2007 SAB Annual Meeting Minutes

Department of Computer Science
North Carolina State University
Minutes of Annual Meeting
April 13, 2007

The Department of Computer Science Strategic Advisory Board held its annual meeting on Friday 4/13/2007 in Engineering Building II. The preceding afternoon and evening included an orientation session for new SAB members followed by a dinner held at the State Club in the Park Alumni Center on Centennial Campus.

Members in Attendance: Nicholas Bowen, Sidd Chopra, Wayne Clark, Chris Evans, Jesse Fearington, Chet Fennell, Jo Goodson, Viven Jokillk, Gail Kramer, Gayle Lanier, Kathy Markham, Juan Vargas, Eric Wagner, William Weiss, Steve Worth, and Mark Wyatt.


In addition to Dr. Mladen and Ken Tate, the board was joined at various points during the event by a number of faculty and students including Dr. Annie Anton, Dr. Dennis Bahler, Dr. Doug Reeves, Dr. David Thuente, Dr. Michael Young, Dr. Ben Watson, Sarah Heckman, Theresa-Marie Ryne, Dr. Jon Doyle, Dr. Laurie Williams, Dr. Munindar Singh, Dr. Matt Stallman, & Dr. George Rouskas. To all who gave of their time to join and interact with us, we extend out thanks!

Opening Comments – SAB chair, Steve Worth & Ken Tate welcomed those in attendance, reviewed the agenda, and set stage for the meeting. Key activities for the annual meeting included:

- An overview of the new Advanced Analytics program
- An overview of the 3 key concerns of the department and feedback from the SAB on these issues.
- Dedication of the Dr. Donald Martin teaching lab
- Annual business items: Diversity in Computer Science endowment, election of the new Vice Chairman, and discussion of proposed changes in the board’s by-laws.

Background Discussion

Dr. Vouk began by providing an overview of departmental efforts and an overview of the Dean’s thinking around strategic direction.

Departmental Focus Areas:
- Improving external ranking. This includes expanding the PhD program, researching funding, and marketing of the department and its capabilities.
- Developing new centers that align with the department’s core and unique thrust areas.
- Recruiting / retaining top talent.

Dr. Vouk pointed out that the department was ranked 27th in the latest US News and World Report rankings.

Dean’s Vision:
- Bring NCSU College of Engineering into the top 10 nationally.
- Leverage a grant of 60 new faculty positions through the college to make this happen.
- Grow in interdisciplinary growth areas.
- Demonstrate value to the external world beyond the basic capabilities of the departments.
• Some of the metrics they will be using include:
  o Research expenditures raised to $120M / year
  o Double research expenditures / faculty member
  o PhD graduates to 120+/yr.
  o PhD student to faculty ratio: 4:1
  o Double % of faculty listed in the National Academy of Engineers

To help provide comparison, Dr. Vouk provided these statistics on the department:
• Research funding: $7.1M (1/2 from state, the other half from private funds)
• ’06 – ’07 active research grants are over $20M
• ASEE (American Society of Engineering Education) ranking: 17th
• $1.5M in cash foundation funds, over $4M of “in kind” contributions
• PhD to faculty ratio: 3.4 (144/42)
• PhD graduation rate: 12-18 / yr.

Dr. Vouk outlined his conceptual goals for the department:
• Stable top 30 ranking in US News & World report rankings
• Double research and gift funding
• Enhance the department’s leading initiative areas (Open Source, Systems, Gaming, Sensor & Wireless, & Virtualization) into being recognized as some of the nation’s best
• Effectively handle departmental growth
• Establish a consistent and effective PR operation
• Build and enhance active gift and other support for the department from the external community

He outlined that the department is actively recruiting 4 faculty positions in these focus areas: Software Engineering, Security, Data Mining/RDBMS, Systems or other areas of unique capability.

Dr. Vouk also walked us through an analysis of the IT pipeline need within the state of North Carolina. His analysis is that by 2009, there would be a need for over 2,000 IT professionals that could not be met by the current pipeline of students projected to be in pipeline at all state universities.

