

The Tyranny of Email

Email is one of the greatest things the computer revolution has done for personal productivity. Used improperly, it can also hurt your productivity. This article discusses ways to use email effectively. Then it goes beyond that and talks about how to be productive, period. *continued* ►

by Ole Eichhorn

When Email Goes Bad

I'm not going to list all the reasons email is good. You know them already: I assume you are an avid email user. I'm also not going to tell you email is evil, because it isn't. The negative productivity impact of email comes from the way you use it, not the medium itself.

There are two ways email impairs your productivity:

1. It breaks your concentration.
2. It misleads you into inefficient problem-solving.

Let's take the concentration impact first. I'm a software engineer, and programming requires extended periods of concentration. Actually, this isn't unique to programming, a lot of fields require that you concentrate. (Probably just about everything worth doing requires some concentration!)

I maintain that programming cannot be done in less than three-hour windows. It takes three hours to spin up to speed, gather your concentration, shift into "right brain mode," and really focus on a problem. Effective programmers organize their day to have at least one three-hour window, and hopefully two or three. (This is why good programmers often work late at night. They don't get interrupted as much....)

One of the key attributes of email is that it queues messages. Unlike face-to-face conversation and phone calls, people can communicate via email without both paying attention at the same time. You pick the moments at which you pay attention to email. But many people leave their email client running continuously. This is the biggest, baddest reason why email hurts your productivity. If you leave your email client running, it means anyone anytime can inter-

rupt what you're doing. Essentially, they pick the moments at which you pay attention. (Even some random spammer who is sending you a crappy ad for a get-rich scheme.) This is bad.

Unlike **face-to-face** conversation and **phone calls**, people can communicate via **email without** both both **paying attention** at the **same time**. You pick the moments at which you pay attention to email.

There are three stages to this badness. Stage one is configuring your email client to present alerts when you receive an email. Don't do this. Stage two is configuring your email client to make noise when you receive an email. Don't do this. Stage three is running your email client all the time. Don't do this, either. To be effective, you must pick the moments at which you're going to receive email. I know this goes against common wisdom. Just about everyone I know runs their client all the time, has it configured to make noise, and may even have it present alerts when an email is received. Don't do it.

Spam is the best kind of email to get, because you look at it quickly, see that it's spam, and delete it. Then you get back to work. Personal email is the second best kind of email to get, because you either respond quickly ("Hi Jane, great hearing from you. See you at the club tonight.") or set it aside for later. Task-oriented work email is the worst kind of email to get. It often requires thought, and because it is work there is some immediacy to it. But as soon as you take the time to respond, you've interrupted yourself. You've shifted back to "left brain mode," and you've lost the thread of your concentration.

This doesn't mean you shouldn't respond to emails promptly. Check email whenever you're interrupted anyway — before you start work, after a meeting, after lunch, before you go home, etc. Set aside time to do this. Just don't let others dictate the timing.

Has this ever happened to you?

[In the hallway at work...]

O: "Hi R, how's it going?"

R: "Great, how are you?"

O: "Good. Hey, did you see my email about the framitz?"

R: "No, I haven't checked my email yet today, sorry."

O: "WHAT!"

It has happened to me. Sometimes I can't believe it — I sent the email at 9:30, and here it is 11:30, and they haven't checked their email? What are they doing? They're being efficient, that's what. They're picking their moment to be interrupted, and that's a good thing. We'll revisit this theme again below in the Three Hour Rule. For now, here's the takeaway:

» **TURN YOUR EMAIL CLIENT OFF.**

You should pick the moment at which you'll be interrupted.

Okay, now let's look at the second productivity-sapping attribute of email: that it misleads you into inefficient problem solving. Email is a communication medium. You send messages to others, you receive messages from others. Some of these messages are mere data transmission — FYIs so you know what's going on. Some are "noise" — 'thank you's, 'I got it's, jokes, etc. And some — many — are problem solving. You hear about a problem, and you respond with a possible solution, or a possible approach, or more questions. Nothing wrong

so far; email is a good medium for problem solving. And it is so easy — you get an email, you think (sometimes), and you respond. Poof, you're done.

Email has the effect of **polarizing the debate,**
and the **combatants end up further apart**
in their views than when the debate began.

