

Too Busy To Think

Cost, Consequences, and Causes of Multitasking Mania

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The theoretical physicist John Wheeler is credited with quipping that “time is nature’s way of keeping everything from happening all at once.” Aside from the humor in this remark, it contains an element of truth that is relevant to the subject of this article. In our quest to compress project schedules, individual project team members are required to execute multiple concurrent tasks—often with little consideration of the practical limits for doing so. But when a so-called knowledge worker says, “I’m too busy to think,” we need to pay attention to why this is so and what it suggests—even if it is said in jest. After all, humor is often a mirror of reality.

Over the past several years, there has been a wealth of research on multitasking as it pertains to human abilities and behaviors. Many of the issues this research has attempted to address are (or should be) matters of concern to program managers, project managers, and individual contributors. In this article, I will share some of what I have distilled from the research as well as practical insights from my personal experience as a project manager and consultant. It is not intended to be a diatribe against multitasking. On the contrary, my hope is that it will shed light on how to multitask more effectively, beginning with exposing some of the misperceptions regarding multitasking effectiveness. My goals are to plant some seeds that program managers, project managers, and individual contributors can use for ensuring multitasking is done purposefully and sanely, and to counter conventional thinking and laissez-faire behaviors that sustain undisciplined multitasking and often lead to a frenetic condition I call multitasking mania.

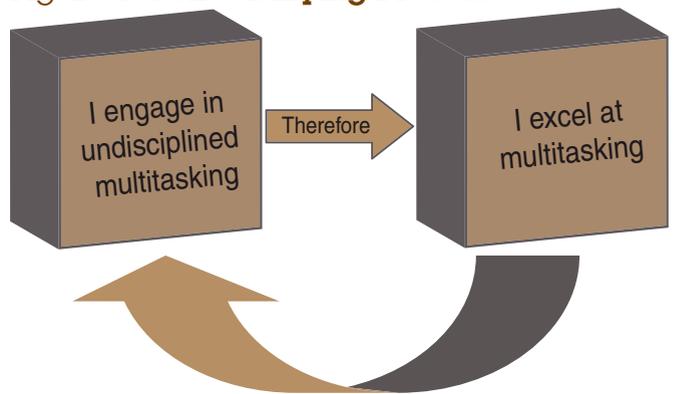
How to Make a Pig Sing

Picture this. You are sitting in your vehicle in the left turn lane, waiting behind a car in which the driver is deeply engaged in a cell phone conversation. When at long last the green arrow comes on, this distracted driver doesn’t notice—not, that is, until the arrow turns yellow, at which point he/she accelerates through the intersection, causing you and those behind you to miss your turn. From that person’s perspective, all is well. But, the same can’t be said for you and the others who experience the impact of this person’s behavior. This frustrating but familiar scenario is

emblematic of the perceptual disconnect between people who engage in undisciplined multitasking and those who are impacted by such behavior. In a project environment, this ripple effect can have much greater and more serious consequences than mere frustration.

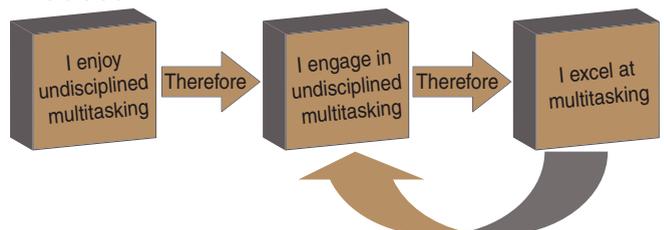
Like the pig that sees itself as singing when it is engaged in what sounds like squealing to humans, individuals tend to judge their multitasking effectiveness on the basis of self-perception, which is often reinforced by a form of inverse logic that says, “I engage in undisciplined multitasking, therefore I’m good at it.” Figure 1 provides a depiction of this self-justifying process.

Figure 1: Self-Justifying Process



Even more subtle and difficult to deal with on an objective basis is an addiction to the endorphin high that some experience from repeated engagement in a chaotic multitasking frenzy. This twist on the self-justifying process is depicted in Figure 2.

