Welcome to the 2006 Newsletter of the Computing and Software Systems Program at the University of Washington, Bothell! The students, faculty, and staff of CSS have been involved in many exciting activities during the past year, and I hope that this newsletter will serve to bring you up to date and allow you to share in that excitement.

The CSS Program has reached a major milestone this year, completing its tenth year. Since our doors opened in September 1996, we have had a splendid decade of educating CSS students, helping them prepare not only for their immediate professional goals, but also for a lifetime of success and further learning. In celebration of this decade and of the many students who have been part of it, we are marking our 10th Anniversary Year, culminating in the official celebration on October 21, 2006. You should soon be receiving information about the celebration, and we hope that you will make plans to join us for it.

Even as we mark the 10th anniversary of our program, change is underway. Along with the rest of the UWB campus, CSS is preparing to welcome its inaugural class of first-year students in September 2006. The campus-wide move from upper-division to full four-year status is in direct response to the educational needs of the Puget Sound area residents. The UWB faculty has developed an exciting “Discovery Core” curriculum for all first-year students that will both prepare them well for further study and serve to build a learning community among them. The Discovery Core will be taught by faculty from all of the academic programs on campus, including CSS. (For more information see page 3). Working closely with the broader campus community, the CSS faculty is also designing a first- and second-year curriculum for lower division CSS majors that will enable them to move smoothly and efficiently into the upper division curriculum that has served our students so well over the last decade. (Article on page 3) We look forward both to serving our new lower division students and continuing to serve our traditional transfer-student clientele.

Another exciting development has been the decision by CSS to develop a second undergraduate degree, a Bachelor of Arts in Applied Computing. (Article on page 6) This will be a degree designed to provide the student with a foundational knowledge in computing and software systems as well as an education in a knowledge area that employs computer applications. While still in its conceptual stage, we envision this degree as serving well the broader range of students who will be attracted to UWB as the campus grows rapidly over the next several years. I want to thank all of the alumni and friends of the CSS Program whose support during the past year has contributed so much to the success of our mission. Without your support, both financial and otherwise, the Program would not be able to provide a truly first-rate educational opportunity, as it has for the past decade.

As you read this newsletter, I hope you will enjoy learning about the many recent accomplishments of the students, faculty, and staff of the Computing and Software Systems Program.

Charles F. Jackels
Director
Congratulations to our 2005 - 2006 Graduating Class!

Matthew Joel Allen
Jason M Archer
Jaren M Belt
Adrian W Bonar
Allan Bowhill
Jon Michael Bowman
Michael R. Brown
Eric Alan Byrd
Roset Cham
Yick Chan
Jeffrey J Chen
Matthew R Clifton
James R DeRosa
Kyle P Evans
William J Frankhouser
Ishkan S Gabrielyan
Brendan Gan
Katherine E Ganjaie
Douglas A Gill
Jonathan D Granger
James R Gray
Aaron E Greene
Mary Elaine Griffis
Paule L Grow
Yong Han Guan
Erik Anthony Harte
Trace E Herrell
Daniel J. Hoehnle
Deborah J Hofer
Mark A Horowitz
David W Huseby
Kaveh Kashkooli
Yih Pin Khoo
Inwoo Kim
Seung K Koh
Somnouk Kong
David F Lawton
Bryan T Lee
Jun X Lock
Adrian Lungu
Keeron G Modi
Cuong C Ngo
Tri C Nguyen
Tri H Nguyen
Benjamin E Oates
Frank J O’Brien
Kotoko Onishi
William J Pallini II
Rekha Patel
Kimanh Pham
Quyen Tu Phan
Jordan A Phillips
Alina Popa
Rangga S Pratama
Jason Sagmiller
Mohammadsaid
Sanayebakhsherad
Etsuko Sano
Adnan Saric
Neal E Schindler
Michael A Shaver
Jamie M Shay
Duncan E Smith
Stephen M Smith
Travis A Snoozy
Ben Tsai
Jeffrey Tucker
Norman U Tumolva
Anthony J Wallulis
Michael J Wartes
Steven T Wolf
Alexei A Yatskov
John F Young
Yanmei Zhao

Faculty Research Update

Professor Arnold Berger:
“My primary area of interest is in accelerating the design cycle for embedded systems development through virtual hardware. By presenting the software designer with a virtual model of the hardware, the embedded software can be tested and debugged before the physical hardware is available.”

