

The Profession of IT Managing Time, Part 2

Masterful time management means not just tracking of messages in your personal environment, but managing your coordination network with others.

IN A PREVIOUS installment of this column (March 2011) we took a new look at time management from the perspective of personal productivity.² We focused on practices you can adopt in your personal environment to manage your time well and productively. The practices are tracking, selecting, executing, and capacity planning.

As useful as it is, a framework for personal management of commitments is not sufficient for maximum productivity. The reason is that you depend heavily on others fulfilling their commitments to you before you can complete yours. Failures or delays in the other commitments can block your productivity, cause you to take defense measures such as nagging, and sometimes force you to find other people to supply what you need. In a personal commitment management framework, you have no control over these external factors.

Interactions with others are visible in your personal framework as points where you receive requests or issue promises. Seeing those points is not the same as managing the coordination they represent. Managing interactions is crucial for productivity of the entire group, not just you. In this column we examine how the large number of messages relating to external coordination can produce an information fog that can only be dispelled by teaching yourself to observe the coordination loops you engage in with others.

Information Glut

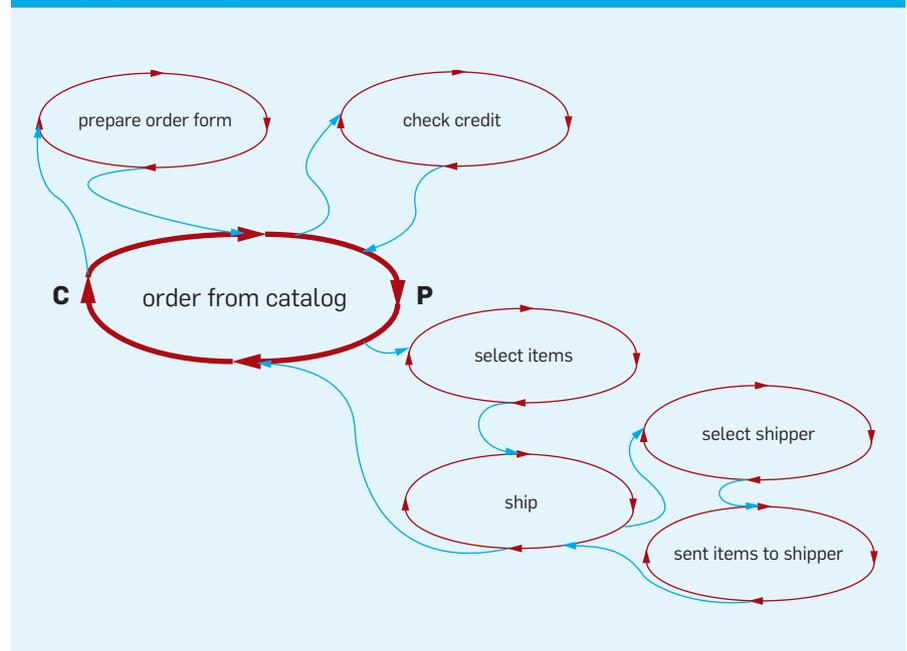
Information glut is an archenemy of productivity. When the total amount of information coming into your personal environment passes a saturation point, your productivity starts to suffer because you can no longer make sense of the information and find solid grounding for your decisions. How can you be productive when you must sort through a lot of irrelevant, marginally useful, or contradictory information?

On the broadest scale, the information fog includes all the information you might come across in the Internet.

Some of that information is discretionary—you asked for it by searching and then “pulling” search results into your environment. Pulled information does not seem to be as serious a threat to productivity as “pushed” information—sent into your environment at the action of others. Some common forms of pushed information are:

1. Spam, ads, and phishing—those who send it have no real expectation you will respond.
2. Notices, newsletters, updates, and carbon copies—others keeping you informed: (a) because you asked

Figure 1. Customer C orders from a catalog of provider P. To implement the main conversation seen by the customer, the provider manages a coordination network of loops staffed by its employees and suppliers.



them to when delegating tasks; (b) because you agreed to a subscription or to the automatic “side benefits” of online purchases; (c) because they had other reasons to inform you even though you did not ask.

3. Specific acts of coordination.

The normal way of minimizing type 1 information is to practice rapid deletion (ignoring) and use spam filters. Most people have this under control. The amount of spam or phishing expeditions reaching their inboxes is not a major source of productivity loss.

The normal way of managing type 2 information is to make requests to be excluded from distributions you do not want to be part of. If people to whom you have delegated tasks are overdoing it, you can ask them to reduce the traffic.

That leaves type 3 information as the main source of pushes that can hurt your productivity. At first glance, it looks like this information is in the form of email, phone, chat, messaging, or even wikis, and can therefore be managed with the filing and calendaring tools embedded into office productivity software. Unfortunately, this view confuses communication of messages with coordination of actions. With a good model of coordination, you can make a significant improvement in your coordination productivity in spite of the message traffic that coordination actions generate.

