

## **A short tour through GDI**

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### **Abstract**

GDI (Spanish acronym for Intelligent Dynamic Geometry) is a Dynamic Geometry System (DGS) prototype first developed in 1998. Its main characteristic is the implementation of proving and discovering capabilities based on symbolic algebraic methods from the field of Automated Deduction in Geometry (ADG).

After the introduction of Wu's method and Groebner bases, numerous publications have reported success on proving as well as on discovery and rediscovery geometric properties using Computer Algebra Systems (CAS). However, the development of the main DGS systems has not incorporated any of these computer algebra methods nor any of the main results from ADG. This has resulted in an evolution of DGS towards an impasse on issues such as the accurate proving and discovery of properties or the determination of equations of loci.

The talk will consist of a brief overview of the main functionalities of GDI over a sample question, namely when is the Euler line perpendicular or parallel to one side of the triangle? The integration of CAS and ADG to Dynamic Geometry will be shown to be an important improvement over standard DGS features.