Professor Frank Cioch:
“My technical interests derive from a basic interest in software comprehension, both as it relates to software’s internal characteristics and to its utilization in a particular environment. My specialty is assessing the degree of fit of software engineering techniques, tools and methods to any given situation, and tailoring their application to enhance their effectiveness.”

Professor William Erdly:
“My research interests include networking metrics/quality of service, human-computer interaction, cultural/psychological/organizational impact of large-scale computing systems, software testing/quality assurance, distributed learning systems, health care informatics and computer science education.”

Professor Munehiro Fukuda:
“My research interests include mobile agents, multi-threading, cluster computing, grid computing, and distributed simulations”

Professor Charles Jackels:
“My research has been mostly in the area of scientific computing. Recently, however, I have become interested in the application of chemical methods to the processing of coffee as practiced on smallholder farms in Nicaragua. This work provides scientific assistance in the production of high quality coffee for sale on the Fair Trade and organic specialty markets.”

Professor Clark Olson:
“I study computer vision, which is the study of methods to extract content from digital images and video. My work is used in a variety of applications, including Mars rover navigation, position estimation for spacecraft, and content-based image retrieval in digital libraries.”

Professor Michael Stiber:
“I have been working on models of nervous system formation for cortical cell cultures; living nervous system tissue grown in “petri dishes”. These cultures show promise as tools for investigating neurological diseases like epilepsy. They also serve as the basic building blocks of a new generation of hybrid biological/electronic computing devices.”

Professor Kelvin Sung:
“I study the role technology plays in facilitating human communication of ideas and how to distribute communication workload to a loosely coupled network of computers.”

Professor Carol Zander:
“My current research focus is in computer science education. I recently investigated seniors' understanding of software design and software design criteria. I am currently studying Threshold Concepts, which are concepts that are troublesome, not easily forgotten, and help to integrate the way a student looks at the discipline. A long-term goal is to examine the relationship between programming languages used in beginning programming courses and students' understanding of concepts.”
Last summer the Vice Chancellor for Academic Affairs initiated the Faculty Oversight Committee for University Studies (FOCUS) to address the issues surrounding UW Bothell becoming a four-year university. As part of this Committee, the Lower Division Core Working Group was initiated to create a core curriculum for incoming freshman.

In September, the group proposed that all incoming freshmen for the class of 2010 participate in a core program that would create a common set of skills, expectations, values and sense of community for all incoming students. The core program would be interdisciplinary by design and share a common set of learning objectives that would transcend what any one of the core courses might emphasize.

This report led to the adoption of the Discovery Core Program. Some of the Discovery Core (DC) courses will be team-taught by faculty members from similar, or very different academic disciplines. DC courses will be organized by the quarter in which they are taught. Discovery Core 1 will be taught in autumn quarter for ten credits. Discovery Core 2 is taught winter quarter for five credits. Discovery Core 3 is taught in spring quarter and will be partitioned as a three credit Freshman Interest Group (FIG) and a two-credit Portfolio Assessment course.

Each section of Discovery core will have different topics, allowing freshman an option of courses within the core structure. Below are some examples of the Discovery courses offered in Autumn 2006.

**Origins**: Origins examines how things began. We'll touch upon the origins of the modern computer society, the mental health system, and even how the universe began. Taught by Arnold Berger, CSS and Andrea Kovalsky, Nursing.

**The Human Place in Nature**: This course focuses on how human beings are connected to the natural world, an important assumption that impacts how we think about the Puget Sound region and the ecological issues we address every day.

**Dreaming the Earth**: We will examine our different images of nature, from the clock to the computer network to the world of painting, and think about how these influence our understanding of ourselves and the world in which we live.

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### CSS Creates New Courses for Freshmen!

As part of UW Bothell’s preparations for the first-ever admission of lower division students, Computing & Software Systems Faculty have created new lower division courses for freshmen.

In designing the new curriculum, CSS faculty looked at the need to ensure high school students’ success in existing advanced CSS courses. Like our upper division core developed a decade ago, these courses represent an innovative approach to introductory education for future computing professionals and for all professionals who can benefit from an understanding of computing principles.

The lower division coursework will be equivalent to the existing prerequisites for program eligibility. The pair of prerequisite courses CSE 142/143 are being replaced by CSS 161 *Fundamentals of Computing* and CSS 162 *Programming Methodology*. These two new courses will be offered for the first time in Winter and Spring quarter 2007.