Except when you're not. Because there are some kinds of problems that don't get solved in email, ever. And as soon as you have that kind of problem, you have to stop, immediately, before you make the problem worse.

First, never, ever, criticize someone in email. For reasons that I have never fully grasped, any negative emotion is always amplified by communication through email. Sometimes you intend to be critical — someone has done something dumb, or said something silly, or emailed something ridiculous. Resist the urge to reply. Sometimes you don't mean to be critical, you're just making an observation, or engaging in technical debate, or adding facts to a discussion. But as soon as you sense that the recipient has taken your email as criticism, you must immediately switch media. A face-to-face meeting is best, but a phone call is also okay.

Second, don't get into prolonged technical debates in email. I've seen threads lasting weeks with a whole series of kibitzers, with everyone restating their points of view and nothing getting settled. Often email has the effect of polarizing the debate, and the combatants end up further apart in their views than when the debate began. As soon as you sense this happening, you must immediately switch media. A meeting with the core people involved is best, but a conference call is also okay.

Both of these kinds of problems are exacerbated by copying others. The bigger the audience, the worse things get. As bad as it is to be critical in email, it is far worse if ten colleagues are copied. Often the presence of an email audience is what makes for the polarization of technical debates — if the core people were the only ones involved, they would be less virulent and more willing to acknowledge other points of view and seek compromise. Okay, so here's the takeaway:

» **NEVER CRITICIZE ANYONE IN EMAIL, AND AVOID TECHNICAL DEBATES.**
Use face-to-face meetings or phone calls instead.

Before I go on to talking about productivity in general, let me share some other thoughts about email. First, be judicious in who you send email to, and who you copy on emails. Every email recipient is going to lose a little time reading each email you send. Simple emails which say "thanks" or "got it" or "see you at the meeting" are polite and part of normal human communication. But there is a limit, no need to reply "you're welcome," or "glad you got it," or "great, I'll see you, too." In my career, I've run large teams, and sometimes people in those teams copied me on virtually every email they sent. Maybe they wanted me to know what was going on, or maybe they were letting me know what a great job they were doing. Either way, they were taking my time with stuff I didn't need to spend time on. I have a high capacity for skimming email, but there was always the feeling that they didn't get it, like "why did they copy me on this?" There should be a purpose for every addressee on each email. It is okay to drop recipients from a reply: in fact, it is good. Fewer people are involved, and [to reiterate the point] the the smaller the audience, the less any implied criticism or debate will be exacerbated..

I have to digress for a pet peeve. I send an email to S, and S replies, copying eight other people. I reply back to S alone. S replies, again copying eight other people. This is bad. If I'm smart, I will abandon email and continue the conversation with S face-to-face or over the phone. If I'm not smart, I'll flame S so badly his hair catches fire, copying everyone, and regret it later.

Second, email is a very relaxed medium, but observing some formality is important. Use an email client which spell checks. Use normal capitalization. Use correct grammar — complete sentences make email easier to read just like everything else. Don't use weird background colors and strange fonts. Don't append pictures of your dog. You get the picture. I've received emails from senior people that bordered on illiterate, with incorrect capitalization, grammar, incomplete sentences, etc. The impression is not positive.

Be judicious in who you send email to, and who you copy on emails; It is okay to drop recipients from a reply, in fact, it is good.

Third, email can be immediate, but don't hesitate to review and revise important emails. In many companies, email has all but replaced paper memos. In many business situations, email has replaced letters. When writing an email which has a wide distribution, or which affects a negotiation, possible deal, or potential sale, take the time to write a draft and reread it later. You can almost always improve the wording, make a point more concisely, or other otherwise improve the communication.

Finally, remember that email is a public and permanent record. Email is plain text and goes out over public networks, and is often stored on servers for a long time and may be backed up for a longer time. It might feel "throwaway" at the time, but it will not be thrown away, as senior executives at Microsoft, Enron, Worldcom, and others have discovered. If you have something to say which won't bear the public light of day, it shouldn't be said in email. And if you are sending something confidential or sensitive, consider sending it as an encrypted and/or password-protected attachment.

Okay, enough about email. Here are the six rules for avoiding email tyranny:

SIX RULES FOR AVOIDING EMAIL TYRANNY

1. Turn off your email client. Pick the moment at which you'll be interrupted.
2. Never criticize anyone in email, and avoid technical debates. Use face-to-face meetings or phone calls instead.
3. Be judicious in who you send email, and who you copy on emails.
4. Observing some formality is important.
5. Don't hesitate to review and revise important emails.
6. Remember that email is a public and permanent record.

