Workspaces with Soft Edges

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Soft Edges

Most Internet groupware systems are easily joined, and easily left. The community of users may fluctuate wildly over time, often with a central core of "regulars", but with other participants playing many roles: visitor, lurker, pundit, listener, troll.

However, most of these "soft-edged boxes" – Internet Relay Chat being an extreme example – aren't concerned with communication in the context of a shared model[1] with persistent information available to all participants.

Groove[2], by contrast, is primarily concerned with sharing an interactive and extensible data model between participants in a "shared space". But here, the edges are "hard". Groove shared spaces are private, cryptographically secured, and can only be joined by invitation.

More Soft Edges

Soft-edged interaction with physical objects and intellectual property is also typical of much real-world experience. If I visit a library, I can browse the stacks at will, pick out a book at random, borrow it (given minimal credentials), quote and transcribe portions of the text for different purposes, and leave it on the sitting-room table for family and friends to browse. The book affords voluntary and flexible interaction.

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[1] "When people communicate face to face, they externalize their models so they can be sure they are talking about the same thing. Even such a simple externalized model as a flow diagram or an outline — because it can be seen by all the communicators — serves as a focus for discussion." (R.W.Taylor & J.C.R.Licklider, "The Computer as a Communications Device", 1968) *http://memex.org/licklider.pdf*

[2] *http://www.groove.net/*

This soft-edged interaction with intellectual property is presently a cause of much discussion, as more information (text, music, video) becomes accessible in digital formats.

Raw digital information is so easily copied that copying is almost invisible. Creating duplicates of digital information is central to the process of displaying, storing and manipulating that information with computers. Copyright owners are naturally concerned about this, and have been working extensively with industry to create cryptographic protection mechanisms for their content (under the umbrella term of "digital rights management" or DRM).

However, cryptography tends to create hard-edged boxes.

Hard Edges

The conflict between DRM and copyright law is not primarily about the "digitalness" of content, or even the ease with which digital content is reproduced. It's about the hard-edged boxes which existing DRM schemes lock around the content. Copyright law, in statute and in practice, is far softer.

The simplest applications of encryption provide that the data can only be unlocked with a specific key. In DRM situations, that key will typically be attached to a user's machine (or some identification token) in such a way that the user is prevented from sharing the key with others. However, when access to the content is restricted in this way, the copyright traditions of "fair use" have no leeway: if you don't have the key, you can't open the book.

This is not to say that cryptographic protection is wrong or unnecessary: quite the opposite. In business discussions, negotiations and other communication, privacy is often essential, and access to sensitive information must be controlled. The social problem with DRM lies in the "all-or-nothing" nature of naïve encryption schemes.

The challenge for business collaboration in shared spaces is to support ad-hoc interaction and discovery – to create "workspaces with soft edges" – without compromising the security or integrity of communication inside those spaces.

Soft Edges for Groove Spaces

The Rendezvoo.net project at Agora[3] aims to catalyse group formation in Groove shared spaces. Based on concepts of the value in "group-forming networks"[4], rendezvoo.net provides Web-visible services which create dynamic listings of available shared spaces.

In a rendezvoo system, the "hard-edged", private, undiscoverable shared spaces typical of Groove become visible and accessible to casual passers-by.

By extending Groove's invitation process to include machine-generated invitations published on a Web page, the rendezvoo "venue" acts like a bookshelf: you can browse the bookshelf, look at the titles and covers of the books there, and join (OK, metaphor breakdown!) one of the spaces by collecting an invitation simply by clicking a link.

In practice, one interesting effect is that rendezvoo makes it possible to join a Groove space for a very short period of time, to read information therein and contribute if appropriate, and then to leave. Without a rendezvoo-type service, users would need to be explicitly re-invited to the space by a current member. And cryptographic security of the space is not compromised in the process.

To make these soft-edged workspaces really useful in business environments, two extensions of the rendezvoo concept are under investigation by Agora and Cabezal[5]:

- Controlling the extent of visibility, by creating detailed controls on who can see and open selected invitations (as, for example, a large library will require different types of accreditation before different types of access to some material will be granted);
- Creating auditable, visible records of all activity (people joining and leaving, and their rights whilst a member).

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[3] *http://www.agora.co.uk/groove/* and *http://rendezvoo.net/*

[4] "Networks that support the construction of communicating groups create value that scales exponentially with network size, i.e. much more rapidly than Metcalfe's square law. I will call such networks Group-Forming Networks, or GFNs" - Dr. D.P.Reed, *http://www.reed.com/gfn*

[5] *http://www.cabezal.com/*