CSS 161 is an interdisciplinary first course in computing that emphasizes the connections between computing and the broad scope of human activity. It introduces a history of computing through the eyes of people who helped build the field, and uses that as a structure for learning about basic principles. It is organized around a set of clusters, each focusing on an application area and its associated historical background, fundamental mathematical and algorithmic concepts, and programming methodologies.

CSS 162 emphasizes computing as a concrete activity, in which students transition from understanding programming basics to becoming comfortable with the process of programming and familiar with higher-level programming techniques and constructs. It emphasizes basic software engineering skills.

Other curriculum changes include the creation of a new sophomore course, CSS 263 *Programming and Discrete Mathematics*, as part of the lower division programming progression. Transfer students entering CSS at a junior standing from community colleges will continue to take CSS 342 *Mathematics Principles of Computing*, while incoming freshman will complete CSS 263. In CSS 263 students will learn one of the most powerful concepts in the profession: levels of abstraction. This course emphasizes the unity between computing as an art and computing as mathematics: while each program we produce is hand-crafted to perform some practical function it also is the embodiment of a mathematical system described by logic, complexity, theory, etc.

Both courses will be taught in a combination of Java and C++ programming language.

By programming in more than one language, students experience programming as just the beginning of problem solving by computer.

New students will be able to take CSS 161 and 162 during their first year, allowing them to apply for admission to the Bachelor of Science (BS) in CSS degree by the end of their freshman year – a year earlier than the majority of other universities. CSS hopes to admit the first round of UW Bothell freshmen to the BS program in Autumn of 2007.

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**Are you interested in further information for Freshmen?**

Please visit [http://www.uwb.edu/freshmen/index.xhtml](http://www.uwb.edu/freshmen/index.xhtml)

Or contact one of our admission advisors to find out more information on UW Bothell Freshmen offerings.
In recognition of Computing & Software Systems Tenth Anniversary, we sat down with one of our founding faculty members, Senior Lecturer Carol Zander, for a look back at when the grand doors to our lecture halls opened ten years ago.

Ok, so maybe there weren’t any lecture halls. But, as we discovered, neither were there any doors.

“I still vividly remember interviewing at the end of August in 1996 for a program that was starting a month later,” recalled Prof. Zander. “Bill Erdly was proudly walking with me up a plywood staircase and through the metal framing of ‘rooms’ to show me where the computer labs and my office would be on the second floor. I was horrified – there were no walls. They were starting classes in a month, and I wondered what I might be getting into. Bill, on the other hand, seemed thrilled. Apparently, the week before there was no floor.”

Built in the Canyon Park Business Center in 1996, Computing & Software Systems was the fifth program at the newly created University of Washington Bothell campus. Begun in the fall of 1990, UW Bothell had approximately eight hundred students enrolled in 1996. With the incoming CSS class, consisting of thirty-five new students, the current campus structure (a two storied office building) was close to bursting under the population.

“If you wanted to find someone, it was up one set of stairs, across the second floor, and down the stairs at the opposite end of the building. Either you’d run into them, or they weren’t there. If you didn’t find them, you’d head down to Canyon’s, for surely if CSS students weren’t hanging around the lab, they were down at Canyon’s [restaurant and bar] discussing complex matters and solving sophisticated problems,” said Prof. Zander.

A flurry of building brought the campus’s new second floor up to speed just before the first day of the academic year. But, while the outside of the building was complete by the deadline, the infrastructure was a little behind.

“With CSS came a huge impact to the computer network. This put a stress on a small computing services group. It was years before we could count on printing the first week of the quarter. That’s why so many of the alumni have handwritten handouts from me; I could always count on the copier.”

With CSS students who avoided vacating the computer labs at 10:30 in the evening – the closing time for the campus. It was Terry’s job to get them to leave. “Students hanging out in the lab always joked about creating a T-shirt that said ‘Just 5 More Minutes, Terry’ on the back.”

One thing that hasn’t changed in ten years is the love CSS students have for the late hours. Veteran UW Bothell security guard Terry Rauch was (and is) well known to CSS students who avoided vacating the computer labs at 10:30 in the evening – the closing time for the campus. It was Terry’s job to get them to leave.

“Students hanging out in the lab always joked about creating a T-shirt that said ‘Just 5 More Minutes, Terry’ on the back.”

Improved remote access to CSS labs has modestly improved this dilemma. However, CSS is still exploring the market value of such a T-shirt.

