A History of the Apple Human Interface Group

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In the fall of 1986, I came to Apple Computer to head the naissant Human Interface Group which was based in system software. The Mac was a putty colored cute little box that sat on your desk with a floppy disk drive, designed for word processing and spreadsheet applications. Color was in the works – a 'competitive advantage' and Wildcard (now HyperCard) was about to begin an uncertain early career. I came from the high technology world of aerospace and could not imagine why anyone would want to buy a personal computer, especially one that did so little. This motivated me to want to change the Mac's capabilities by pushing to create a range of new user applications.

When I began managing the Human Interface Group the team was about seven people. They were responsible for visual design aspects such as designing icons and control panels, and writing the Human Interface Guidelines. I felt that the group was somewhat inward looking and needed to gain a wider perspective on both personal computing and user evaluation methodologies. This meant hiring new people with both testing and software expertise to strengthen its skill base. At this point, HIG members were often viewed as either police within the company, to catch ridiculous 'oversights' by engineering, or as 'good housekeeping seal givers'. The team felt dissatisfied with these roles.

By the beginning of 1988, the HIG team felt that it was important to establish a more proactive role in system software by being positioned as partners along with the engineering teams, as active members of the project team and not as outsiders sitting in judgment. In addition, I felt that another way of paving the way for new user experiences was to design and build case study examples of applications. This was made a good deal smoother with the pervasive presence of HyperCard and its ease of use. So by focusing on the development of illustrative applications and strengthening our skills base by hiring our own software coders, HIG became quite respected and also successful at building prototype applications and software tools. During this time the group built the initial hierarchical menus, defined the early stages of users needs for assistance/ Help, released the SonicFinder, and made many changes to the use of color in the desktop, either by using neural nets, or through the Color Picker. In addition there were a host of HyperCard prototype demos that presented pictorial information such as the Plant Guide and Image Finder.

During the next few years HIG continued to grow in strength and skill set, becoming a highly interdisciplinary group which was quite unlike other computer company's interface groups. We were frequently asked to help out our client customers and developers, and to teach them what we knew about design, prototyping and evaluation. This became the motivation to build a highly sought after set of configurable multimedia presentation tools for use at many venues around the world, at educational and developer events, as well as to other companies. Simultaneously, I decided it would be beneficial to challenge the group with a large public event integration project, highlighting the multimedia capabilities of the Macintosh. This involved developing a large information data base on an hourly basis about the CHI '89 conference and the city of Austin, where the conference was being held. HIG collected information on all the presentations at the conference which were integrated in a walk-up kiosk, and also built a creation kiosk to capture information at the event about each of the attendees. The goal of this project used cutting edge multimedia technol-

ogy, as well as being viewed as a rash idea, as it was destined to be used by people full time during a 7 day event. It turned out that it was to bring CHI and the interface group new knowledge in multimedia and building reliable installations. For a write up on the process and results see [1].

Around this time the Human Interface Group was moved out of system software since our projects were involved with the edge of Mac technology, being seen as closer to advanced development. Our focus was on developing new hypertext-based applications in HyperCard, to encourage our developers to create additional examples. These were used as case studies in the process of user interface design, showcased very well in the Grollier CD-ROM project which used Guides as an interface to encyclopedic data. One of our additional roles was to show developers how to gather user/customer needs and to design the look and feel of a product in an iterative fashion. This required studying users and then prototyping all the various elements of the users' transactions and testing them out with real users. Such prototypes included developing a new desktop metaphor for sorting and finding information referred to as "Piles," (see CHI Proceedings, 1992) and a software application that enabled you to scan, skip and label sound and voice data, with no pitch shifts called SoundBrowser (also in CHI Proceedings, 1992).

In 1991 I felt there was a lack of suitably trained people to hire for the growing Human Interface Group, so I initiated a project to attract interested students to interface classes. This became referred to as the ongoing University Workshop Interface Project, designed to start new interdisciplinary design classes at major institutions around the world. We sent selected universities (about 8) a brief on a different topic every year and asked them to submit a selection of working interface prototypes. These showed their designs and hardware models based on user needs and user feedback. This project became a tremendous success and continued until 1997 both at Apple and Interval Research. The students and professors were delighted to be able to work on a real world problem with constraints and in a team structure similar to industry. The students visited every summer and presented their work to an eager audience at Apple, during which time we also got to meet potential new hires. This created one of the most amazing legacies of my career and extended the family of interface designers extensively who still know each other today. It was also one of the most personally meaningful and rewarding projects I have championed in my life touching about 500 students every year for seven years.

