

Rendering panorama maps in the “atelier Novat” style

Master 2 project



The Atelier Novat was born in the '60s, founded by Pierre Novat and became the French standard for mountain panorama: <http://atelier.novat.free.fr>. Our goal in this project is to reproduce the atelier Novat style using digital means.

Such a style has two main components: a geometrical deformation of the terrain so as to show important landmarks to the viewer and a specific rendering style to expressively describe the terrain components (forest, snow, rocks, ...). During this master project we will focus on the rendering style. For that we will have to:

1. Precisely describe the rules used to depict each terrain type;
2. Translate these rules into algorithms in order to produce a convincing rendering of the terrain.

In order to help to solve the First point, we are in contact with Arthur Novat (Pierre Novat son) who will be able to help us in understanding the drawing process that was used to paint these panoramas. Based on these insights we will still have to devise concrete and general enough rules to be applied to generic terrains.

For the second point we will take inspiration from expressive and realistic rendering methods in order to propose specific rendering algorithms for each terrain type. For example the color of the snow could probably be modeled by a well chosen shading model whereas the forest drawing may be well rendered by a stroke-based algorithm.

Bibliography

Artistic Rendering of Mountainous Terrain

Margarita Bratkova, Peter Shirley, and William B. Thompson

ACM Transactions on Graphics, Vol. 28, Issue 4, 2009

www.cs.utah.edu/~bratkova/research/projects/panorama/togFinal2.pdf

A STUDY ON MENTAL REPRESENTATIONS FOR REALISTIC VISUALIZATION THE PARTICULAR CASE OF SKI TRAIL MAPPING

R. Balzarini, A. Dalmaso, and M. Murat

Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XL-3-W3, 495-502, 2015

<https://doi.org/10.5194/isprsarchives-XL-3-W3-495-2015>

Reference book on expressive rendering:

Image and Video-Based Artistic Stylisation,

Editors: Rosin, Paul, Collomosse, John

<http://www.springer.com/fr/book/9781447145189>

Some chapters are online like:

Stroke Based Painterly Rendering. David Vanderhaeghe, John Collomosse.

[hal-01342483](https://hal.archives-ouvertes.fr/hal-01342483)

Supervision

The project will take place in the [Maverick](#) team at Inria and be supervised by Joelle Thollot and Romain Vergne.