

September 1993

Albuquerque

To all members of the committee: our second Albuquerque meeting went very well (my humble opinion) and, as per our custom after each meeting we will provide a short summary of the major issues which were discussed and any actions either taken or decided upon, and will archive these summaries so that others interested in this project can trace its development. These notes will not be "minutes" per se, but rather a sketch of the high points, and the format remains open. Hence, if anyone feels something of importance has been omitted or mischaracterized please contact me and the notes will be suitably modified. (NOTE: The notes will usually appear with a little more alacrity, but as most of you know I was away all of last week)

Second Meeting: Albuquerque, 9/24 and 25

In attendance: Allen, Ziebarth, Burns, Coronas, Johnson, Zachary, Kris Stewart, Hal Varian, Henriquez, Bob White, Marchioro, Martin, J. C. Diaz.

The meeting began with Jim Coronas providing a quick recap of the first meeting and a broad outline of the project's goals. Since the primary decision made at the first meeting was to initiate a freshman level "course" in computational science based on the course Chris Johnson and Joe Zachary will be giving this year at Utah, Chris and Joe then took the floor and provided an in depth description of their course including an approximate outline of the materials which will be presented. Joe said he had spent much of the summer making all of the software involved in the interactive tutorials (except for Maple, which he uses as the underlying symbolic manipulation package) public domain. The tutorials themselves are now written in LaTeX.

After this we had each of the new members in attendance give a short (in some cases not so short) presentation of what their activities are in the field and why they are interested in the project: Bob White described the various activities going on at North Carolina State. Kris Stewart described her two projects at San Diego State (one a course in "introductory supercomputing" and the other a teacher outreach program). Hal Varian, an economist from the University of Michigan, discussed examples and applications of computational science for economics and the social sciences. J. C. Diaz discussed the evolution of computational science at Tulsa University and outlined the new course which is planned there. It was quite similar in spirit to the undertakings at Utah. Electronic and/or printed copies of the materials each of the speakers presented will be available shortly (and will be added to our archive), so I will not go into great detail here.

The rest of the meeting was devoted to various discussions of how to achieve our goals. A variety of issues were raised, and a (lesser number) of decisions were reached, and I'll try to hit the highlights: First, the issue of "what software package to use" came up again. Bob White advocated including MathCad in our plans, while Kris Stewart pointed out that Matlab now contains all of Maple as a "toolbox" and so is completely Maple compatible (although the implementation of our materials would be somewhat different). After much discussion it was agreed we would stick to Maple and Mathematica for the moment, but as materials are developed we should contact the various other software companies to see if they can provide support in "porting" to their environments.

Second, Dave Martin provided insight, based on his experiences with the NEEDS consortium, into how to set up an effective electronic distribution system for the materials we have developed. Based on his advice we are going to be instituting:

1. a gopher client
2. anonymous FTP
3. a mailserver (for those who have only E-mail access and not full internet capabilities).

Also, the question of setting up a modem and phone # for direct dial-in is being considered. [NOTE: This week I've obtained the gopher and FTP software, and hope to have it installed, debugged, and running shortly] Dave also warned that even a few years of experience the NEEDS project still has not resolved the fundamental questions of "electronic editing", i.e., breaking courses into modules and/or assembling coherent wholes from sets of examples, which arise in projects of this sort.

In line with the above, very shortly (I hope within the next two weeks) we will begin making the various materials which have been collected thus far (mainly background discussions and support materials such as these notes) available electronically. I will also be assembling an "introductory package" of materials codifying the aims of the project. This archiving of materials will serve two purposes: (a) it gives newcomers a chance to learn about our goals and trace the evolution of the project, and (b) it provides an opportunity to "shakedown" the distribution system before we start disseminating educational materials on a production scale.

By far the greatest topics of discussion during the meeting were the "morphology" and "content" of the materials to be assembled (i.e., the "how" and "what" we want to present).

On the subject of "how": there seemed to be rough agreement that modular structure outlined in the "Goals and Morphology" document distributed a month ago (anyone who did not receive this document can contact me for a copy, and it will be available on the archive shortly) was flexible enough --- via its concepts of "primary", "case study", and "overarching concept" materials --- to serve as a working model for the moment, although it will no doubt evolve as we gain experience.

As regards "what": Jim Corones led a discussion comparing the content of the various courses being offered by members of the committee. The general similarity between the materials advocated by Diaz, Johnson and Zachary, as well as Stewart and White, left most convinced that, at least at the introductory level, it should be possible for us to settle on a "core set" of primary topics. These primary topics could then be augmented by examples (taken from a wide variety of fields) and discussions of "overarching themes" as noted above. It was decided that the best way to do this, since we want the materials to be as inclusive as possible, is to pass an outline of the primary topics (taken from the two course outlines provided by Diaz and Johnson/Zachary) to the members of the committee, who then can each add whatever "subtopics" appeal to them. The results of this group editing session can be passed back to me and I will assemble a "first draft" list of the materials we will be assembling for the freshman level course. I expect to send the outline to all of you within the next day or two.

The question of what materials we want to offer above and beyond the introductory course, i.e., materials for upper level students, as well as for training teachers, was discussed at length, and it was agreed we would consider this in depth at the next meeting once these questions for the first year course were largely resolved.

Finally, we came very close to finalizing the times and sites for the next few meetings: the next meeting will be 11-5 and 6, almost certainly in Boston, and I hope to have the formal announcement in the next 2-3 days. The meeting after that is tentatively scheduled for January 28 and 29, probably in San Diego (there was much grumbling about being in DC in the winter). Also, the idea of having a "teleconferencing" meeting sometime in the near future met with considerable approval, and I'll be investigating this over the next few months.

Yours --- Tom