From about 1990, the company showed a surge of interest in portable technology, such as Portable Macs, (pre-PowerBooks), cameras and scanners. This meant that we began to design the visual look and feel of a new range of peripherals. Some of our ideas and interface designs found it into product shipments and some did not. The criterion for such decisions were usually based on the ease of final code implementation and the available time left before the shipping date. We always worked closely with the engineering teams and this led to many changes occurring based on personal relationships and our individual determination. Some sample prototypes that we built during this period allowed users to scan a videodisk using visually orientated, scaled revealing thumbnails (VideoLogger). A portable camera system was also built that annotated previews of photos using software referred to as 'Stamps' that worked as Post-It Notes, this was named the Photologger.

Then came one of HIG's major contributions to Apple Computer – the first examples of how to edit and display video on a Mac without an external device. I hired some new members to HIG with backgrounds in film who forged new time-based visual innovations on the Mac. They built the first prototype showing animation in software, which enabled both store and playback. This standard interface application became known as Simple Player (now Movie Player). This clever idea with a now standard interface design gained critical acclaim and further success for the group. The same team extended these principles to examine what would happen if they attached a video camera (High 8) to a Mac. This work created the first navigable movies – an amazing demo where interactive control occurred from within a 'spherical movie' file. We then needed a one button mouse controller for the movie, and we fortunately had previously developed the Virtual Sphere, which fitted this description perfectly and made the control of visual movement both smooth and easy to use. At the time attaching a video camera seemed like a silly idea, but since it was pioneered by a graduate student I let it alone since it had low overhead involved! This work was ultimately released as the Navigable Movie Kit. We filmed other illustrative interactive examples, such as Video Postcards, Pavlovsk's Palace (filmed in Russia) and a movie shot hanging off the top of the Golden Gate Bridge, these previewed at events such as MacWorld and TED. The content possibilities caught on like wild fire and this transitioned into product land and became renamed QuickTime VR. In order to make sure the core interface tools did not get lost in the transition, I decided to assign some of the team to the product group, as part of the core QuickTime release team.

In addition to the fast evolution of QuickTime, many ideas around designing handwriting systems were being initiated. In 1992 HIG was working on an alternative device that used a bitmap handwriting note pad – called Scribe. This hardware system ended up being competitive with Newton and was ultimately shelved in preference for the Newton family of devices that did 'real' handwriting recognition. We actually developed a real working prototype that we tested out in a range of different application arenas with potential customers such as Commonwealth Bank, United Airlines and Westin Hotels in 1992. This portable trend was also explored within the development of a personal annotatable audio notetaker, called WalkAbout. By this point in time HIG had developed very fast high quality engineering methods for rapid prototyping, that showed how both flexible software and hardware designs could easily be accommodated.

In 1992 I had also acquired responsibility for managing the Macintosh product interface group which was a sizable responsibility of about 50 interface staff. Just as I was wondering how to balance the two, since my heart lay more in the futures work there was substantial reorganization in ATG. A well known senior interface leader felt there was a need to disseminate

interface knowledge within ATG. He then convinced others in management to support the recommendation to disperse HIG. When this occurred the group was about 25+ full time people in ATG, and about the same size in Mac product land. The group was quite cohesive, and not surprisingly resisted such a split, were threatening to leave, which in fact many promptly did. So the days of a specialized interface group in ATG were over. Starting at the end of 1993, this highly creative and original, hand-picked and trained interface group was sectioned off, many left the company and recently the last people from HIG were laid off. At this time there was one original member from the 1986 group still remaining in ATG. Apple was not at a place and time in 1993-4 that they could support such an integrated interface design team and continues to further downsize considerably.

It was a very special time for all that were part of this original HIG team who had many members (about 100) during its tenure: as interns, contractors or consultants. We were able to reach many people, developers and users with our prototypes, some of which also reached the end user. As a team we were a higher interdisciplinary team trained with a flair for creativity alongside a high spirited energy that pioneered new uses of 'computing' for new users. The result was a tremendous, near decade, legacy of interface work involving a team of people who continue to work in influential positions all over the interface community of successful companies everywhere. We also still have get togethers and refer each other to new prospects continually. It was a great group, which contributed creatively and productively human interface design in many ways. One of the most rewarding results for me has been many quality ongoing friendships created from the legacy of HIG.

Reference

1. Salomon, G. B. (1990). Designing casual-use hypertext: The CHI '89 InfoBooth. *Proceedings of CHI '90*, pp. 451-458. New York: ACM Press.

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