FAQ's for ISE

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Abstract

Lists of frequently asked questions (FAQ's) are common in our culture. The way we use them provides a flexible model for documenting and addressing concerns of information science educators. A "strawman" list of 24 items is included as a starting point for designing an online forum and repository for concerns related to ISE curriculum.

Keywords: Curriculum, Collaboration, FAQ

INTRODUCTION

When people create information systems, they must include some way for their users to ask questions and receive helpful responses. For example, consider purchasing a new computer that does not start when you press the start button. Fortunately, there is a brief booklet that comes packaged with the computer that lists possible problems and suggested responses. The list begins with possible reasons for the computer to not start. The first suggestion is to check that the computer is plugged in to an active power source. Discovering that you plugged the computer into a power strip but haven't plugged the power strip into the wall, you solve the immediate problem.

This list of problem scenarios in an installation booklet could be thought of a list of Frequently Asked Questions (FAQ's). Printing this document saves some of the user's aggravation and it saves the vendor the cost that would have been generated by a call to a toll-free number. Placing this problem scenario at the beginning of the booklet enhances the likelihood that the message will serve its intended purpose. Putting this list online with additions and reorganization as its provider's consider appropriate may enhance its usefulness. (Putting instructions for how to start the computer online would not work well if the user needed the computer to get online, but that is not the point of this example.)

FAQ lists have become a common part of our culture. They may be supported by a variety of services, for example, a phone number to a help desk, a web-based chat, a threaded discussion on a bulletin board, or online documentation. These services all begin with questions that focus on a particular concern. The goal of this document is to apply the model of FAQ lists as part of an information system to the concerns of Information Systems Education (ISE).

PHASE 1: GENERATE A LIST

There is a "strawman" list of questions about curriculum for ISE attached to the end of this document. Note that a strawman object is constructed to initiate discussion rather than to define a final artifact. The list is derived from the author's notes, especially from the ACM Symposium on Computer Science Education [SIGCSE 2000] in March of this year. In accordance with conventional procedures for brainstorming (Yagiz, 1998), the list was written without elaboration, then cleaned up for further use. These questions could be the basis for lengthy projects, but there are too many concerns for one person. Even more importantly, many of the questions need broad input and group synergism. Published answers need to allow for change that keeps pace with the concerns of information systems education.

PHASE 2: DESIGNING AN INFORMATION SYSTEM BASED ON FAQ'S FOR ISE

A list of FAQ's for ISE could have a variety of uses.

- A checklist for designing a curriculum (note the CC-2001 project for CSE).
- A resource for educators, once answers are worked out and kept up to date.
- An open forum for discussion of topics related to ISE.

The above uses for an FAQ list for ISE imply a need for ongoing, collaborative effort within an appropriate system design. The initial system design must address the following concerns.

- Value to Users - The list provides a place to organize and collaborate on curriculum that supplements existing resources. For example, a discussion of the role of science in an

undergraduate ISE curriculum could be compared to recommendations for accrediting Computer Science programs to develop straightforward responses to questions about how ISE and CSE are different. Without value to a broad representation of information systems educators, the list may be inaccurate and unreliable.

- Technical Design - Support for an FAQ list could include an online list, with pointers to current discussion and collaboratively developed responses to question. Discussion could proceed with blended use of face-to-face meetings or other source of group input, threaded discussion online, or an email distribution list. The FAQ list then becomes a repository for ISE expertise with a need for indexing, a search mechanism, and possibly other tools for knowledge management. Discussion areas ought to be monitored for the amount of discussion and include value judgments for system components by ISE professionals.
- Staffing and System Support - This FAQ list must have technical support, low-level moderating, and administrative direction. For example, the CC-2000 group may want to interact with ISE professionals who collaborate on this list. Administrative support may include recognition for especially helpful contributions to ISE through this medium.
- Feedback - A mechanism is required for gathering, responding to, and managing comments about the system.

PHASE 3: IMPLEMENTATION

The author of this document is new to the ISECON. Implementation for information systems educators will not happen without feedback from ISECON 2000. However, the author is active in the ACM and their Special Interest Group on Computer Science Education. Selected concepts and questions from this document will be presented to the SIGCSE discussion list and the CC-2000 working group prior to ISECON 2000.

ANALYSIS OF THE INITIAL LIST

The suggested FAQ's for ISE that are listed in this document may provide a worthwhile stimulus for insight into ISE. For example, what questions are missing? The visibility of individual questions (and answers) at ISECON 2000 is an initial measure for how frequently ISE professionals ask the questions. Once it is established that a question has value, an attempt at an answer may be in order. In synchronous discussion, such as a face-to-face (F2F) meeting, priorities need to be set. As they are formed, each answer should be considered for consensus, likelihood for change, and interaction with other questions and answers.

Online, the frequency for a question may determine its position in a list for reference purposes. Practical limits for how people use a list in a particular context may determine when it needs to be broken up into more focused lists. In the initial list, some questions may be categorized as student-centered, questions about program content, and concerns for interaction with other disciplines.