Figure 2: Self-Propelled, Self-Justifying Process



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This discussion of vocally challenged pigs and self-perception leads me to two important points that can be summarized as follows:

Point 1: We tend to judge our personal effectiveness at multitasking at a higher level than an objective observer would be likely to do.

Point 2: In a team environment, multitasking effectiveness is best judged by those who are affected by the consequences of the multitasker's actions. Multitasking propensity does not necessarily equate to multitasking proficiency.

I must confess that I don't know the secret to making a pig sing, but I do know there is no hope in even getting it to try if the pig doesn't believe it is important to do so, and if it is firmly convinced it already possesses this ability.

Antics with Semantics

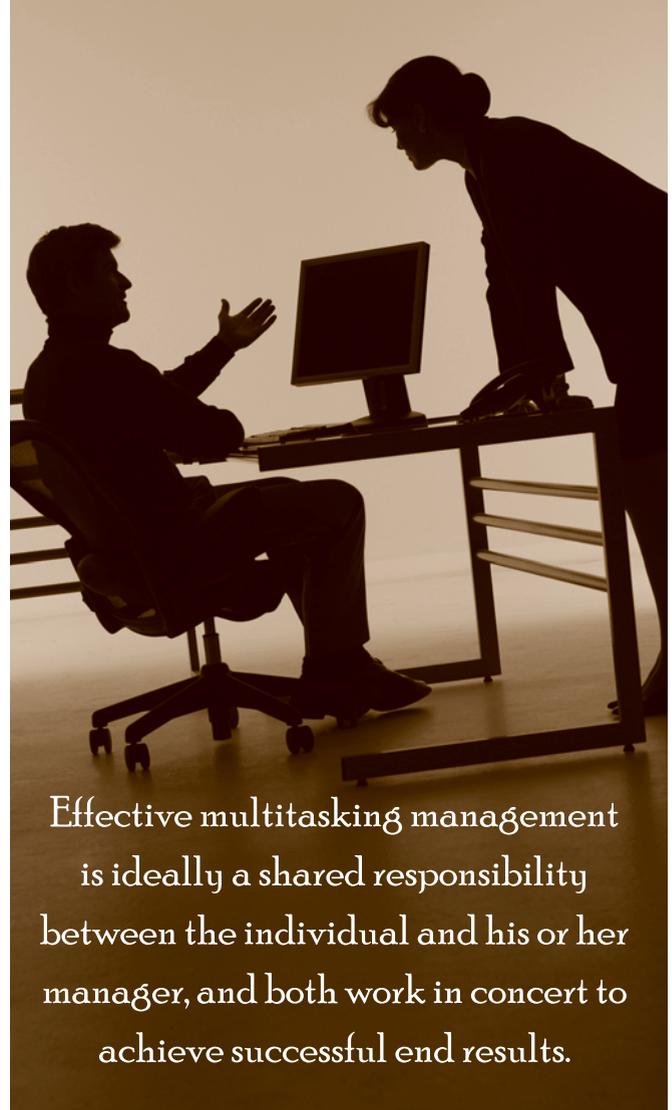
When the subject of multitasking comes up in casual conversation, someone invariably points out that he or she is quite capable of walking and chewing gum at the same time. While this may, indeed, be true when it comes to multitasking capability, it trivializes the issue by equating rote tasks to complex cognitive tasks.

In response to this remark, I often point out that it is also possible to drive a car and listen to the radio at the same time. Nevertheless, when we find ourselves behind the wheel in a tense traffic situation, we are apt to reach over and turn down the volume on the radio. It's a scenario that almost every adult who has driven a car can identify with. Instinctively, we seem to recognize that even a seemingly passive activity, such as listening to the radio in the background, requires cerebral resources that need to be freed up when intense concentration is required.

