NeoTrie VR: New geometry in virtual reality

NeoTrie VR is a multiplayer software package, developed by Virtual Dor and the University of Almería since 2017, actually working in +100 international centres around the world. It enables pupils to create, manipulate, and interact with 3D geometrical figures, increasing their spatial visual reasoning.

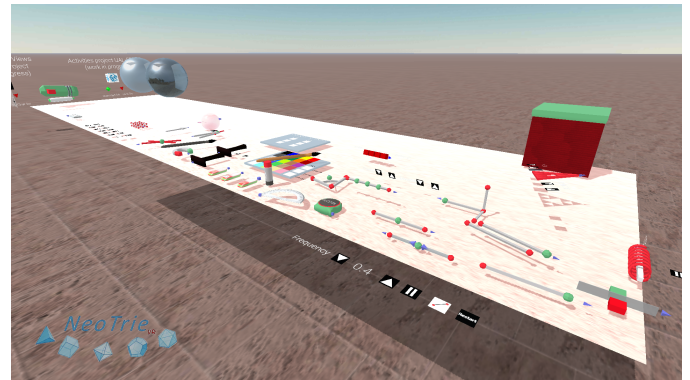*Multiplayer mode available in version 4.0.*

Aims:

- Plane geometry visible through the eyes of a third dimension.
- 3D geometry and modelling meant for 3D printing.
- Develops handicrafts and 3D visual skills.
- Stimulates deductive and inductive reasoning skills.
- Fosters cooperative work and positive interdependence.
- Motivates pupils by means of recreational, collaborative and competitive games.
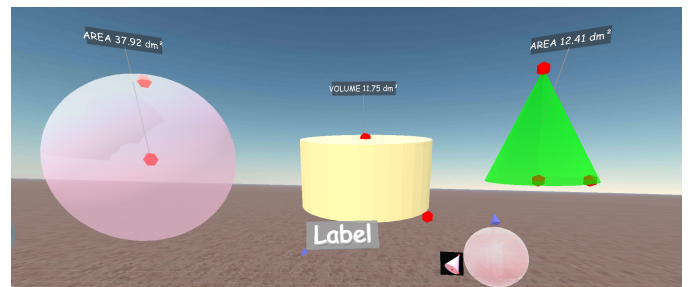
Subjects:

The software implements learning activities for different ages, covering a wide variety of topics.
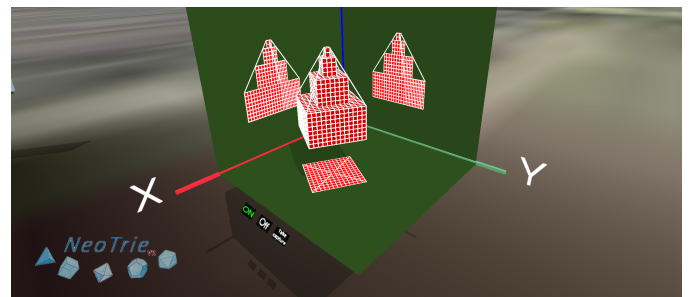

The standard tools of dynamic 3D geometry can be operated intuitively in the VR environment.
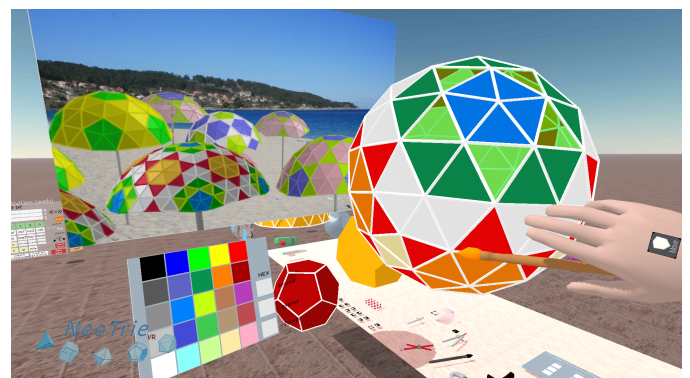

2D and 3D geometry (parallels, perpendiculars, bisectors,...) and metric calculations (lengths, angles, areas, volume,...).
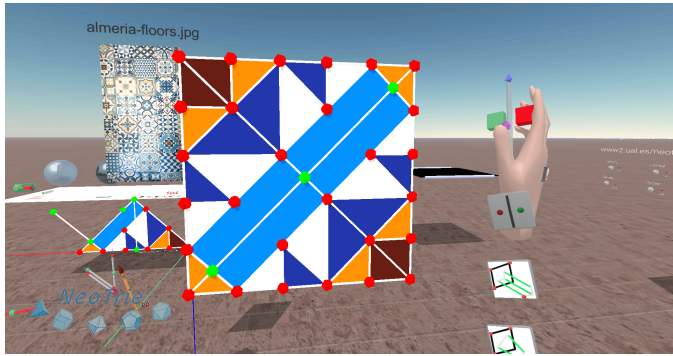

