
IGI in Rouen (France)

Groupe GeoGebra, IREM de Rouen



Purposes and People

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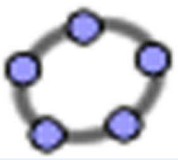
Developping
GeoGebra 3D
3D elements
2D-3D interaction
3D rendering
Conclusion

The general purposes at the IGI in Rouen are:

- Providing formation on GeoGebra for highschool teachers
- Developping teaching activities using GeoGebra
- Developping code for a 3D version of GeoGebra

We are about ten people working at the IREM of the University of Rouen (Institut de Recherche sur l'Enseignement des Mathématiques):

- Highschool teachers
- Computer science researchers



Developping GeoGebra 3D

Purposes and
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Developping
GeoGebra 3D

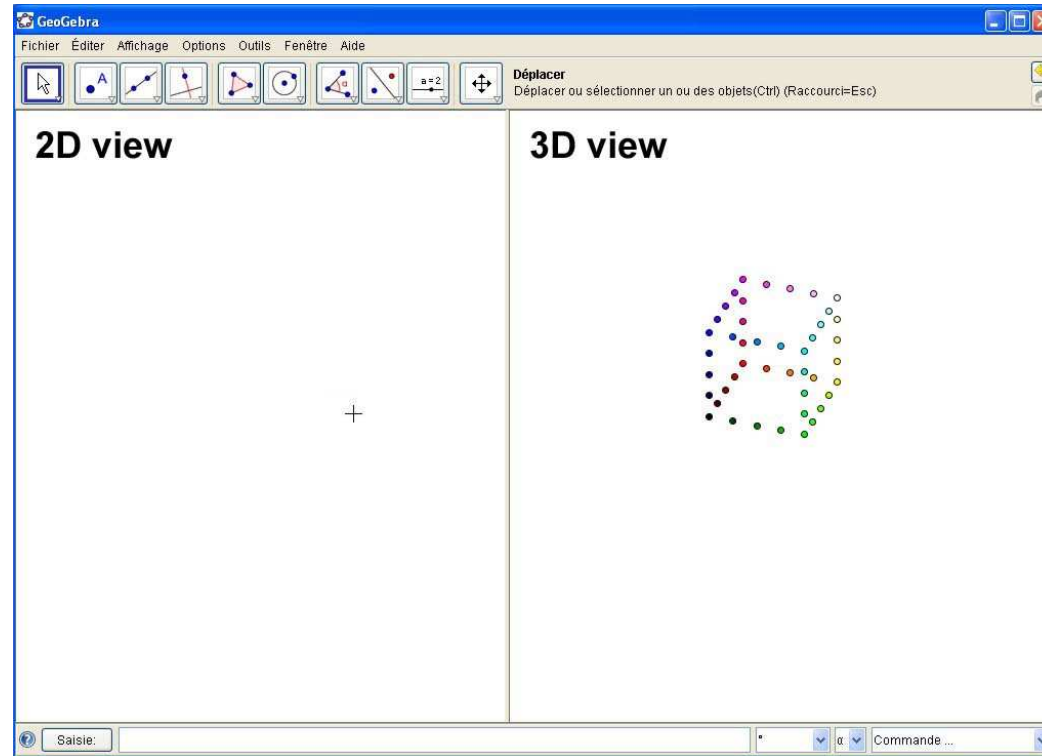
3D elements

2D-3D interaction

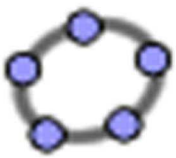
3D rendering

Conclusion

We are working on a kind of « 3D extension » of GeoGebra



Interaction with 3D geometry should be as easy as interaction with 2D geometry with the current version of GeoGebra.



3D elements

Purposes and
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Developing
GeoGebra 3D

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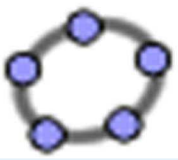
Conclusion

The development is at a very early stage, starting with simple new elements:

- points, vectors, lines
- lines, segments, polygons,
- planes
- circles, conics

More complex 3D geometry will then be added:

- spheres, quadrics
- curves, parametric surfaces



2D-3D interaction

Purposes and People

Developping GeoGebra 3D

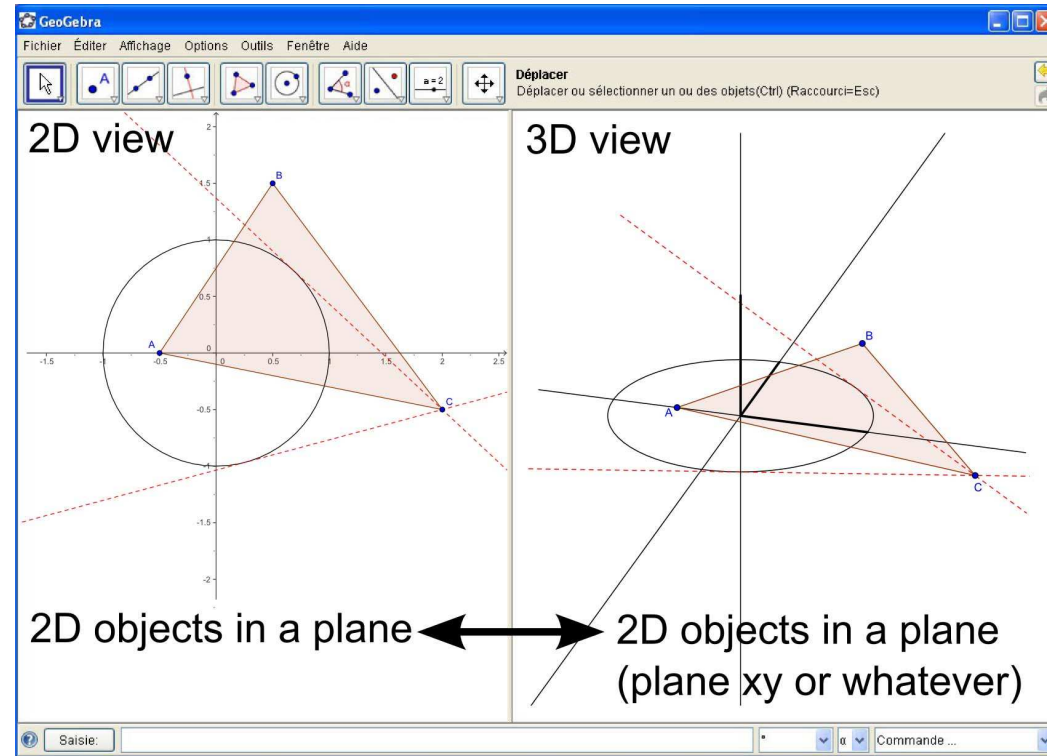
3D elements

2D-3D interaction

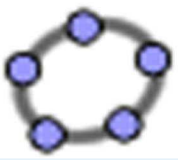
3D rendering

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The 2D and 3D views will be used with strong interaction



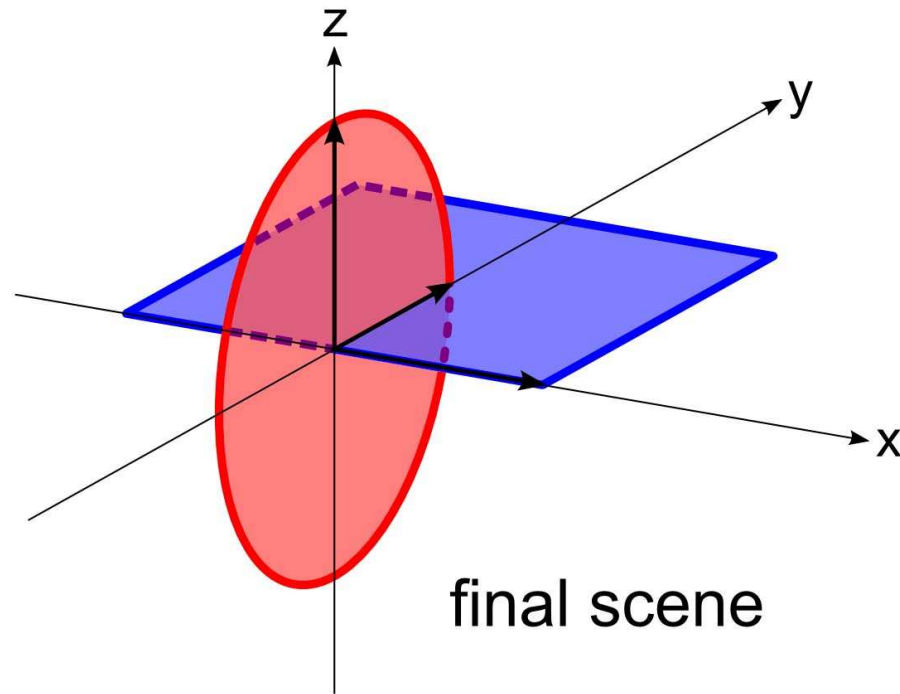
Capabilities on GeoGebra 2D will be available for 3D.



3D rendering

- Purposes and People
- Developping GeoGebra 3D
- 3D elements
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The 3D rendering will use the default Java API with clipping abilities for hidden parts



Objects are rendered in a 2D vectorial way.



Conclusion

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As a conclusion, the development of the « 3D version » will consist in:

1. Creating 3D elements
2. Providing special 3D rendering
3. Providing special 3D GUI (esp. mouse interaction)

And then sharing our work with the GeoGebra Community!