These contrasting circumstances—rote tasks versus complex cognitive tasks—highlight the fact that multitasking means different things to different people. For instance, the tasks an emergency room nurse engages in differ significantly, both in form and substance, from those of a project manager. Nevertheless, when it comes to multitasking and the demand on cerebral resources, research supports the somewhat common-sense assertion that nurses and project managers have more in common than either of these share with multitasking of the variety that involves walking and chewing gum.

This leads me to make the following points:

Point 3: If you truly excel at multitasking, this may say more about the level of cognitive complexity of the tasks you are engaging in than your multitasking ability in general. Unlike complex cognitive tasks, rote tasks are not regulated by the executive control system located in the



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prefrontal region of the brain and, consequently, can be processed in the background or without conscious intervention.

Point 4: When it comes to juggling complex cognitive tasks, research has shown that humans actually engage in rapid task switching rather than concurrent multitasking. Thus, when it comes to multitasking that requires conscious intervention, there is some degree of on/off switching cost—a cost with genuine consequences, such as context loss and recovery, that need to be weighed against the benefits when multitasking is deemed necessary and desirable.

Point 5: With practice, complex cognitive tasks tend to become programmed into the brain as routine, consequently bypassing the bottleneck posed by the brain's executive control system. This factor is instrumental in relying on experience to offset the gradual decline in multitasking ability as we age.

When it comes to multitasking, semantics matters. The fact that confusion abounds is reflected in numerous job ads and position descriptions. For example, the following excerpt, describing the partial skill requirements for a cer-

A Six-pack of Tips for Defense AT&L Authors

1 Look at back issues of the magazine. If we printed an article on a particular topic a couple of issues ago, we're unlikely to print another for a while—unless it offers brand new information or a different point of view.

2 We look on articles much more favorably if they follow our author guidelines on format, length, and presentation. You'll find them at www.dau.mil/pubs/dam/DAT&L%20author%20guidelines.pdf.

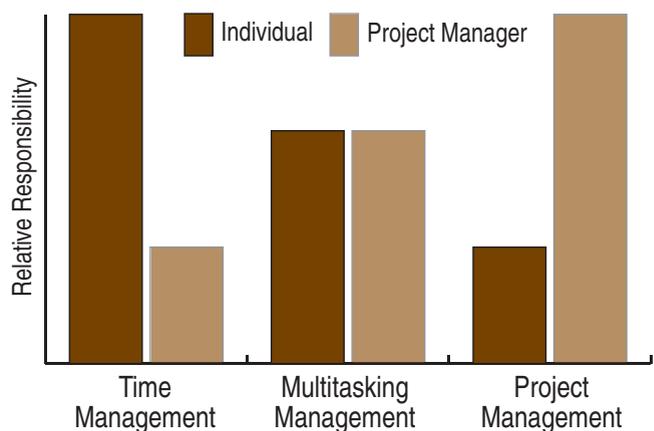
3 Number the pages in your manuscript and put your name on every page. It makes our life so much easier if we happen to drop a stack of papers and your article's among them.

4 Do avoid acronyms as far as possible, but if you must use them, define them—every single one, however obvious you think it is. We get testy if we have to keep going to acronymfinder.com, especially when we discover 10 equally applicable possibilities for one acronym.

5 Fax the *Certification as a Work of the U.S. Government* form when you e-mail your article because we can't review your manuscript until we have the release. Download it at www.dau.mil/pubs/dam/DAT&L%20certification.pdf. Please don't make us chase you down for it. And please fill it out completely, even if you've written for us before.

6 We'll acknowledge receipt of your submission within three or four days and e-mail you a publication decision in four to five weeks. No need to remind us. We really will. Scout's honor.

Figure 3: Distribution of Responsibility



tain technical project manager position, is representative of numerous others that I have encountered:

- Precise attention to detail
- Ability to multitask and prioritize.

Aside from the fact that multitasking mania is virtually synonymous with the inability to prioritize, the relative incompatibility of these two requirements—at least for the kind of tasks a technical project manager is apt to engage in—will likely put the successful job candidate in a serious bind if the requirements are enforced to the letter. I don't believe it's a stretch to add that whenever job performance does not live up to job expectations, project task durations will almost certainly be underestimated, making schedule and budget overruns inevitable.

