UMass Dartmouth students team with Code 25 to develop T&E, Logging, and Analysis tool

Over the past academic year, University of Massachusetts (UMass) Dartmouth students have partnered with the System Validation and Acceptance Branch (Code 2532) of the USW Combat Systems Department on a Software Engineering Project. Cooperation with industry allows for the students to gain real world experience in their course of study. This is the first year that Code 2532 has been involved in guiding a UMass Dartmouth Senior Capstone Project.

The objective of the partnership was to fulfill the senior Computer Science Design Project requirements and, at the same time, provide a useful automated testing tool for NUWC. Code 2532’s role in this joint endeavor was to define the system requirements, provide feedback, support, and take ownership of the project upon completion.

NUWC personnel involved in the project include UMass Dartmouth Alumni—Project Sponsor Michael Kalsiz (Code 2532 Branch Head) along with Technical Advisors Edwin Ross and Jeffrey Noia (Code 2532 Scientists). The Faculty Advisor at UMass Dartmouth was Professor Jan Bergandy.

“This project was a good learning experience for all who were involved,” said Ross. “It gave the students some real-world development exposure, as well as providing us with a valuable mentoring experience.”

The automated tool developed by the students over the year-long design course is entitled, “Test & Evaluation, Logging, and Analysis Tool” (TELAT). This tool automates the process of recording, storing, and analyzing reliability data collected during System Operational Readiness Tests conducted on submarine combat control systems. TELAT includes a web-based interface to the data repository and several automated data analysis tools.

The NUWC representatives periodically met with the students at the UMass Dartmouth Campus to define and refine requirements, assess progress, and evaluate beta versions of the software. Additionally, the students came to NUWC for a mid-year review of their project in January. The group included team lead Neal Charbonneau, Jason Dufour, Scott Faria, and Ben Ford. Upon completion of the project, the students returned to NUWC on May 8 to present their final project and demonstrate the software tools they developed.

The students presented their project to a group of 25 NUWC engineers, scientists, analysts and managers. During the presentation, Ernie Correio, Code 25 USW Combat Systems Department Head, noted, “this was an outstanding opportunity for both NUWC and these fine UMass Dartmouth students...to collaborate on the development of a software tool that will support our programs for years to come and provide these students with an exciting opportunity to demonstrate their capability.”

UMass student Ford commented that the project provided a positive and enriching experience where a lot was learned.

“The challenges presented in the project tested our abilities in a way that would not have been possible in a one semester project or class,” said Ford.

“This was an opportunity to utilize our skills in a real-world application,” said Dufour. “This was a very positive addition to our education.”

On May 9, following the student team’s presentation to the UMass Dartmouth Computer Science Industrial Advisory Committee and NUWC representatives, Prof. Bergandy noted that his particular project was a Best Practices case.

“It demonstrated how a commitment from the project sponsor coupled with an outstanding project team resulted not only in a product that is usable by the sponsor,” said Bergandy, “but provided invaluable mentoring and real-world experience for the students.”

NUWC sponsor Kalsiz gave a very positive report on the project to Bergandy.

“I am thrilled to tell you that this student team exceeded all of our expectations,” said Kalsiz. “Their commitment to the project was evident in all aspects of their presentation and demonstration of their product.”

Kalsiz told Bergandy that an employee who attended the presentation who leads one of NUWC’s SW Engineering projects commented on the magnitude of the quantity of nearly 21k SLOC generated by the team in the short duration of the project—taking an idea from requirements to prototype to production.

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Request for projects

Projects are wanted at UMass Dartmouth for the new academic year 2008/2009. Each project runs from September 2008 to May 2009. Please contact Prof. Jan Bergandy, 508-999-8293, jbergandy@umassd.edu; or Tom Conrad, Code 2501, 401-832-2045, conradtp@npt.nuwc.navy.mil.

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UMass Dartmouth project participants were, from left, student advisors Ed Ross and Jeff Noia, Code 2532, and students Scott Faria, Ben Ford, and behind him, Jason Dufour. Student Lead was Neal Charbonneau (inset).

UMass Dartmouth students and NUWC personnel involved with their senior design project gathered for a photo following a final presentation at the Division in May. From left were, Neal Charbonneau, student project lead, Tom Conrad, Code 2501, Scott Faria, Ed Ross, Code 2532, Ben Ford, Jeff Noia, Code 2532, Jason Dufour, and Ernie Correio, Code 25 Department Head. (Photos by Dave Stebb, Code 11412)