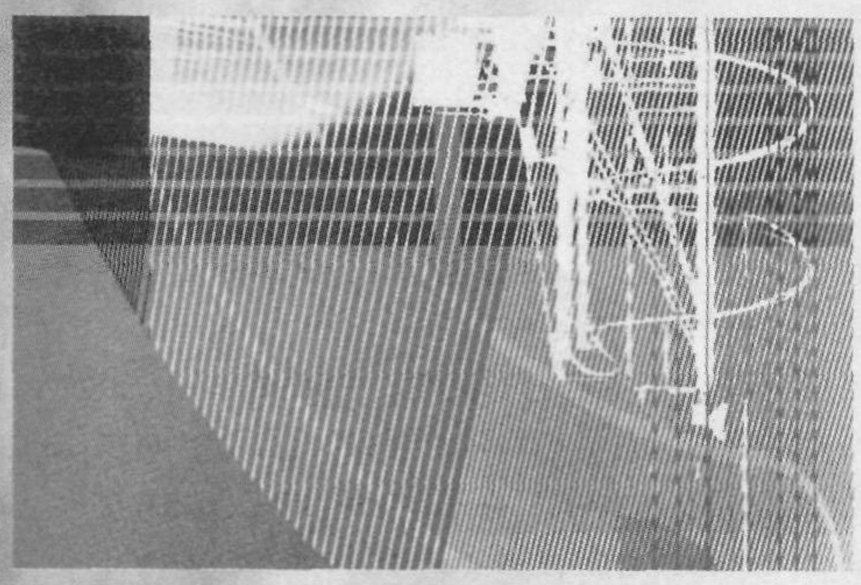
Managing E-Mail Overload: Solutions and Future Challenges



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With proper application of automatic filtering, clustering, and new user interface metaphors, e-mail can once again become an effective knowledge management tool rather than a source of information overload.

Being inundated with electronic mail has become part of daily life. Market-research firm IDC estimates that the number of worldwide e-mail messages has reached 84 billion (www.idc.com/getdoc.jsp?containerId=prUS20033705). Even with effective methods of controlling spam, the tide of potentially relevant messages continues to rise.

We arguably have only ourselves to blame, however, as our use of e-mail as a multipurpose information-processing system stretches this application far beyond its original intent. First, e-mail often serves as an archival tool; many users never discard messages because their information content might be useful later—for example, as reminders of upcoming events and outstanding issues.[1]

Second, e-mail is widely used to synchronize real-time communication, which is inconsistent with its primary goal. Like traditional mail, e-mail messages are designed to be sent, accumulate in a repository, and be periodically collected and read by the recipient, which lends itself to the asynchronous transmission of specific knowledge such as the details of a vacation or a meeting's upcoming agenda.

Only recently have there been signs that this use of e-mail is changing: A report by the Pew Internet and American Life Project found that teenagers now prefer instant messaging to e-mail for quick communiqués, while e-mail serves as a way to send longer messages with more detailed information (www.pewinternet.org/PPF/r/162/report_display.asp).

These inefficient uses of e-mail tempt us largely because of the medium's facility. The multipurpose reliance on e-mail leads to the gradual congestion of a user's inbox with messages ranging from static organizational knowledge to conversations. Given such saturation, users will likely be unable to successfully process the content of new incoming messages and will have difficulty finding an important archived message in their mailbox.

The ubiquity of e-mail and its convenience as a knowledge management tool make it unlikely that users' behavior will change. Falling bandwidth and disk storage prices further reduce the incentive to steer away from using e-mail as a document storage system. Accordingly, more effective methods for managing the information in e-mail messages are needed.

One common method, the manual and often ad hoc classification of messages into folders, reduces the number of information objects a user must process at any given time. A purely manual classifica-

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