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### **Adaptive Strategies in the Web Geometry Laboratory**

The Web Geometry Laboratory (WGL) platform is a collaborative and adaptive blended-learning Web-environment for geometry, it integrates a dynamic geometry system (DGS), it provides a collaborative environment for students and teachers and provide some adaptive features. Its use is possible in the context of a classroom or remotely ([hilbert.mat.uc.pt/WebGeometryLab](http://hilbert.mat.uc.pt/WebGeometryLab)).

To be able to build individual students profiles and/or individual learning paths, the system collects geometric information about the students' interactions when in the regular, stand-alone, mode. In the regular mode all the steps done by the students when using the DGS to complete a given task are recorded.

An initial case study in Portugal was done, sustained through a qualitative approach, with a 15 years old student in an adaptive environment context. The teacher was able to see the work done, from the first step to the last step, step by step (in a faster speed or slower or to pause), analysing the steps done by the student to solve the task, getting information that can be used to assert the student's van Hiele level.

The development work currently being done regards the construction of a learning path editor. This editor will allow the teacher to build learning paths differentiated by students' profiles. These profiles will be build, by the teachers, using the information collected previously by the system. Each learning paths will be a (non-)linear sequence of tasks to be solved by each individualised student.

The WGL platform will include in future stages of development a geometric automated theorem prover to be used in the automatic, or semi-automatic construction of the students profiles, and in the learning process.