He also mentioned curriculum initiatives underway:
• Running pilots in CSC 116 & 216 to reduce class size for CSC and other students to improve the quality of the education.
• Making capstone projects uniform in their teaching of project management, team interaction, and involvement with external companies.
• Becoming more active in K-12 education about the value of STEM education and computer science.
• Building undergraduate concentrations in gaming, security, and software engineering.

SAB Focus Areas:

Dr. Vouk outlined his top three areas of concern he wanted the SAB to focus its attention on for the discussion portion of the meeting:

• Improving departmental ranking (what to do with marketing, guiding opinion, building funding, reputation of the PhD program, …)
• Building the quality of the workforce (faculty, staff, students, curriculum,…)
• Managing departmental growth (space shortages, departmental size, faculty growth, student population, …)

A short discussion followed with the following points being made:
• Ranking is both a perception and raw data issue. What is missing / broken is marketing of department capabilities, value proposition of key differentiation, and social significance of NCSU Computer Science.
• Consider using an external company to develop a marketing framework. Bill Weiss pointed out this is an area Dennis Flynn could assist with. Vivien Joklik also offered her assistance.

Institute for Advanced Analytics:

Dr. Michael Rappa gave an overview of the Master of Science in Analytics program which has recently been started at the University. Dr. Rappa gave each member a notebook with details on the program, the curriculum outline, marketing campaigns, and demographics on the interested student profile. Notebooks will be distributed to all members not in attendance. Additional information about this innovative program can be found online at the Institute’s web site (http://analytics.ncsu.edu/)

40th Year Celebration:

Dr. Annie Anton and Ken Tate gave an overview of initiatives surrounding the 40th year anniversary of the department. Key notes:

• Several celebratory events have been planned for the fall including a student-led Geek-a-thon (PC refurbishment for needy middle school families), a “Leadership in Technology” Executive Speakers Series (tentatively to be sponsored by Fidelity Investments), a one-day Technical Symposium on October 25th (featuring nationally acclaimed speakers like Steve Wozniak, co-founder of Apple Computer), a large 40th Year Celebration Gala (with music and a silent auction) at the Park Alumni Center on the evening of October 25th, and a special tailgate event during the October 27th Homecoming Game with UVA.

• With help from the College of Design, a special 40th year logo has been created and is being used on banners, web and print collateral and various affinity items to help promote the historical event. Electronic versions you can use as a screensaver or desktop background can be found at http://www.csc.ncsu.edu/department/graphics_promo.php

• In a bold move, the department has set a goal of increasing its endowments by 40% during 2007 to commemorate the historic event. Entering the year, the department had 13 endowments, and has added two more in the first few months of the year. They hope to add at least three more before the end of 2007 to reach their goal of 18.

Lunch:

A number of faculty and students joined the board for a networking luncheon. By special request, Theresa-Marie Ryne, Director of the Center for Visualization and Analytics, gave several members a short tour of the center, which opened about a month ago.

Business Meeting:

• On behalf of the department, Ken Tate thanked and acknowledged the service and contributions of each of our departing members. Those rotating off (or otherwise leaving) the board this year include Rowland Archer (2 terms), Keith Collins (2), Chris Evans, Jo Goodson (2), Steven Kuekes (2), Gerhard Pilcher (2), Kristopher Tyra, Steve Worth (2), and Satish Gupta.

• A special welcome was extended to our new members Sidd Chopra, Gail Kramer, Eric Wagner, and Mark Wyatt.

• The board nominated and elected Jessie Fearrington as its next Vice-Chairman.

• The group recommended to Ken Tate that a portion of the Diversity in Computer Science proceeds be used to provide a partial scholarship for an upper classman at their discretion.

• The board reviewed and approved several changes to the membership by-laws. The majority of the changes were minor. The major change approved allows the department head to extend a special "member emeritus" invitation to a select number of previous members who have been and who want to remain actively engaged with the board. They would serve at the discretion of the department head, with invitations extended annually, with no term limits. A "member emeritus" would be eligible for re-nomination for full board membership, one year after their previous term expired.
Discussion on Key Focus Areas:

By agreement the board decided to break the focus area discussion into three topics: growth, curriculum, and marketing. Key points from each discussion are presented below:

Growth:

- Do not lose strategic mass for the department due to too heavy and/or too many specializations. The intrinsic value of the detailed, well-roundedness of CSC students is a core value to the businesses that hire our students.
- Investigate participation and development of world-wide campuses using shared projects and shared teaching. Look at programs like those used at MIT, Stanford, GT, & UC Berkley as possible models and examples.
- Understand there will be insufficient skilled IT professionals in the workforce for the next several years. While the board understands the need to enhance the graduate program and its value in both ranking improvement and undergraduate enrollment, it is important to keep a focus on delivering top quality undergraduates to the business community.
- Consider integrating project classes in with local business as early in the program as possible. The skills involved in learning teamwork and direct application of skills learned will enhance the undergraduate education. Consider looking at TechNet as a working example of how 14+ year olds can be integrated with business and obtain both a practical and academic education.
- Consider some direct, formal intern partnerships between local business and graduate students needing regular summer and part-time support.
- Look deeper into profiles and different learning experiences that help modern day students learn process and detailed learning best. Consider adopting some of these into the curriculum if they provide a superior capability.
- Dr. Vouk outlined that the department will run out of space in EBII during the next year. He also expects the department to have to grow from 42 to nearly 52 faculty members before the size vs. enrollment, vs. demand balanced out.
- Consider business alignments or joint initiatives with other schools (UNC schools getting preference) to house centers in other space – especially if it gives the center an improved funding or participation model.

Curriculum:

- Consider splitting the undergraduate program into a pure science and a computer business curriculum
- There are many departments being formed into “Colleges of Computing” to embrace the philosophy of Computer Science being involved in:
  - Computer Science as a research pursuit
  - Computer Science as a programming, development skill
  - Computer knowledge as a requirement for an IT professional services career
  - Knowledge of computing as consulting background for almost any information based or assisted business.
- Keep some level of business training in the undergraduate program.
- The board congratulated the faculty on expanding the S/W Engineering course into 2 semesters.
- The board also congratulated the department on working to provide uniformity in the design project courses.
- Consider using some form of forced or “highly encouraged” co-op opportunity in the undergraduate program. Ideas included a business project oriented practicum for students in sophomore or junior classes (problems submitted by businesses – run by faculty/students), rotations at local companies, or even remote team projects done in conjunction with interested businesses.
- The board expressed thanks that the department has started a special topics class in storage systems.
**Marketing:**

- Consider the advantages and marketing potential when developing partnerships with companies. Many are looking for such associations such as Qualcomm and Google.
- Build an internal tool kit of “go to market” materials that can be used by faculty, administrators, and even SAB members giving external talks. The goal being to give folks some easy pre-canned materials to allow them to talk about NCSU CSC at any and every opportunity.
- Look at the possibility of leveraging “new media” to reduce advertising costs (product placement ads, NCTA involvement, podcasting, blogs, etc.). Use these technologies to get out messages that do not fit the normal fare from NCSU Media Services. Such messages could include:
  - Recruiting messages for middle and high school students
  - Social significance of computer science at NCSU
  - World awareness of how computer science is evolving
  - 40th year anniversary messaging
  - Possible tutoring or “quick lessons for high schools students
- Consider the use of an external company to help build a marketing and brand awareness framework. Look to leverage internal resources for the delivery of that messaging
- Consider messaging models that free the department from the confines of NCSU Media Services and allow the quick and flexible use of “new media”.
- Begin monitoring and participation in blogs such as blogs.lib.ncsu or indirect advertising in Web entities such as Second Life.

**Meeting feedback:**

- The new member orientation and dinner before the meeting were considered positives. Please continue.
- Provide a whiteboard or easels for capturing free-form notes during the meeting
- Issues to be discussed at this meeting were broad. Consider refining them down at the next meeting for more direct feedback or provide a set of sub-questions to help the group focus upon specifics.
- Consider using a two - ½ day format for the meeting to help the group maintain better focus with dinner during the overnight day.
- Please continue the regular conference calls to keep the group in touch with one another.

**Conclusion:**

- Current SAB chairman Steve Worth thanked the members for their participation at today’s meeting, the continuing dedication to making NCSU Computer Science better, wished the group well, and turned the chairmanship over to Wayne Clark of Cisco Systems.
- Wayne outlined his intent to continue regular conference calls between annual meetings and his desire to provide ways for more participation by the board. Wayne dismissed the annual meeting.