Do you have memories of UW Bothell? We’d love to hear about them! CSS is collecting any memorabilia or stories for their 10th Anniversary celebration. Please contact Megan at meghanun@u.washington.edu to tell your stories!

**Celebrating 10 Years of Education and Dedication**

At the Canyon Park Business Center there were approximately four hundred spaces for over a thousand students, faculty and staff.

One of the various methods to handle the overload was an intricate technique called stack parking. Stack parking consisted of parking cars behind others. This, however, did pose a problem when the individual at the front of the arrangement needed to leave, requiring the moving of multiple cars.

“What a better lesson for a CSS student than to learn first-hand about stacks,” notes Prof. Zander.

The Creation of the Computing & Software Systems Program

- 1995: Concept document reviewed by industry panel; Letter of request for funding forwarded to legislature.
- 1996: March, CSS Curriculum committee held first meeting
- 1996: April, Funding was approved by the Washington State Legislature
- 1996: June, UW Bothell’s General Faculty Organization (GFO) approved program; Math Bridge course offered at Bellevue Community College.
- 1996: July, UW Provost forwarded final proposal to the Higher Education Coordinating (HEC) Board
- 1996: July, HEC Board approved UW Bothell’s request to establish program
- 1996: August, First CSS employee hired
- 1996: September, Construction of CSS Labs and offices completed; First orientation held for CSS Students, First CSS classes offered.
- 1997: Students established Association for Computing Machinery (ACM) Chapter.
- 1998: CSS Program Reached full enrollment, First CSS class Graduates
Fun Facts on Changes to UW Bothell and CSS for the past ten years!

- The first graduating class in 1998 consisted of thirteen students; the graduating class of 2006 will have sixty-eight.
- In 1996 there was one Windows computing lab; in 2006 there is one Windows Lab, a Linux Lab, an Embedded Systems Lab, and two additional research labs for faculty and students.
- CSS curriculum has changed from a choice of concentrations to a choice of 25 credits (approximately 5 classes) of elective courses.
- In 1996 there were five restaurants in walking distance; in 2006 there is one coffee shop and a Subway located on campus, with many restaurants located within downtown Bothell.
- UW Bothell will enroll the first class of Freshman in Autumn 2006.
- In 1996 UW Bothell consisted of a two-storied office building; in 2006 it totals approximately 127 acres.
- Ten additional faculty and four additional staff have joined the CSS Program since 1996.
- In 1996 CSS taught 14 courses; in 2006, CSS taught 58 courses.
- In 1996 the curriculum for CSS 497 hadn’t been created, in 2006 90 were enrolled in CSS 497.
- In 2007 CSS will enter into the third year of an international exchange agreement with Ehime University in Japan.
- In 1996 CSS was in start-up mode, in 2006 CSS has a Speaker Series, a Peer Mentoring Program, career workshops for students, an annual newsletter, and is planning a 10th year anniversary celebration for alumni and CSS friends.

A History of Transitions

From a two storied office building in a business-center complex, to a fifty eight acre campus with wetlands, UW Bothell went through a landmark transition in the autumn of 2000. At the same time, Prof. Charles Jackels was going through a personal transition as he took on the role of Program Director.

“It was all sort of a blur in my mind as I rushed to come up to speed on the administrative tasks of the directorship, which were all new to me, and also keep track of the very complex move that was underway,” recalls Dr. Jackels. Clearly, the move provided an improvement over the cozy space in Canyon Park.

"From the programmatic point of view, the most important and exciting change was that we had computer labs designed and equipped for our specific purposes. We no longer had to make small general purpose computer labs serve our specialized needs. We had one lab space designed for the networking and embedded systems lab courses. We had a second lab designed and equipped to provide a general purpose Linux facility for our students, something that we had not had at Canyon Park. For the first time, our students could employ a Unix-like environment for their applications development."

The new laboratory for collaborative student/faculty research included Windows machines with high-end graphics cards, Sun and Linux workstations appropriate for scientific computing, and the program’s first cluster machine with sufficient processors and fast enough data interconnections to serve our distributed and parallel computing needs.

"From the environmental point of view, the setting of the campus was clearly beautiful. Also, for the first time in a long while, we had sufficient space for our offices, classrooms and labs. We no longer had to 'stack' the cars in the parking lots, the students in the classrooms or the faculty in their offices. The facility was permanent rather than leased, and we had room to spread out in!"