From Communication to Coordination

Communication is concerned with transfers of messages from senders to recipients. Coordination is concerned with people aligning their actions to achieve common goals.

It is important to make the distinction because most of the work we do is not just our own personal tasks, it is the tasks we do together with others. We refer to the orchestration of these shared tasks as “coordination.” Your productivity to a large extent depends on your skill at coordination.

Coordination depends on the parties making requests and keeping promises. The human agreements involved can be recorded, but not automated. A single coordination generates many messages among the parties involved. A good communication sys-

tem can support coordination, but is not sufficient to achieve coordination.

The fundamental building block of coordination is the action loop. We just summarize it here because it has been well documented elsewhere.^{1,3,4} A loop connects two parties, C (customer) and P (performer) whose actions combine to fulfill a shared condition of satisfaction. It consists of the four phases:

C: prepares and delivers a request;

P: negotiates changes and promises to deliver;

P: completes the task and delivers the result; and

C: reviews and accepts the delivery.

Many messages can be exchanged between P and C during each phase. Tracking software can record the desired outcome and monitor progress toward completion.

Either primary party (C or P) may turn to secondary parties to fulfill subtasks for them. Thus the primary loop generates a coordination network of linked subtasks, involving other players. Figure 1 shows an example.

If you do not see that you are inter-

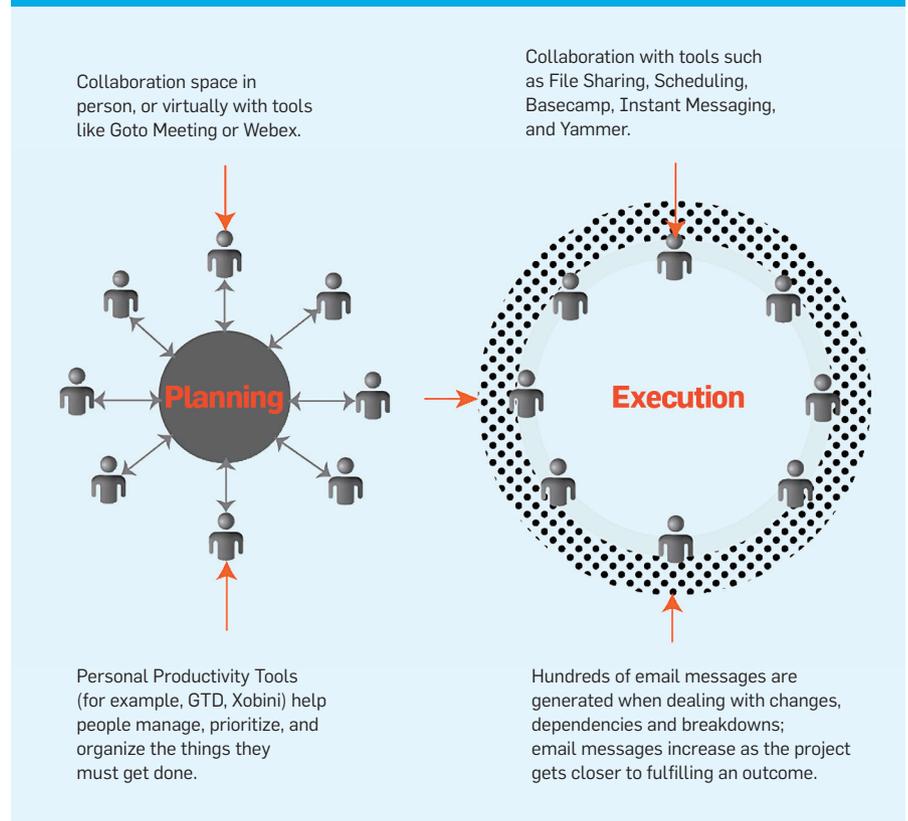
acting with a coordination network, your mailbox will look like a miasmic mishmash of many messages mandating mindful ministrations. You will not see the loops and will not complete them satisfactorily, causing you lost time and ill will to fix the mistakes. Your reputation may suffer in the process.

On the other hand, if you do see that you are interacting in a network of loops, you will want tools to help you organize your mailbox so that the loops, rather than the individual messages, are the primary units visible.

Coordination Fog

Larger outcomes need a team of people working together to produce them. In fact, almost all organizations now work in cross-functional teams, often spread over several countries. The usual protocol for making these teams work is repeat the following cycle until the job is done: hold a coordination setup meeting and then split up to do individual tasks. The meetings can be held in person or online with a meet-

Figure 2. The left figure shows what your workspace looks like during the planning stage of a project, when it looks like your part of the project is a pile of personal tasks to be managed. The right figure shows that the coordination tasks between you and others can generate hundreds of email messages, which look like “fog” if you cannot see the coordination network behind them.



ing support system. The team leader directs the conversation to create a common goal, agree on outcomes, divide the work into tasks and milestones, and assign subtasks and milestones to team members. The members then go to their own locations and time zones to carry out their parts of the plan using their personal time management systems.

