Iconic Interfaces for Office Systems based on Video Games

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Executive Summary

Although users are enthusiastic about modern icon-based interfaces using direct-manipulation principles [3], we argue that their full potential has yet to be realized. Specifically, certain aspects of video games can be fruitfully incorporated into conventional icon systems [1], providing "players" with an exciting way of getting their work done.

We have developed the concept of WAP (Work and Play) at our lab as a testbed for these complex ideas. Icons are used as in standard systems; however, icon manipulation has an exciting video game flavour providing an action-packed session at the terminals. For example, the passive trash can is discarded and replaced with a sophisticated laser weapon icon. The "player" may aim the weapon at a file and attempt to destroy it. Of course, the file will take evasive action, using other files as camouflage if necessary. To add an element of risk, shooting the wrong file destroys it too. We will add a notion of inter-icon communications to allow icons to negotiate with each other to establish "friendships" and "teams" to avoid rampant destruction by the laser. Goal-directed behaviour modelled after Schank's notion of goals, is an interesting possibility (especially the **s-survival** [2] goal for those well versed in Schanks' theories).

We are also concerned about the lack of the appropriate motor coordination to deal with such a complex interface. After considerable experimentation, we found that a statistically significant ($p < .0001$) number of subjects had poor aiming skills, resulting in the loss of many years' work and corporate displeasure. To compensate, a "Zeus" icon can reincarnate dead files or to create new ones. In keeping with the gaming spirit, a robust natural language interface (complete with intentionality and speech acts) uses "praying" scripts [2] to give users an opportunity to convince Zeus to restore their files. Proper user interface techniques, of course, dictate that this icon has a complete representation of the user and may decide to shoot a lightning bolt at him/her (which reinitializes the disk).

We have been experimenting with the system for the past eleven months. We found that productivity has improved dramatically, as measured by login hours. Unfortunately, funding is running low and we are searching for sponsors.

[Authors' note: Unfortunately, at the time of writing, the laser icon destroyed the prototype and most of the valuable research ideas. We have determined the cause to be the attribution of **e-entertainment** to the trash can laser. Judicious use of these powerful goals is imperative in furthering research in this exciting field.]

References

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3. Shneiderman, B., "Direct manipulation: A step beyond programming languages." *IEEE Computer,* 16 (8), 1983.