SUMMARY

This document proposed a model for an online repository for questions and answers about general concerns for curriculum in ISE. The model is based on the shared experience of ISE people with FAQ lists and the information systems they are embedded in. A strawman FAQ list provides details for the discussion of the concept and current questions for information systems educators.

REFERENCES

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THE INITIAL LIST OF FAQ'S

(Only the first question includes an answer.)

1) What science should be part of Information Systems Education (ISE)?

2) Answer: Science may be characterized as "organized observation". (SIGCSE discussion list)

3) The science in ISE is interdisciplinary. It includes measurement, which implies mathematics and requires psychology, because of our concern for meaning. Social sciences are involved when we become concerned with the usability of information systems, their value, and how they affect human lives and other systems they interact with. The use of information technology implies a concern for the concerns and knowledge of computer science. The effects of commercial applications of the Internet compel us to include the concerns of business programs, both in terms of its scientific elements and its applied

concerns. The systems we design must be implemented and maintained, so we must include the applied science of engineering. All of this interdisciplinary knowledge requires understanding of scientific methods of observation, testing, collaborating, and organizing knowledge.

4) ISE has special concerns for knowledge and discovery, which we must define as part of our science. For example, categorization and retrieval strategies are foundations for data storage and retrieval. Data mining and visualization techniques generate new questions and unforeseen relationships. We must design quality systems, which implies that in addition to human performance concerns from Psychology, we must have scientific knowledge of system performance, capacity planning, reliability, and risk.

5) What do ISE graduates need to know? How are graduate programs different from undergraduate programs? How are ISE programs different from CSE? Are there other categories for similar education programs, for example, Information Technology Education (ITE)?

6) What should we expect entering students to know? How do we address deficiencies?

7) How should we deal with change? For example, how do we define a goal for a 4-year educational experience with confidence when we have just experienced the 5-year impact of the Web? How do we deal with the disparity in the experience, knowledge, and expectations of our entering students, within each group and from year to year?

8) What programming skills are appropriate for ISE degrees?

9) What training in specialized tools is appropriate for ISE degrees? To what degree should ISE programs incorporate proprietary systems, for example, Microsoft tools?

10) CSE has far too few female students. What can ISE and CSE share to address this concern? Are there similar concerns for the racial and ethnic components of our audience? Do we need to address diversity issues in specific ways?

11) What opportunities should ISE provide for non-majors?

   a. What service courses should we provide for specialized tools and concerns? For example, How should we address computer and information literacy? Should we extend the concept of "literacy" to competency, fluency, and proficiency?

   b. How should we relate to non-degree concerns, especially with regard to specialized technology? For example, should we provide XML training? How should this relate to our offerings for degree programs? How should we address the introduction of Office 2000 and Win 2000?

12) How should we prepare people for a lifetime of learning new systems, technology, and paradigms for their professional activities?

13) How should we respond to the opportunities and challenges of distance learning?

14) What concerns should we address with respect to ethics? For example, consider intellectual property law and hacker ethics.

15) How should we promote the security of information systems? For example, what knowledge and skill with regard to viruses and system cracking do we consider part of our curricula?

16) How quickly should we adopt new technology?

17) We have experienced irresistible paradigm shifts in topics that are relevant to ISE. For example, the recent emergence of Internet-based information systems and before that the shift from "structured methods" for system design and programming to "object-oriented methods."

18) As new concerns appear to have value for our curricula, how do we proceed? For example, when we appear to need a new course, how do we remove old courses? How do we deal with legacy systems and related curriculum?

19) In any discipline, there ought to be classics, concepts and concerns that have enduring value. What are the classics of ISE? What is our enduring core and how does that relate to our core curriculum?

20) Students enjoy and seek out active, hands-on learning situations. Faculty often rely on their success in lecture-based and controlled learning situations. How do we assess and reward faculty who use active learning methods well? How do we assure that learning objectives are met with active and perhaps collaborative learning strategies?

21) Traditionally, courses are accompanied by textbooks. The technology that supports modern information systems is changing so rapidly that quality textbooks are in short supply. Students often refer to the Web more readily than printed media. How do we respond to the shift from printed media to online sources, especially in ISE?

22) Software engineering encourages system modules that are "tightly bound but loosely coupled." Applying that to our curricula, to what extent do we design courses that depend on prerequisites and build to upper levels of knowledge and cognitive objectives (tightly bound) rather than independent modules (loosely coupled)?

23) How "rigorous" should our programs be? To what extent should we be a pump or a filter?

24) Students have expectations that may differ from what we see as appropriate or practical. How do we deal with that disparity? How do we deal with the breadth of possibilities for our graduates?

25) Group work and collaboration are essential to professional activity, but they there are conflicts and concerns with educational goals for individuals in traditional curricula. How do we incorporate and take advantage from collaborative pedagogy in ISE, without compromising the integrity of our product, competent individuals?

26) How do we deal with students who want to take enough courses to meet their immediate employment goals, but not finish a degree? How do we deal with students being recruited for jobs before they finish their degree?

27) How do we enjoy and exploit the excitement of computing and information systems without getting distracted by too many opportunities or too many demands?