Got it? Cool. Thinking about email productivity led me to make some comments about productivity in general.

The Three Hour Rule

Programming is a right-brain activity. It is very conceptual and spatial and [gasp!] artistic. Effective programming requires that you transition from your body's normal "left brain" mode into a "right brain" zone. As I mentioned above, programming cannot be done in less than three-hour windows. Really. And, having talked to friends in other fields, I'm convinced this applies to many other lines of work.

When you're in a three-hour zone, you've spun up to speed, gathered your concentration, shifted into "right brain mode," and are focusing on a problem. You're being productive. There are four things that can interrupt you, and you have to watch out for all of them:

1. Receiving email or phone calls
2. Personal contact with colleagues
3. Meetings
4. Warp-offs

Let's talk about each of these: first, emails or phone calls. Email we've talked about, this one is easy; just turn your email client off. Done. Most people receive far fewer phone calls than emails, so calls aren't nearly as much of a problem. The solution is the same: put your phone in "do not disturb" mode. Nowadays, most everyone has a cell phone; leave that on, and if there is a genuine emergency, your significant other, doctor, or whoever will reach you there. Most calls to your desk are colleagues or customers; these are important, but as with email, you should pick the time to take them.

Second, there is personal contact with colleagues. Most companies these days can't afford for everyone to have a private office, so it is pretty easy to get interrupted. (If you have an office, close the door!) Distractions include ambient noise, questions ("Hey, do you know how to invoke a framitz?"), and other interruptions ("Hey, you want to play foosball?"). These are really important (especially foosball), but they are interruptions, and they will mess up your three-hour window. Basically, you want to isolate yourself from your colleagues, just like with email and phone calls. To deal with ambient noise, get yourself some really good headphones and play music. Cordless, if you want. For [\\$100](#) you will have the best-sounding music you can imagine, and a sure-fire way to eliminate background noise.

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The "office vs. cubicle" [debate](#) rages and has not been settled. Some companies give every engineer their own office, and claim the productivity improvement is worth the cost. Others feel the atmosphere is better in a cubicle farm, and the interaction between engineers leads to better problem solving. Without taking a stand in this debate, the fact is that most engineers work in cubicles, and have little control over this. So it is what it is – you have to make the best of it.

In 2000, I joined PayPal, a dot-com with an egalitarian work environment where everyone had a cubicle, even the CEO. After many years of enjoying a private office, I was back in a cube. I quickly found two things to be essential: first, I positioned my desk and computer so I was not distracted by traffic (away from the cube opening), and second, I bought a great pair of cordless headphones. With these adaptations I was able to work just as productively as I had in an office. (Of course I used conference rooms for meetings.)

Dealing with questions and interruptions from colleagues is more difficult. The give-and-take between engineers in a team is important; often, one person will have the answer to another's dilemma. There is also the social aspect: it is enjoyable to interact with your colleagues. However, you need those three-hour windows. I recommend a simple sign you can hang on your cube: "I'm in a zone", "Do not disturb", etc. (This is a chance to be creative.) Essentially, you want your colleagues to know you're zoning. If they have a technical question that can wait, they can put it in email, or wait until you emerge. If they need immediate attention ("Hey, you want to play foosball?") at least they know you were in a zone, and that they're interrupting you.

Third, meetings ... ah yes. An entire book can be written about meetings, and [many have](#). Let me make a few comments about meetings and then leave it. Meetings interrupt everyone who attends, obviously, so they are "expensive." They are also often the best way to communicate

team status and to problem-solve. So there is tremendous leverage in having good meetings instead of bad ones. Each meeting should have a well-defined purpose, and the organizer should keep the meeting on track. It is good to have meetings "first thing," bordering on lunch, or at the end of the day. This way, people's three-hour windows are less affected. Enough about meetings: they are what they are.

