IMR Mining and Metallurgy Machinery

RWTH AACHEN UNIVERSITY

RWTH Aachen University

Aachen, Germany

ARCOM Uses MadCap Flare to Streamline Delivery of Print Documentation and Online Help for Construction Specifications Software

INDUSTRY

• Higher Education

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Domenic Boos | **PhD Student and Industrial Engineer, RWTH Aachen University**

Goals:

• Streamline the process of customizing exercise materials

• Ensure use of the latest file versions

• Enhance student learning experience

Solutions:

• MadCap Flare native XML tool for topic-based authoring and single-source publishing

Benefits:

• Flare's topic-based authoring and single-source publishing eliminated redundancies in developing and delivering customized exercise materials

• Conditional tags in Flare facilitate the ability to create customized versions of exercise materials

• Dual WYSIWYG and XML interfaces shorten the learning curve

• Integration of Flare with TFS provides source control to ensure that exercise group leaders are using the newest versions of content

• A table of contents used to organize topics provides easy access to all content

RWTH Aachen University Replaces Microsoft Word With MadCap Flare to Deliver Customized Exercise Materials for Different Student Groups

RWTH Aachen University, based in Germany, is dedicated to the research of technology, serving several fields of engineering and science. Each department is comprised of different institute groups that focus on specific fields of research. The Institute for Mining and Metallurgy Machine (IMR) at RWTH Aachen University studies the design of heavy machinery, including parts, acoustics, vibration, and condition monitoring.

Today, group exercise leaders in the RWTH Aachen University Department for Mining and Metallurgy Machinery rely on MadCap Flare to develop materials that are tailored for different students of its electrical engineering, mechanics and mining courses.

Flare Content Explorer: Mechanics 2 course material

Detailed Course Materials for Different Groups

One of the courses making extensive use of Flare to develop exercises is "Mechanics 2," which is organized as equal parts lecture and exercise session. PhD students involved in the Mechanics 2 course are responsible for leading twelve exercise sessions per semester, each consisting of four tasks.

At the beginning of each semester, students are evaluated and separated into exercise session groups, which are guided according to the students' learning level and proficiency. To support these sessions, the group exercise leaders are responsible for delivering detailed teaching materials designed for their student groups. RWTH Aachen University currently delivers course material to students based on their progress in the study.
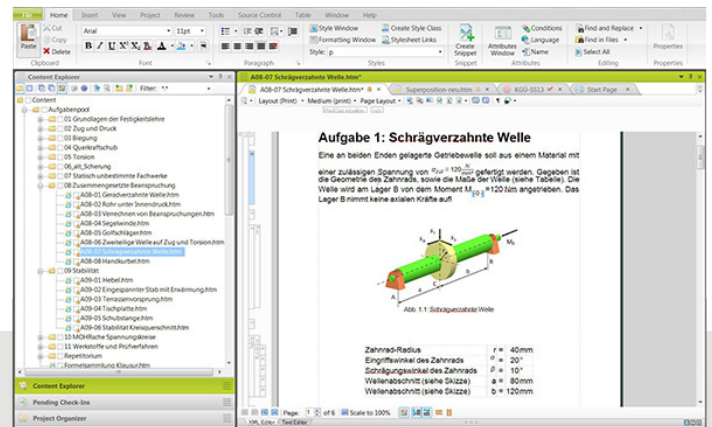
"We have many small exercise groups for different students at different learning levels," explains Domenic Boos, RWTH Aachen University PhD student and industrial engineer. "It's very important to be able to customize the exercise materials for these students' needs accordingly."

The Need to Modernize

Initially, RWTH Aachen University used Microsoft Word to tailor and produce different exercise session materials. However, there was a great deal of redundancy, since each exercise was created individually. Moreover, it was difficult to track which Word documents had the most up-to-date figures and tasks.

"We have so many different figures and tasks that it was very difficult to create the focused exercises for the students in Word," Domenic recalled. "We needed to find a more efficient way to produce these materials for our different student groups."

After looking at various authoring tools on the market, MadCap Flare quickly emerged as the clear choice for modernizing the Mechanics 2 course's exercise material development.

Centralized Content Management

Today, the topic-based, single-source publishing of Flare means that all the exercise figures and tasks can be stored in a single Flare project, enabling group exercise leaders to easily assemble the content into different exercise materials for their students. Exercise developers simply go to a table of contents to quickly find the latest version of a file, make edits, and output a new PDF file.

"We use Flare as a content management system where we can explore and choose content and then build exercises by choosing what tasks go in them," Domenic explains. "We also utilize conditional tags to make unique versions of these exercises, choosing what aspects we want to include in each set of materials."
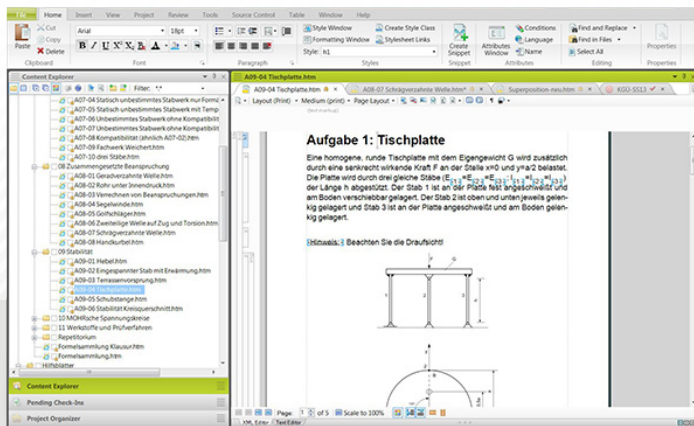
Flare Content Explorer: Mechanics 2 course material

Facilitating Collaboration

The exercise developers further facilitate collaboration and content reuse through the integration of Flare with Microsoft Team Foundation Server (TFS) for source control.

"There are so many versions of one task to manage. When we used Word files, no one knew what the latest version was," Domenic observes. "Now with Flare and TFS, we're using source control to bring everyone and everything together. We can make sure we have the latest version for students and then generate the output quickly and easily."

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Simplifying the Learning Curve

Since a small group of RWTH Aachen University PhD students are responsible for leading the exercises, it is critical to have a simple way for them to become proficient in developing the course materials. Because Flare provides both intuitive what-you-see-is-what-you-get (WYSIWYG) and XML views, the students exercise leaders have found the software very easy to learn and use.

"Flare is an extremely intuitive product, and the XML editor is key to editing material," Domenic notes. "I had very little knowledge of XML programming before, but I was able to use Flare as a guide to learn on my own."

Assistance from MadCap also contributed to the students' success said Domenic, who recalled, "With the help of MadCap support, we were able to get everything up and running within two months."

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Ready for the Next Chapter

Utilizing the content created with Flare, RWTH Aachen University has recently delivered the first version of an exercise script for students to learn various exercise tasks.

Looking ahead, RWTH Aachen University exercise leaders plan to develop course materials to provide students with the option of independent study.

"We are hoping to use XML and other features in Flare to create an eBook of sorts for students to learn lessons on their own," Domenic explains.

Additionally, the university hopes to extend its exercises to accommodate a growing international student base. Exercise developers are looking into using MadCap Lingo in combination with Flare to help create multi-language exercises.

"Flare has proven to be a valuable tool for creating exercises," Domenic says. "It has exceeded our expectations in optimizing our processes and providing a modern approach for developing and delivering exercise materials that support our students' needs."