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ViPLab - A Virtual Programming Laboratory for Mathematics and Engineering

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I n the process of the implementation of the eBologna program of the European states and the recent change of the German university system from the Diploma to the Bachelor/Master system, studies at German universities have been redesigned; courses have been condensed and learning content has been re-structured into granular modules, each of which requires an evaluation at the end of the semester. Simultaneously, the skills required for working in research and development changed as well; handling of computer software, knowledge of mathematical or numerical algorithms and programming skills play an increasingly important role in the daily job routine of the working engineer. To support learning by practical exercises, engineering faculties, the faculties of mathematics and physics, and the Computing Center of the University of Stuttgart setup a project for implementing an online programming lab for teaching the required skills. The focus of this project is to provide easy access to the necessary software tools, avoid the overhead of installation and maintenance, and seamlessly integrate these tools into the eLearning infrastructure of the university. This paper describes the motivation and backgrounds, the software infrastructure and early results of this project. ■