Finally, warp-offs. So, what's a "warp-off"? Well, unlike the other three kinds of interruptions, in which other people interrupt you, a "warp-off" is when you interrupt yourself. Generally this happens because you're stuck — you don't know what to do next — so you switch tasks and do something you know how to do. My favorite warp-off is surfing the Internet. Sometimes when I'm working on a tough problem, I have to force myself not to do it. Other possible warps include: reading email (!), working on "fun" stuff instead of "hard" stuff, bugging your colleagues ("foosball, anyone?"), and of course posting to your blog. :) Keeping yourself from warping off is really tough, and gets into what motivates people, and a bunch of stuff I can't really tackle here, but the main thing is to be self-aware enough to realize that you do it (everyone does), and strong enough to work on not doing it. I tend to warp when I'm stuck, so the best un-warp strategies for me are ways to un-stuck myself. These include talking to others, taking a bike ride, thinking out of the box (generally above the box — take a bigger picture view), trying to simplify the problem, and relentless application of **W=UH** ("if something it is too ugly or too hard, it is wrong").

In regards to working on "fun" stuff instead of "hard" stuff, it is interesting to think about what makes some tasks fun and others hard. I think happiness comes from liking yourself, and fun things are things that make you like yourself. Tasks that are fun are therefore tasks which you know how to do, and which demonstrate your proficiency. Tasks that are hard are tasks which you don't know how to do, or which reveal a lack of expertise. There is often feedback involved: fun tasks will gain you recognition from customers or coworkers, but hard tasks may not.

When you get stuck and find yourself doing something "fun" instead of something "hard," ask yourself what makes the hard thing hard? In a perfect world, each person would always be assigned tasks that they're good at, and which gain them recognition, so that everything they do is fun. The world isn't perfect, but that's the goal.

Okay, that's a lot of words, let's see if we can summarize. There is essentially one big rule and four guidelines:

BIG RULE: It takes three hours to get anything done.

GUIDELINES:

1. Turn off your email client, put your phone in "do not disturb."
2. Isolate yourself. Get good headphones. Warn colleagues when you're "in the zone," to minimize their interruptions.
3. Minimize meetings and schedule them to avoid three-hour windows.
4. Become self-aware about warping off and try to un-stuck yourself.

That's it — thanks for your attention. If you have comments about any of this, I'd love to hear them; please shoot me an email. Don't worry, it won't interrupt me. :)

The Responses

After I wrote *The Tyranny of Email*, literally thousands of sites all over the blogosphere have linked to me. Surprisingly, most of the references were quite positive, sort of a net-wide "YEESS!"

Many of you took the time to send me email — over 400! — and I decided to summarize the most interesting ideas in this post. There was also a [great thread](#) on Slashdot and two [active discussions](#) on JoelOnSoftware, both with many good ideas. Thanks for all your feedback; it was great.

INSTANT MESSAGING. Many people asked about or commented on IM. I don't use IM myself, so I didn't write about it in my article. It seems to fit somewhere between email and phone; on the plus side, it has the immediacy of a phone call and the typed accuracy of email, and on the minus side, it combines the impersonality of email with the urgency of phones. If you IM, I suggest turning off your IM client whenever you want to concentrate. Not only do IM messages interrupt your "flow," just like email, but IM clients can interrupt you just to let you know a friend has come online, even if that friend doesn't have anything to say. That's a sure invitation to "warp off."

TURNING OFF EMAIL VS. JUST NOT CHECKING. Okay, this is a little subtle, but bear with me here. Several people noted that it is not necessary to turn off your email client, all you need to do is disable notifications. This is theoretically true ("does a tree falling in the forest interrupt you if you aren't notified?") but in practice I don't think it is the same. It is just too easy to quickly alt-tab and check if you have email. Just the temptation to do so might be disruptive. One correspondent noted that he leaves Outlook running because it takes too long to launch. If it takes too long to launch, you're launching it too often. You don't want to be checking email when you're in the zone. Really really.

Whenever you are not doing something which requires concentration, by all means, run your email client, run your IM client, have notifications turned on, take phone calls, the works. But when you really need to get work done, turn everything off. Isolate yourself. Okay, enough about that.

Meetings interrupt everyone who attends, obviously, so they are “expensive.” They are also often the best way to communicate team status and to problem-solve.

TECHNICAL DEBATES. This was the single thing that generated the most objections from people. My suggestion was “Don't get into prolonged technical debates in email,” the key being *prolonged*. Obviously, email is a terrific way for engineers to communicate, and a lot of problem solving does involve debate. There can be a lot of productive back-and-forth among different people and this often iterates into the best solution. But when no new information is being contributed and people are just restating their positions, when the discussion thread is generating more heat than light, then it's time for a meeting.