And spread, they did. In 2000 CSS was just reaching its peak enrollment levels, as the Dot-Com era transformed the world of computing. In the next four years it would see its enrollment fluctuate with the broader trends in computer science employment. As UWB’s second classroom building came on line, CSS added another specialized resource for teaching and research, with the establishment of a human-computer interaction lab.

As we look forward to Autumn 2006, UW Bothell will once again go through a major transition with the enrollment of its first Freshman class. CSS will be in the midst of this change, as a large fraction of the entering freshmen have indicated a desire to enroll in the CSS program, a reflection of the once-again improving economic view of a computer related degree. Working hard on the development of a first-year curriculum, CSS faculty will be just as busy this summer as they were in 2000, again preparing for major growth at the University of Washington, Bothell.
The Consortium for Computing Sciences in Colleges, Northwestern Region held their seventh annual conference at the University of Washington Bothell in October. The Consortium, otherwise known as CCSC, is a non-profit organization that focuses on promoting quality computer-oriented curricula in smaller institutions of higher learning.

The conference serves as an opportunity for faculty from computer science departments in Oregon, California, Idaho and Montana to take part in sharing ideas and innovative techniques in teaching computing curricula. Over one hundred attendees participated in various panels and lectures with a wide variety of themes including Kinesthetic Learning in the Classroom to Using Course Portfolios to Create a Disciplinary Commons Across Institutions. Professor Carol Zander served as Chair of the conference steering committee, with program assistant Megan Hunter helping with site accommodations. Additional committee members included faculty from Humboldt State University in Northern California, Seattle Pacific University, Central Washington University, Seattle University, Central Washington University, Gonzaga University, Cascadia Community College, and other CSS faculty.

The two day event included a keynote address by software consultant Dr. Scott Meyers (well-known author of the Effective C++ series), and a dinner banquet in the Northcreek Café. The conference also serves as an opportunity for current undergraduate students to participate in workshops and poster presentations. James DeRosa, CSS student and poster presenter, won the Best Poster award for his work entitled A 4-Bit Computer in a Digital Simulator.

Event sponsors included the Computing & Software Systems Program and Microsoft. Vendors present included Pearson Education, Addison-Wesley, Prentice Hall and Safari Online.

CSS wishes to thank the following individuals who have made recent donations of time, money, software or hardware to the program in the Academic Year 2005—2006.

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<th>Ms. Michelle Gamboa</th>
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CSS Begins Development on a BA in Applied Computing

As UWB continues to grow and make the transition to a full four-year university, the campus community has been exploring options for serving a broader range of students. Recognizing that there is a regional shortage of computing professionals in information technology-related fields (Higher Education Coordinating Board 2005), the Computing and Software Systems Program has begun development of a new degree, the Bachelor of Arts in Applied Computing.

This new BA degree will be well suited for students desiring to gain education and experience in the application of computing systems along with the requisite background to understand and work within a specific knowledge domain. This degree is expected to address the workforce needs of “technology-enabled” organizations that rely on the use of advanced technologies.

The BA in Applied Computing differs from more traditional, theory-based computer science or software engineering degree programs because it emphasizes application within particular knowledge areas that may leverage the benefits of computing. Students will be required to take core courses in computing and identify a specialty area outside of computing (e.g., nursing, education, science, and/or the arts). Some examples of how the degree will prepare students for specific knowledge domain areas are:

- **Geography** – qualifies the graduate for a position as a Geographical Information Systems (GIS) Analyst.
- **Film/Drama** – qualifies the graduate for video editing, animation, audio engineering, and other technology-dependent roles within this job sector.
- **Humanities/Social Sciences** – qualifies the graduate to work in such areas as knowledge management systems (KMS), enterprise resource planning (ERP), and/or customer relationship management (CRM).
- **Education** – qualifies the graduate for technology transfer and systems development for K-12 initiatives.
- **Business** – qualifies the graduate for technical sales/consulting engineer.

Development of a detailed proposal of the BA Degree is scheduled to be completed this summer. It is hoped that the new degree proposal will receive University and State approval in time to be offered starting in September 2007.
From Martian sand to image libraries, Assistant Professor Clark Olson research covers the broad field of computer vision. Used in a wide variety of functions, including human-computer interaction, robot navigation, and medical image analysis, computer vision is the study of methods to extract content from digital images and video.

