Revising the IS Undergraduate Model Curriculum

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Writing my first *inroads* IS Education column requires stepping into big shoes. I take this opportunity to thank my mentor, friend, and colleague, Dr. John T. Gorgone, for the excellent work he has done with this column to keep the broader computing community aware of the events and issues under discussion in IS education, to promote new initiatives, and to form connections between IS and other computing disciplines. I am looking forward to building on the strong foundation his work has formed.

Before moving to IS undergraduate curriculum revision as the main topic of this column, let me start by stating a few of my own key beliefs related to the role of information systems in the field of computing and particularly computing education. Cooperation between computing disciplines has been a strong theme in my own work during the past few years, and I have had the privilege to participate in both the CC2005 Overview Report Task Force [1] and the computing ontology project [2]. Work on these projects has crystallized several points regarding the role of IS in computing:

- IS as a field in general and IS education specifically greatly benefit from close cooperation with other computing disciplines. If we in IS are willing to use the work done in other computing disciplines, we can better focus on the areas where we are providing a unique contribution.
- It is very important that all computing disciplines, including IS, explore and define their identities in the context of computing as a whole. All computing disciplines can learn much about their essential nature by understanding the similarities and differences between the disciplines.
- IS has a special role among the traditional computing disciplines in that by definition it integrates computing with domain (business) expertise. Computing as a whole should learn from this expertise in the process of trying to understand how to link fields such as medical informatics or bioinformatics to computing.
- IS should not lose its identity as a *computing* discipline. It is true that the main focus of IS is on organizational applications of computing, but we are in danger of missing something very important if we lose the connection to the design and development of technology artifacts.

Within the IS education community, we would benefit from an active, ongoing discussion regarding the position of IS as a computing discipline so that any major decisions we make as a community are well-informed and grounded in strong shared understanding of the nature of the discipline.

One process that gives us an opportunity to have an active dialogue regarding these issues is the upcoming revision of the undergraduate IS model curriculum. The AIS Council and ACM Education Board have decided to launch a joint project to revise this model curriculum (currently available as IS2002 [3]). The project is starting in January-February 2007 and is planned to end by the end of 2008. It will be co-chaired by Joe Valacich (Washington State University) and Heikki Topi (Bentley College). The other members of the task force include Kate Kaiser (Marquette University), Jay Nunamaker

(University of Arizona), Janice Sipior (Villanova University), and GJ de Vreede (University of Nebraska-Omaha). The co-chairs are enthusiastic about the excellent task force and thankful for their willingness to volunteer to participate in this important project.

Engaging the entire IS community is a key to the success in the task force's work, and one of the first tasks in the project is to establish a globally accessible infrastructure that allows the community to give feedback related the current model curriculum and make suggestions regarding the revision. We, however, are not planning to stop there. The task force will be exploring ways to create a platform for ongoing curriculum discussion and maintenance that might allow us to move from a model of relatively infrequent and very comprehensive curriculum development projects to continuous development and smaller incremental changes. This would allow us to respond more quickly to the changes in both the business and technology environments and enable broader community participation.

The curriculum revision itself will be significant. Although the curriculum report itself went through a major revision in preparation of IS2002, structurally the curriculum is quite similar to IS'97. The only major addition in 2002 was the inclusion of an e-commerce course as a response to the dramatic growth in the importance of the web as a platform for business applications. The task force does not want to launch to the project with strong pre-defined ideas regarding the nature of the required changes in the curriculum, but there are clearly factors both in the business and technology environments that have changed radically since the latest curriculum revision, such as:

- The full extent of the globally distributed nature of IT development work and its effects on IS as a field were not fully visible during the work on the previous curriculum document. The balance of skills needed by the graduates has, consequently, changed significantly.
- Mobile and ubiquitous access to all IT resources with a variety of client devices has become an expected part of organizational life around the world.
- Mature development platform and architecture models for the web environment have started to emerge.
- Information systems security, reliability, and controls have become a very significant business issue, and not only because of Sarbanes-Oxley Act, Health Insurance Portability and Accountability Act (HIPAA), and other similar legislation.
- The integration between business process management and information systems has become significantly tighter.
- The IS discipline is becoming more and more global; the work done during this project has to at least build a foundation for a globally applicable curriculum.
- The interest in IS as a field of study has dramatically decreased among students in many institutions around the world.

The list could easily be continued significantly but these illustrative examples are sufficient to justify why a careful reconsideration and redesign of the undergraduate IS model curriculum is needed. The task force will also be considering fundamental issues related to the structure of the model curriculum: maybe it is time to leave the "one size

fits all" model and present a model that explicitly recognizes the richness and variety of undergraduate IS education models.

Please let me know what your thoughts are regarding the direction the revision process should take. Please do so by emailing me at <htopi@bentley.edu>. The task force will greatly appreciate your suggestions and it looks forward to the opportunity to engage the entire IS community in this very important effort.

References

[1] Joint Task Force for Computing Curricula 2005. (2005) "Computing Curricula 2005 – The Overview Report." ACM, AIS, & IEEE-CS. (http://www.acm.org/education/curric_vols/CC2005-March06Final.pdf)

[2] Cassel, L., A. Hacquebard et al. (2005) "A Synthesis of Computing Concepts," ACM SIGCSE Bulletin (37) 4, 162-172.

[3] Gorgone, J., G. Davis, J. Valacich, H. Topi, D. Feinstein and H. Longenecker (2003) "IS 2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems", Data Base, 34(1).