The Cost of Doing Busy-ness

Much has been written in the popular press over the past decade about the potential cost and consequences of undisciplined multitasking. For instance, in a July 19, 2004, *Los Angeles Times* article titled "We're all multi-tasking, but what's the cost?" the author lists as examples, "shoddy work, mismanaged time, rote solutions, stress and forgetfulness. ... car crashes, kitchen fires, forgotten children, near misses in the skies and other dangers of inattention." This same article cites the insightful research of University of Michigan psychologist, David E. Meyer, who adds to this list the possibility of "shorter attention span, poorer judgment, and impaired memory." All in all, not a very favorable report card!

Particularly relevant to project managers is the cost premium associated with task switching in two circumstances: when a task is interrupted in mid-stream (such as in response to a phone call) and when bouncing between two or more major tasks (often in support of multiple projects). As different as these circumstances are, they are alike in the sense that there is a cost associated when you stop one task, start another, and resume the first task sometime later. In the first case, the cost can translate



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into diminished response time—a factor that is especially relevant when reaction time matters—or it can prolong the duration of a task above and beyond the time spent responding to the interruption. In the second case, the cost translates to a loss of context and perhaps the need for rework as a result of a breach of continuity. For the sake of distinguishing between these two cost factors, I refer to the task types they pertain to as micro-tasks and macro-tasks, respectively.

An important aspect of sane multitasking is a clear understanding of the cost and consequences. The following points summarize a couple of rules of thumb that may be beneficial in assessing the cost associated with multitasking in a project environment.

Point 6: Pertaining especially to micro-tasks, research has shown that the task-switching premium can add 25 to 50 percent to the duration of a task, depending on the complexity and novelty of the task. This often takes the form of distractions or interruptions that can derail an important train of thought. Though interruptions are inevitable and sometimes desirable, project managers are advised to take proactive measures to create and foster a project environment that minimizes disruptive interruptions, starting with their own behaviors.

Point 7: When it comes to macro-tasks, the loss of efficiency from sharing a knowledge worker between two tasks has been estimated to range between 7 and 10 percent. The potential for loss of continuity is greatest when task bouncing occurs at a point in the task where context recovery at a later time is likely to be a challenge, necessitating rework that often starts with the question, “Where was I?”

The Buck Stops Where?

Multitasking management—when it is done sanely—is a shared responsibility of the individual and his or her manager. This is in contrast to time management, which typically falls on the shoulders of the individual, and project management, which is primarily the responsibility of the project manager. A model of the distribution of responsibility for managing time, tasks, and projects is depicted in Figure 3. For a specific project, the distributions may not be identical to those shown in Figure 3, but the apportionments generally follow this pattern.

At this juncture, I need to take a step back and make clear the point that *effective* multitasking management is ideally a shared responsibility between the individual and his or her manager, and both work in concert to achieve successful end results. Unfortunately, in practice, it often falls on the shoulders of the individual to make it work for him or herself, leaving unaddressed the systemic factors that foster multitasking mania. Even though multitasking is an individual behavior, the manager bears responsibility for creating an environment in which multitasking mania is allowed to exist and persist.

This discussion of roles and responsibilities, tied to the need to take proactive measures to overcome the inertia that sustains multitasking mania, leads me to my eighth and final point:

Point 8: Effective multitasking is a product of discipline, mutual respect, effective work habits, and a brain-friendly work environment—to name a few. It will not come to pass unless, and until, individuals and their managers acknowledge that undisciplined multitasking is a genuine concern and then take responsibility for their contribution to the problem and the solution.

Barring purposeful intervention, undisciplined multitasking is a condition that can easily spiral out of control. Once that occurs, what is generously labeled as a high-energy work environment may in reality be a frenetic state of affairs in which highly skilled knowledge workers are quite literally too busy to think.

The author welcomes comments and questions and can be contacted at lon@r2assoc.com.