“My interests lie in both the theoretical foundations of the problem and the practical applications of a solution.” said Dr. Olson.

A recent application of his research is part of the NASA/JPL Mars Rover Expedition. Working with colleagues from the Jet Propulsion Laboratory, Dr. Olson helped develop a method for the rovers to monitor how far they travel. “One problem that rovers have is that it is difficult to keep track of where they are, since their wheels tend to slip in the Martian sand.” explained Dr. Olson, “We developed a method for a rover to determine how far it has traveled by tracking the landmarks seen by its stereo cameras. This technology is being used by both the Spirit and Opportunity rovers currently on Mars.”

Another space application of computer vision is determining the location of a spacecraft in relation to a planet, moon or asteroid. By comparing the pattern of craters seen on the surface to a catalog of such craters, computer vision can allow the spacecraft to enter orbit or land precisely upon a designated landing sight.

From space exploration to common use.

Dr. Olson’s research includes an application usable for the common worker. Images and videos are pervasive means of storing and transmitting information. Huge collections exist in many fields, from surveillance to microscopy to space exploration to the digital photos collecting on personal computers.

“I am working towards a system that can perform such a search with just an example image containing the desired content as input.”

The search method will use a variety of detectors to automatically identify features in the example image, then find candidate library images using efficient indexing procedures. Successive passes through the candidates will automatically remove false matches via increasingly complex (time intensive) techniques based on appearance and geometry.

Some of the possibilities day to day applications of this research include:

- Finding similar images in medical image libraries for diagnosis and research
- Studying geology and origins of planets using images collected by rovers and spacecraft
- Finding images containing certain properties or objects on your PC
- Finding images on the web that have been illegally copied and corrupted

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**Reaching for Insights on Computer Science Education**

As part of their scholarly activity, each CSS faculty member actively pursues research. One of the research fields in computer science is that of computer science education, the study of how people come to understand processes, and how to improve that understanding. Dr. Carol Zander has been researching in computer science education for the last four years.

“I started actively working in this area after attending a workshop funded by the National Science Foundation in 2002” said Prof. Zander.

Dr. Zander’s research is with a team of international computing academics from Sweden, Wales and America. A recent study looked at computer science students’ comprehension of software design and software design criteria.

“International studies of computer science students yield good results because they strip away any individual learning or institutional differences,” explained Dr. Zander.

The study examined the way in which students understand programming concepts. Subjects of the experiment were given a one-page design brief that described the behavior of the desired system: a super alarm clock for college students.

The goal of the study was to examine students’ abilities to design software. The research group categorized the student outcomes of their task into groups of similar designs and identified six categories of designs.

Designs categorized as ‘Nothing’, are designs with little or no intelligible content. ‘Restatement’ designs merely restate requirements from the task description. ‘Skumtomte’ designs add a small amount to restating the task. ‘First step’ designs include some signification work beyond the description. ‘Partial’ designs provide an understandable description of each of the parts and overview of the system that illustrates the relationships between the parts. ‘Complete’ designs show a well-developed solution including an understandable overview, part descriptions that include responsibilities, and explicit communication between the parts.

“Undoubtedly, we are the only group to publish a paper containing the Swedish word skumtomte (which refers to a pink-and-white marshmallow Santa Claus). We named the category of designs students produced Skumtomte if it appeared as though their design had content, but it was really a lot of ‘fluff’” explained Dr. Zander.

The studies findings are published in the Proceedings of the 5th Annual Finnish/Baltic Sea Conference on Computer Science Education, and in the Computer Science Education Journal. The research group is currently studying concepts that transform and help to integrate the way a student looks at the discipline. They will meet again this summer in Sweden to continue their work.


Join the UW Bothell Alumni Council!

UW BOTHELL ALUMNI CONGRATULATE CSS ON 10 WONDERFUL YEARS!

The UW Bothell Alumni Council and UW Alumni Association congratulate Computing & Software Systems on 10 fantastic years at UW Bothell. Best wishes for the next 10 years!

Stay in touch with your alma mater in any number of ways. For more information on how you can be an involved CSS alum contact:

Michelle Gamboa, (BS in CSS, 2005) UW Bothell Alumni Council
CSS Representative
mgamboa@u.washington.edu

Alex Webster, UW Bothell Alumni Relations Manager
awebster@uwb.edu or 425-352-3394

Or visit: www.uwb.edu/alumni
Check back frequently. More changes to serve you better coming this summer!