Unfortunately, as suggested in Figure 2, the “personal” tasks are interdependent. Soon team members discover cases or encounter unexpected circumstances that were not discussed in the plan. Unpredictability is inevitable in our constantly evolving and changing environments. Team members turn to their email, phones, and other media for follow up, get further clarifications, develop action plans for the new circumstances, respond to unforeseen opportunities and threats, and the like. Email is by far the most common medium because, with teammates on the move in different time zones and sometimes in different cultures, it is not easy to resolve these issues on the phone. The mixture gets even more complicated when participants fall into misunderstandings and then miss deadlines or otherwise mis-coordinate. They generate additional email messages to overcome misunderstandings and resolve mis-coordinated actions. These coordination issues can easily produce hundreds of email messages. Even simple things like finding a time for a phone conference to resolve issues can take dozens of email messages. This is how unseen coordination generates an information fog that interferes with productivity.

By seeing coordination as a form of conversation management and teaching ourselves to see the loops that are moving toward completion, we can maintain a clear picture of the coordination network and dispel the fog.

The conclusion is that, for most of us, most of our time management is really not “personal.” Our commitments always involve others in our networks of coordination. To master your time, therefore, you need to master your ability to make requests and offers (which start loops), your ability to negotiate and agree on the promised results, and your ability to deliver your results by the time you promised.

The tools that support you must at the very least track all the loops you are involved in and tell you how far toward completion each one is.

Coordination Software

What software exists to help us see and track the coordination loops we create in our coordination networks?

The first such tool was The Coordinator, produced by Action Technologies in the mid-1980s.⁴ It was a mail client that resided on laptop PCs and exchanged messages through a dial-in server. The Coordinator made the individual loops, which it called “conversations for action,” visible to the persons engaged in them. The interface was different from ordinary email systems. For example, you would initiate a loop by selecting “request” from a menu, filling in a description of the desired outcome and due date, and sending it to the person you wanted as the performer. The recipient would see your request in a portion of the inbox labeled “incoming requests.” With a menu, the recipient would select one of the four allowable responses (accept, decline, counteroffer, or defer). Other menus and mailbox segments covered the remaining parts of unfinished loops. Local databases on both ends tracked all open loops and their states. It was easy to generate to-do lists (promises you committed to), tickler lists (undelivered promises made to you), email chains of loops, and calendar entries from the database. When you dialed in to The Coordinator server, the databases automatically synchronized.

The people who used The Coordinator reported significant productivity gains: they could manage two to 10 times more tasks and projects than before. The email messages themselves also became shorter because they were all linked to their parent loops; with a single click, for example, you could see what request an email message that said “I accept” was accepting.

A small group of critics thought The Coordinator was a form of “surveillance software” that could be abused by unscrupulous managers who might watch the fine details of people’s interactions and penalize them for small infractions. The lesson was that people in organizations where employees do

not trust management might not welcome a good coordination tool.

Other tools superseded The Coordinator. Action Technologies produced Metro, which mapped and tracked entire coordination networks. Lotus Notes provided a freeform system in which separate databases would track conversations within a project team. Some of the ideas such as linking promise due dates to calendars have been incorporated into modern systems such as Apple Mail and Microsoft Outlook. Recently, OrchestratorMail has been designed as an XML overlay on to any existing mail system to make visible the coordination network generating the email messages.

Conclusion

Many of us get overwhelmed by an information fog of email messages, which interferes with our ability to get productive work done and puts us into unproductive moods such as overwhelm and anger over mis-coordinated actions. One coordination task can require dozens of email messages. If all we can see is the email messages, it quickly becomes a fog. If we could see the coordination task itself, we have much less to track and we can let the computer systems manage the email messages automatically.

When this is done, we become more productive and enjoy reputations of greater trust. What a great augmentation it can be to your personal productivity system to learn the language of coordination, become an observer of coordination acts and state, and have the tools to automatically manage the underlying communications. ■

References

1. Denning, P. Accomplishment. *Commun. ACM* 46, 7 (July 2003), 19–23; DOI: 10.1145/792704.792722.
2. Denning, P. Managing time. *Commun. ACM* 54, 3 (Mar. 2011); DOI: 10.1145/1897852.1897865.
3. Denning, P. and Dunham, R. *The Innovator’s Way*. MIT Press, Cambridge, MA, 2010.
4. Winograd, T. and Flores, F. *Understanding Computers and Cognition*. Addison-Wesley, Reading, MA, 1987.

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