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**Publications:**

*Testing and Deployment of Software Systems (in practice)*
The CDIO concept is now well integrated into many curricula at universities around the world and it has meant an increase in the quality of engineering education. However, the main focus has been on design-build projects and less on the ‘C’ and ‘O’ part.

In particular, the ‘O’ part of CDIO has received very little focus, since this is probably the most difficult part to implement in a university environment.

Because of this observation, in 2011 we decided to launch a new elective course, ‘Testing and deployment of software systems (in practice)’, focusing entirely on the ‘O’ part in CDIO.

The aim of this paper is to describe:
•the unified software development process and compare this with CDIO.
•the activities covering the ‘O’ part in software engineering.
•the course structure and schedule.
•the evaluations and comments received from students.

The paper concludes that:
It is possible to give students a realistic experience of the ‘O’ phase of CDIO. The prerequisite for this is that the course’s entry level is a working prototype.
It is very important to identify an actor outside the university, which can act as a client (customer). This gives the students a more realistic environment.
The course also prepares the students for meetings with industry, taking place in the 6th semester, during the students’ internship and later in the exam project in the 7th semester.

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Evaluation of the industrial internship for the Diploma IT programme at DTU
In this paper we present the result of analyzing data based on more than 5 years’ systematic collection of questionnaire
survey data on the evaluation of the industrial internship for the Diploma IT programme at the Technical University of
Denmark (DTU). Since 2005, we have been tutors for all students at Diploma IT. During this period we have systematically
collected data from students and companies involved.
In total 785 questionnaires have been analyzed, which offers a good foundation for judging the success of the internship
and a great opportunity for learning from the results.
The questionnaires comprise various questions measuring the general level of satisfaction with the internship. The results
in general show high satisfaction, both from perspective of the companies involved and from the students’ perspective. In
addition to the satisfaction surveys, we have also collected data on remuneration during the internship and data on the
number of students who had a job at the time of graduation.
The last year of data collected, 2011, contains results from the new CDIO-based curriculum, which was launched in
autumn 2008. This enables us to compare results for students enrolled in the old curriculum with students enrolled in the
new CDIO-based curriculum.
In general the data collected forms an important source in understanding how the transfer from the educational system to
industry is experienced from both sides.

CDIO Projects in DTU's B.Eng. in IT Study Program
Since the fall 2008 all B.Eng. study programs at the Technical University of Denmark have been based on the CDIO
concept. The adoption of the CDIO standards and principles resulted in new or significantly revised study programs. As
part of this effort design-build projects have been introduced on each of the first 4 semesters, and each semester-project
spans several courses. The aim of this paper is to describe the four CDIO semester projects in the B.Eng. in IT study, and
– along with similar papers describing the other six B.Eng. programs – to provide documentation to accompany an
exposition with stands providing additional information and with students demonstrating their projects. The paper is
narrowly focused on the IT-study program. At the time of writing this paper the students enrolled in 2008 have completed
all four semesters in the new CDIO-based study plan, and the students enrolled in 2009 are currently in the process of
finishing the 4th semester. Consequently, the paper is reporting on curriculum development which has been implemented,
and for which experiences have gained.
Mapping and industrial IT project to a 2nd semester design-build project

CDIO means bringing the engineer's daily life and working practice into the educational system. In our opinion this is best done by selecting an appropriate project from industry. In this paper we describe how we have mapped an industrial IT project to a 2nd semester design-build project in the Diploma IT program at the Technical University of Denmark. The system in question is a weighing system operating in a LAN environment. The system is used in the medical industry for producing tablets. We present the design of a curriculum to support the development of major components of the weighing system. A simple teaching model for software engineering is presented which combines technical disciplines with disciplines from section 2-4 in the CDIO syllabus. The implementation of a joint project involving several courses supports the CDIO perspective. Already the traditional IT-diploma education for decades has included many of the essential features of the CDIO (for example, focus on teamwork, development of social skills, the open nature of design problems). The specific project has previously been conducted on 5th Semester The project has now been brought forward to the 2nd semester of study. A successful implementation at this level requires careful planning of activities through the semester. Principles of the CDIO have been of great help in this regard. Finally we draw conclusions and give our recommendations based on those.