The Computer Science Teachers Association

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Organization Objective
The objective of the Computer Science Teachers Association (CSTA) is the discipline of computer science from its roots in programming through its farthest reaches. CSTA is designed for teachers of computer science, regardless of their school assignment. Clearly most members come from Middle Schools, High Schools, and Colleges/Universities, but this does not preclude other assignments. CSTA welcomes those who are currently teaching computer science and those who are interested in teaching computer science. This includes, but is not limited to, helping one another increase subject matter expertise and exchange of ideas, methods and techniques that facilitates the teaching of computer science. The association has expanded but the primary focus continues to be training teachers to teach curriculum that encourages interest among younger students and prepares high school students to pursue a computer science, information technology or an engineering program in college.

History
The CSTA formed in the early 90's when the NCCE (Northwest Council for Computers in Education) dropped computer science education from their focus. Several Oregon high school teachers and professors from Willamette University formed CSTA as an avenue to provide professional development opportunities for teachers in computer science. CSTA leadership by design includes college and high school educators. In 1995, several CSTA teachers created SuperQuest; a summer institute designed to focus on computer science topics. In 2000, the Software Association of Oregon (SAO) collaborated with CSTA to expand SuperQuest and support CSTA. CSTA provided the curriculum direction. The SAO funded the program and provided staff support to coordinate the program. SuperQuest relocated to Western Oregon University (WOU) in 2001. Today, the collaboration between CSTA, SAO and WOU remains strong.

Current Programs and Involvement
The annual spring conference was held this year in combination with the Willamette University High School Programming Contest. It focused on curriculum discussion groups in Linux, Computer Programming, Web Design, Networking and Lego Robotics. The afternoon program featured lectures on Visual Basic and Java.

SuperQuest 2004: Industry Connections will be held at Hillsboro High School and Western Oregon University. It will offer half and weeklong classes in Linux, Web Design, Java, Networking and Lego Robotics. In addition to classroom instruction from high school and college instructors, technology professionals will conduct interactive discussions with participants to provide real world perspective teachers can relate to their students. An anticipated 80 - 100 teachers will attend the institute. The Software Association of Oregon Foundation pays 80% of the total cost. Teachers contribute the remainder.

Members of the CSTA Leadership serve on the Oregon Department of Education Information Technology Education Advisory Committee (ITEAC). The objective is to give input to the course and direction of IT Education and professional development opportunities.

Future Objectives and Program Considerations
Additional funding and the strong relationships CSTA has established with industry, higher education, state government and a statewide network of teachers positions them to achieve the following objectives.

- Take a leadership role in defining the core concepts needed by high school students as they move on to university engineering programs. These core concepts will be skill dependent not language driven. CSTA will seek industry input to define current and necessary skill sets.

- Significantly increase the number of Oregon high school teachers currently teaching computer science and the IT career path curriculum by:
  - Increasing the types, locations, quality and quantity of professional development opportunities available.
  - Increasing the amount of resources available to pay for teacher training, materials and equipment.

- Expand some SuperQuest sessions to model Oracle Academy
  Instead of attending only a one-week summer session, SuperQuest participants would begin with an 8-week online curriculum. Participants would attend a two-week summer session that would focus on pedagogy and subject review. Post SuperQuest, participants would form cadres to provide support as they teach the class to students. This would reduce the time needed to prepare a teacher to teach complex technology curriculum.

- Resources to pay for industry internships that would allow a teacher to earn Professional Technical Education Certification and be eligible for Perkins Funds.