BCC BADNESS. Quite a few people mentioned the evil potential of BCCs (blind copies). I have to agree: there are rarely situations where a BCC is called for You should anticipate that everyone will find out who received a copy anyway. My advice for avoiding BCC badness is as soon as it becomes apparent that things are going wrong, switch media — talk face-to-face, or on the phone. That will tend to defuse things before they get out of hand.

I had some fascinating correspondence from several people about why email exacerbates negative emotions. Did you know 90% of face-to-face communication is

non-verbal? Apparently 60% is body language, 30% is tone of voice, and only 10% is actual verbal content. I find that amazing. It certainly explains why phone calls are better than email for touchy subjects (40% vs. 10%) and why face-to-face is best (100% vs 40%). And it explains the evolution of emoticons and other cues like boldface, colors, italics, and punctuation. Anyway, email is terrific, but everyone agrees it does not work for criticism.

THREE HOURS? Proving that mine was primarily an audience of engineers, several people wanted to know where the number three came from. Was there a study that proves this is the minimum interval? Well, three hours is purely anecdotal, based on personal experience. Your mileage may vary. The central point was not three hours vs. two or four, it was that you need fairly long periods of uninterrupted time to be productive.

Here's another reason for three: it kinds of "fits" into a workday. For example, you get in at 8:30, check email, pick up voicemail, do all that. Then you shut everything off and work for three hours, 'til say 12:30. Now you break for lunch. You get back at 1:30, check email, pick up voicemail, do all that. Then you shut everything off and work for another three hours, 'till say 5:00. Then you check email, pick up voicemail, play foosball, run around and bug everyone, etc. You've had two nice periods of time to get work done.

I know, I know, this isn't real-world -- it is a canonical example. Nobody really does this every day, or even on any given day. But my point is that this would be way more productive than taking interruptions all day long.

NATURE OF YOUR WORK. Maybe it wasn't obvious, but my comments were targeted at engineers and others who profit from uninterrupted periods of concentration to get work done. If you're a customer support rep or a salesperson, this advice may not be for you. [Unless, of course, you happen to be working on a "cheat sheet" to help your team with a prevalent problem, or writing a proposal to win a big deal. ;)]

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TIMELY RESPONSE. Some people felt three hours does not constitute "timely response" to emails. Obviously this can vary with the nature of your job. There are certainly people whose responsibilities entail being more responsive than that. Hopefully they are not engineers, however. To restate the central point, engineers need fairly long periods of uninterrupted concentration to be productive.

I've managed people who had to balance technical support responsibility with development. The best solution for such positions is to set up a rotation, such that some people are "on call" while others are not. That enables some people to give timely support, while others are able to concentrate on development.

PA SYSTEMS. Amazingly, quite a few people reported that their offices feature PA systems. I can't think of anything more annoying than periodic PA pages, you certainly have my sympathy. Beyond lobbying to have the PA system disabled (or buying wire clippers), it seems the solution would be headphones and music.

Finally, if you ever want to abuse your personal productivity, post a semi-interesting article about productivity on the web. Between deploying [slashdot sunscreen](#), replying to interesting emails, and tracking down all the great sites linking to you from referrer logs, it can easily cost you a week. :)

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ABOUT THE AUTHOR

I'm Ole Eichhorn. I live in Westlake Village, California, which is about 45 miles northwest of Los Angeles, with my wife, two of my four daughters (one is off to college, another escaped to the Navy), and a small menagerie of pets. I've spent most of my life coding and herding coders. In between, I sail and ride bikes. You can e-mail me at ole@pacbell.net.

I am CTO of a little company called Aperio (<http://aperio.com>) which makes microscope slide scanners and medical pattern recognition software. Check out <http://aperio.com/view/gallery.ksh>, our Virtual Slide Gallery — yep, those are 20GB image files you're viewing with your standard web browser.

Previously, I was with PayPal (SVP/Engineering), Intuit (General Manager of web finance subsidiary), Digital Insight (VP/Engineering), and XP Systems (VP/Development and Director of Technology). My blog, Critical Section, is at <http://w-uh.com> and you can email me at ole@pacbell.net.

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
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