



Sparkling Science >

Science linking with School
School linking with Science

Interim Report, May 31st 2009

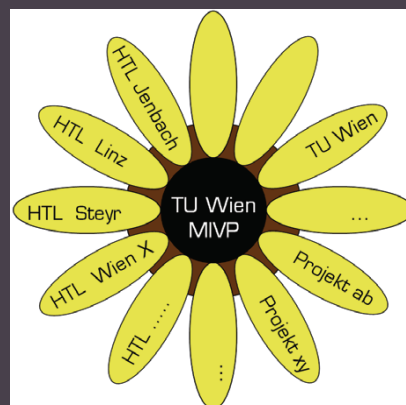
Virtual Product Development

LEADING INSTITUTION

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SCHOOLS INVOLVED

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HTL Linz (Litec), Upper Austria
HTL Steyr, Upper Austria
HTL Wien 10, Vienna



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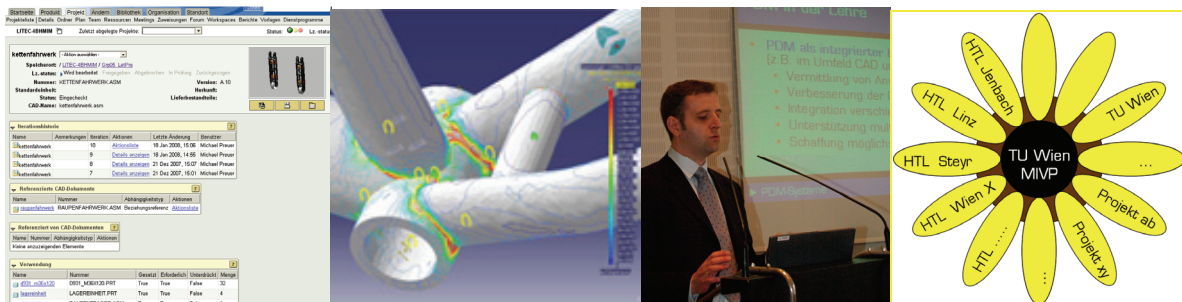
Platform "BLUME" (engl. Flower) Basic PDM Education- and Project Environment for Co-operative Mechatronic Product Development

The objective of the project is the development and implementation of an education platform and a project environment on basis of a central PDM system, on which all involved project partners have access and which guarantees that all necessary data spread over different locations and several partner schools is available consistently with different access rights.

CAD generated data gets more and more complex with increasing number of participants of a project or design assignment and is no longer to handle properly in the file system. This applies to schools and research institutions as well as for industrial companies and is mainly ascribed to the fact that the modern way of working with 3D CAD systems is another than the conventional 2D design which corresponds more or less to working with ruler and pencil. Handling CAD data leads to a lot of operational challenges, e.g. data loss by lost removable data carriers or overwriting of newer versions by older or those of a colleague or the absence of the access to data from at home, is very likely. Moreover, access rights for group works cannot be defined sufficiently on file system level.

Besides, providing a special IT-tool that qualitatively helps to improve educational goals in accordance with curriculum for Secondary Technical and Vocational Colleges (e.g. team work, technical documentation) the operational tasks of the design education under administrative and organizational criteria are efficiently supported. Moreover, knowledge of the technology of database-based technical information systems flows as background information into educational topics of engineering design courses. Another goal is to improve the operational execution of the construction training under consideration of administrative and organizational aspects, for instance, by time and milestone plans and control of their compliance with the help of the system.

The entire project is aligned to operate as solution for the qualitative improvement of the engineering education beyond the development of the education and project environment on a long-term basis as a platform for co-operative mechatronic product development at schools and universities. All involved schools of the working group 3D-CAD have stated interest to use the platform after implementation of the solution.



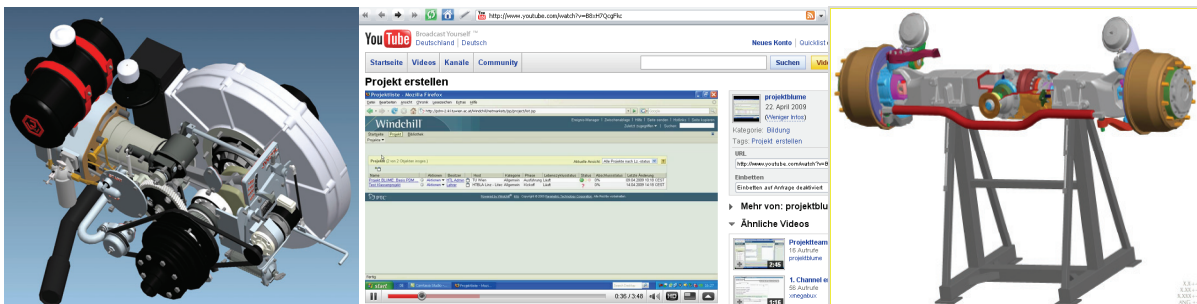
Project progress report


Requirements, concept, system configuration, customizing, and testing – conceptual work is the beginning of a research project

At the beginning of the project a kick-off workshop with all involved partners was conducted in order to align and clarify expectations which arose among all participants throughout the phase of project definition and generation of the research proposal. Also the project plan had to be precisely determined and adjusted.

The first half of the project is affected by the fact that initially the IT system environment has to be implemented in order to be employed within engineering design education at the different schools. After gathering and analyzing requirements from the different types of courses to be supported by the tool, e.g. lectures or design projects, the raw version of the different needed software modules was installed and customized. This was done in a way that schools were able to use the platform in an initial state after about one third of the project duration for testing purposes and smaller projects. This first project goal was achieved almost in time when some minor but cumbersome obstacles were overcome, e.g. browser versions which were incompatible to server software but could not be changed due to school policies. Dipl.-Ing. Franz Cibej, teacher at Linzer Technikum (LiTec): “It is especially for our students a valuable experience to work together with a university institute. I am convinced that this project will be a success.” The underlying idea of this approach was to gather feedback and response (from students and teachers) as soon as possible in order to perform an agile development process and to customize the system iteratively step by step. This is especially important having in mind that PDM systems – like the one we use – are in general preconfigured and aligned according to the requirements of industrial companies. The collected findings of this prototype deployment can be considered as first results contributing towards adaptability and usage of PDM systems New Product Development Education research.

To avoid building barriers, it was also important for the project that new users of the system got a jump-start made as easy and convenient as possible. For this reason the provision of short Screencasts instead of a conventional way of training through written documentation was chosen. Dipl.-Ing. Andreas Probst, also teacher at Litec: „The generated You-Tube videos optimally support training and learning.” Feedbacks from the students in the test phase are as well valuable references. Quotations: “The advantage of centralized data storage is clearly visible; however, the necessary system speed for the work on a project is too slow at the moment.” “A GUI with more interactive elements and animations is desirable.” These issues can be tackled in the further course of the project.





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