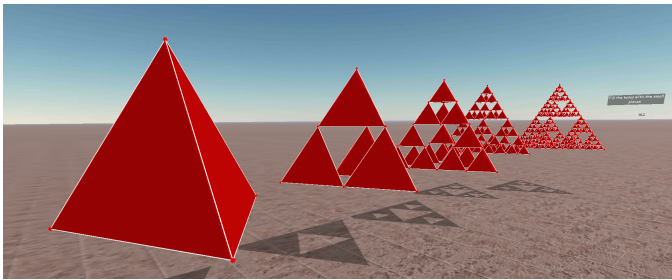Projection of 3D figures in multiview planes.

Construction of famous polyhedra (Platonic bodies, pyramids, prisms, antiprisms, Archimedean, Johnson, Kepler, geodesic spheres, etc.), duality, truncation, rectification, extension,....

Spatial symmetries to build 2d and 3d tessellations (translations, rotations, reflections,...).
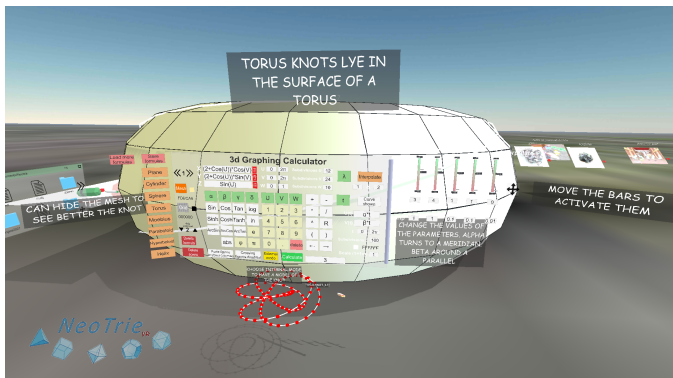

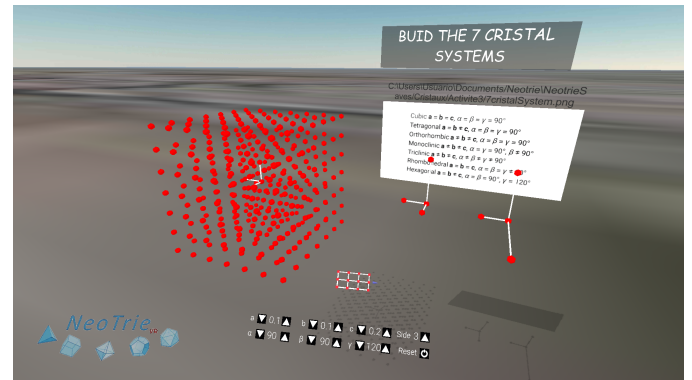Homotheties to build self similar fractals.

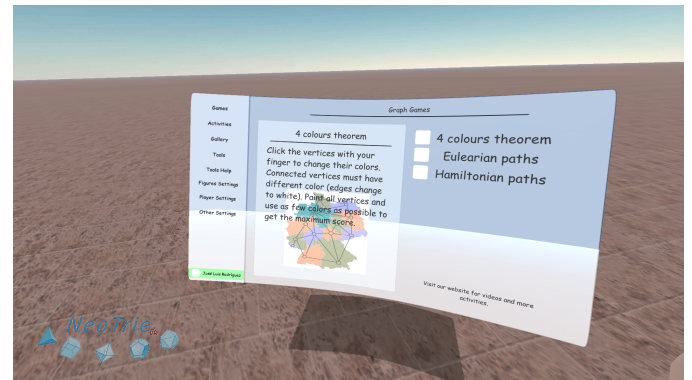Manipulate curved bodies, find intersecting curves.

3d graphing calculator for parametrized curves and surfaces.

Crystalline networks from fundamental cells.

Eulerian paths, Hamiltonian paths on graphs, colouring graphs.

Featured tools:

- Gallery of pre-designed geometric figures.
- File system to load and save activities created by users online.
- Photo camera inside the VR scene.
- Photos, videos, texts, sounds can be inserted in the scene.
- Exporting-importing from other 3D geometric softwares as STL objects.
- Importing GeoGebra files (alpha version).
- 3D printing from STL files edited in NeoTrie.
- Multiplatform: compatible with

More information:

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