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Interview with Kristina Hooper Woolsey

Kristina Hooper Woolsey was trained as a cognitive scientist, and has extended this perspective into the areas of picture recognition, imagery, and visual technology. She was on the faculty at the University of California at Santa Cruz, and was a visiting professor at the Massachusetts Institute of Technology. She was director of research at the Atari Sunnyvale Research Lab, director of the Apple Computer Multimedia Lab, and is now a distinguished scientist at Apple Computer. Along with Sue Ann Ambron, she is co-editor of Interactive Multimedia, and Learning with Interactive Multimedia, from Microsoft Press.

What do you feel is the structure of the ideal development team and the ideal development environment?

The main balance is between project teams and general environment management. The goal is to set forth key teams on a project—a senior designer and two to four other central people, depending on the requirements of the project—and then provide flexible access to extended resources as required.

The trick is to do this using hierarchies where they are best utilized, but providing flexibility where it is most important. One needs clarity of “command” and no ambiguity in some cases, where quick decisions need to be made or where primary directions are established. At the same time, ambiguity is important in a project for a certain amount of time. One has to build a system that allows for both these things to happen at once.

In summary: designing a great team for a single project is hard, but quite do-able. Finding ways to provide a general environment that enables different teams to work effectively, providing the teams resources as required, is a tougher task.

Would that be different for a research lab as opposed to a product development department with the given requirement to design and manufacture products?

Again, a balance between research and production is key to success in multimedia design, in my opinion. One can accomplish this in a number of ways. One can have a number of projects ongoing

‘next to’ each other, where some are more researchy and others more production oriented. It is also possible to have each project have a number of phases—including an early preproduction/research phase that is acknowledged fully (e.g., not just getting a project going as quickly as possible), and then a production phase that follows.

In any case, it is critical to note that the goals of each kind of activity are fundamentally different. In research, the generation of many ideas is key as are many false starts, reconsiderations, arguments, divergencies, and a thorough consideration of impractical alternatives. In production, one has to continually be clear what one wants to accomplish, and be good at pruning out alternatives. One also has to have systems in place to quickly make decisions without regret.

Interestingly, but not so surprising, most people typically thrive in one situation but not the other. It is important, for example, that neither research or production get all the glory, as it is easy to err in each direction...similarly, particularly since production eats up resources so quickly, it is important to make sure both classes of activities get appropriate resources — that will typically not be equal (research typically needs much less money, though is more sensitive to other nuances (e.g., maintenance of self esteem) which sometimes requires money).

What role does each person play in the team? Where are the overlaps and where are the distinct lines between them? What are their primary skills that they contribute to the development effort?

There are two general classes of skills for a team, not unlike a baseball team in my opinion (interestingly, many disagree with me). People need to be general team players, they have to work hard at everything they do, they need general experience and skills to bring to the task, they need to play for the benefit of the overall product activity. They also have to have some particular crafts to contribute. That is, be a good first base player or center fielder or pitcher, including graphics, programming, video production, management, interaction design, and interface design. People who write offer a range of crafts—they are good utility infielders, while other excel in only one arena.

The trick in building a team is to balance these two kinds of skills and to find ways with individuals to find compatibilities that match the requirements of a particular project. Knowing, incidentally, that the product of an exercise and its apparent requirements will change greatly depending on the team one assigns. Another trick is to find leadership within each team and a good mechanism to have the team

relate to its external world (e.g., clients, research directors, production supervisors, etc.).

In addition, one needs mechanisms to draw particular crafts not present on a core team into the mix as needed (e.g., spot illustrators, sound production). The masters of these crafts are then often not on core teams, though are critical for the work.

On a more general note, a good team needs both rules to divide responsibilities and flexibilities to blur the lines when necessary (e.g., the infielders need to know when they are to catch a fly in contrast to the outfielders, but if something wierd happens everyone needs to know how to cover for each other). And one has lots of crossover on the general team player level, but not typically very much at the craft level.

What are the primary skills that a designer needs today to be part of a cross-disciplinary team?

A sense of humor, a tolerance of ambiguity, and a respect for one's peers. In addition, one needs a fundamental craft to contribute to a production activity, and some experience with both abstract and logistical issues.

Are those skills being taught in traditional design education? What is missing and how can they be acquired?

I don't think they are in the multimedia design realm, because it is not being taught anywhere right now that I know of. General design training is important for multimedia designers but I'm not sure where anyone can get this.

The Rhode Island School of Design does many things right, as does NYU, and the Illinois Institute of Design, but I find that most people 'learn on the job' and benefit most from experience and a good solid liberal arts education coupled with some crafts training.

What we are all missing are general environments that encourage this development over extended periods of time. Workshops simply don't cut it, most academic institutions don't provide enough hands-on training, and most commercial operations are currently set up to discourage any conceptual training.

My recommendation to people is to find a great project and get on it. Learn from people. See what you are good at. Volunteer if you have to.

Hopefully, we can become more systematic about all of this. I personally recommend that all kids in all schools from kindergarten on up get basic crafts training in things like drawing, modeling, imagining, communicating, rendering, and programming, as well as working on a number of design projects every year in all aspects of the cur-

riculum so they come to know the design method. Then when people graduate they will all be ready for general design work, just like they are ready to write paragraphs. Some professionals can then emerge who want to do this task all the time (e.g., the great novelists emerge), while others incorporate the skill in whatever they love to do. Or what they are doing to make a living.

How is a product "spec'd" in terms of conception and definition? What I mean by this is: is a product spec written and locked into place before prototyping, or does the product evolved by continual re-evaluation and change? In each case how does the designer's role change?

One needs a good starting place, and a set of expectations, to even get anything reasonable going. I think there is then a substantial period of time where a spec is evolved, from inspiration, accident, and lengthy considerations. As you go into production at least one person needs a very solid idea of what this spec really is (and what parts of it are really negotiable details) and what kinds of resource constraints are relevant. Then this person (or group sometimes) can make good judgements about when things should change and bear the responsibility for the repercussions of the change. (Note: sometimes better ideas need to be rejected to complete projects.)

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