Opinion - New developments in teaching grid computing across North Carolina

Grid computing is now part of the curriculum, thanks to a distributed grid computing course run by the University of North Carolina at Charlotte.

The course was first taught in 2004, then again in 2005 and 2007, involving the creation of a virtual organization and the broadcast of lectures across the state using the North Carolina Research and Education Network. A total of 90 students distributed across 14 institutions have so far been involved.

In with the new

In 2007, we taught the course for a third time, adopting a new approach.

Previous courses had employed a bottom-up perspective, where students began with low-level details before moving to higher-level tools.

Our revised course reversed this, beginning with more complex interfaces, such as the Gridsphere-based portal to access grid resources and the PURSe-based registration portlet. We also increased the number of hands-on assignments to seven, including an assignment to create, build, deploy and use a portlet inside a portal container installed by the students. We also introduced a team project, to include more on high-level grid computing interface design. All this was to be achieved within the 15-week semester.

Distributed teamwork

The team project, new for 2007, tasked teams of three with creating a new grid computing assignment that built upon the previous in-class assignments. The assignment needed to involve the creation of a grid computing application combined with a graphical interface.

Expert guests working on real-world grid projects also presented their projects, giving students an appreciation that grids are more than just experimental systems.

Our experience with this revised approach to teaching grid computing was very positive. Students handled the software installation processes well and most of them enjoyed the new assignments.

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and appreciated being able to do exercises at home. Our goal for this course is to further remove the low-level details of working with a grid and move closer to working only with high-level tools.

The grid computing course was supported by the National Science Foundation and the University of North Carolina Office of President from 2004 to 2007. The course will be offered again in Fall 2008.

- Clayton Ferner and Barry Wilkinson, University of North Carolina

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