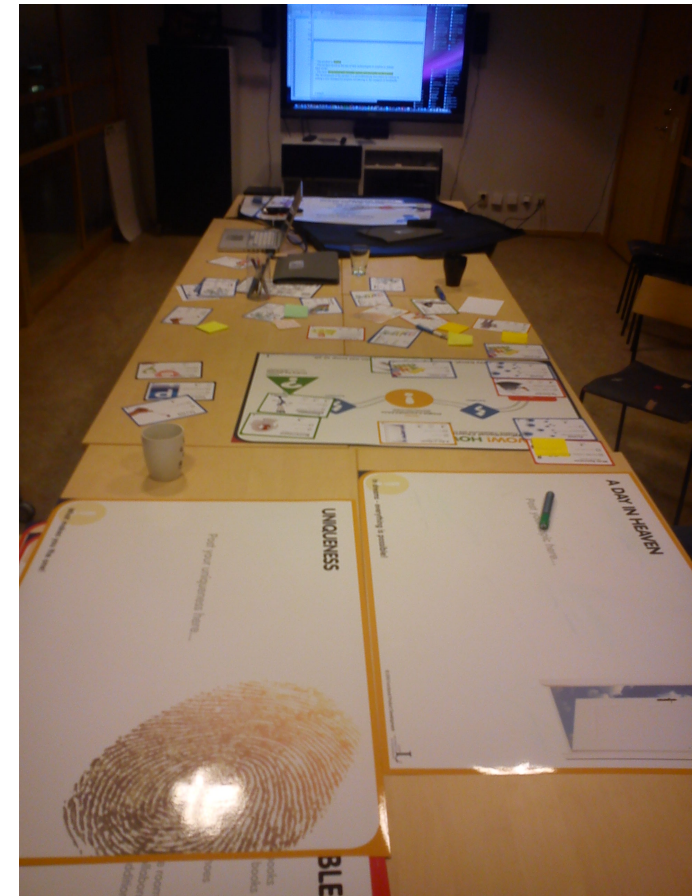
Clean Cargo AS

Company: Clean Cargo AS, Narvik, Norway

Description: This demonstrator was held in collaboration with Narvik University College, Norway who was lead partner in the demonstrator. Luleå University of Technology acted as cooperating partner and also as examiner/supervisor for the Master Thesis student collaborating with the project.

Demonstration and practical help in creative product development workshop. Academia, students and company representatives join together to develop novel product idea. The workshop was held at Luleå University of Technology using the FUNC³-workshop method developed at Functional Product development, Luleå University of technology. A Master thesis was also conducted in close collaboration with the project

Final conclusions: The workshop and product development method introduced and practiced during the workshop helped the company and the master thesis student to develop parts of the idea into a viable product concept.



3D Scanning of Reindeer Antlers

Nord Polymer AB



Company: Nord Polymer AB, Sweden

Description: This demonstrator was held in collaboration with Nord Polymer AB Sweden, CENTRIA Research and Development, Ylivieska Finland and Luleå University of Technology.

The demonstrator show how advanced laser-scanning equipment and 3D-modelling software's may be used in order to make a digital replica of a complex organic shape. The generated 3D model can be used for further development of machine tools needed for different kind of production machine.

The process included many tasks that in the beginning seemed easy but in the end turned out to be quite labour intensive.

Final conclusions: The process that was needed to realize this included steps such as, 3D scanning, conversion of 3D-point cloud to curves and NURBS, solid models and finally stereolithographic files needed for the manufacturing in the rapid prototyping machine.

The technology may be used for scanning very complex geometric shapes. And it also enables editing surfaces and geometry according to product features or manufacturing needs

