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Developing free computer-based learning objects for high school mathematics: examples, issues and directions.

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Summary: In late 2007, the Brazilian government launched a grant program offering 42 million dollars to support the production of digital contents to high school level in the following areas: Portuguese, biology, chemistry, physics and mathematics. Of this amount, the CDME Project (<http://www.cdme.im-uff.mat.br/>) of the Fluminense Federal University won 124 thousand dollars to develop educational software, manipulative materials and audio clips to the area of mathematics. In this article, we report our experience (and what we learned from it) within this project, regarding the development of educational software as learning objects. We hope that the examples, issues and directions shown here are useful for other teams concerned about cost, time and didactic quality in the development of their applications and online teaching systems. Learning objects in mathematics, software development technologies, visualization in the teaching and learning of mathematics.

Classification: U70 U50 U80 G40 G70 M60

Keywords: computer-based learning; educational software; manipulative materials; audio clips; instructional choice; spatial geometry; modeling

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