

**Mastering the Art of Multitasking™**

Roberts & Roberts Associates  
Plano, TX  
<http://www.R2assoc.com>

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E-Mail: [info@R2assoc.com](mailto:info@R2assoc.com)

Mastering the Art of Multitasking

**Are Employers Getting the Word on Multitasking?**

**CNN.com** Study: Multitasking is counterproductive  
Aug. 5, 2001

**npr** The thief of time: Multitasking is inefficient, studies show  
Aug. 6, 2001

**TORONTO STAR** Stop all that multitasking, study suggests  
Aug. 7, 2001

**THE WALL STREET JOURNAL** Juggling Too Many Tasks Could Make You Stupid  
Feb. 28, 2003

**Los Angeles Times latimes.com** We're all multi-tasking, but what's the cost?  
Jul. 19, 2004

**The New York Times** Slow down, brave multitasker, and don't read this in traffic  
Mar. 25, 2007

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## What's Driving It?

- **Stretched Resources** → "We've got to do more with less."
- **Naivety** → "Like machines, people should never be idle."
- **ICT Devices and Features** → "You need to be connected 24/7."
- **ICT Addiction** → "I check for e-mail every few minutes."
- **Career Implications** → Job ad: "Must be able to multitask."
- **Information Overload** → "I cc everyone on my distribution list."
- **Anosognosia** → "I do it, therefore I'm good at it."

## What Do We Mean by "Multitasking"?

. . . And, Why Does the Meaning Matter?

### Is it . . .

1. Walking and chewing gum at the same time?
2. Thinking two or more thoughts at the same time?
3. Being assigned to multiple projects on a time-share basis?
4. Switching between two or more tasks in rapid succession?

### Why it matters . . .

- Job descriptions; job performance expectations
- Project loading and leveling
- Anosognosia
- Research

## Mastering the Art of Multitasking

*Houston, we have a (communications) problem!*

**Micro-Task Switching:** Rapidly switching between tasks (milliseconds-minutes)

**Macro-Task Switching:** Suspending work on a cerebral task that requires continuity of attention over a period of time in order to deal with an interruption or switch to another task

**Role-Switching:** Having multiple responsibilities that require frequent switching of roles

**Concurrent Multitasking:** Concurrent execution of 2 or more "practiced" tasks, often unconsciously

**Time-Sharing:** Taking advantage of the time while one task is in a wait-state to perform another (e.g., working on an expense report while waiting for info. from someone else)

## Mastering the Art of Multitasking

### Good Multitasking vs. Bad Multitasking

#### Good

- Disciplined
- Conducive to creative thinking & problem solving
- Fosters self-selection, thus a sense of control
- Enjoyable tasks
- Accounts for individual styles

#### Bad

- Random & fragmented
- Involves menial tasks that waste knowledge worker's time/energy
- Requires frequent "context switching"
- Imposed from external sources
- Encourages 24/7 work

### Some Recent Research Findings

Polychronicity is **not** a good predictor of multitasking effectiveness (Koëinig, 2005)

Working memory is a significant predictor of multitasking effectiveness (Koëinig, 2005)

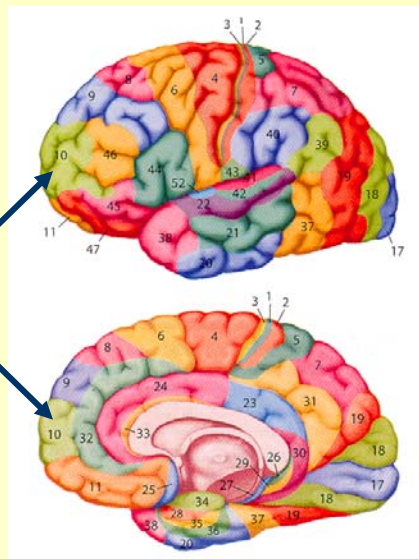
Multitasking lowers functioning IQ by 10 points, on average (Wilson, U. of London, 2005)

57% of adult workers say they are busier than ever but are getting less done (Harris Poll, 2006)

Distractions consume 2.1 hrs out of the average worker's day (Basex, 2005)

White collar workers are interrupted 7 x per hr; 80% of these are perceived as trivial (Time Magazine, 2004)

### Brodmann's Area 10



## The Cost and Consequences of Multitasking

### Task Switching Cost:

- Mechanics of moving to a new task
- Loss of continuity and concentration
- Rework and duplication of effort
- Emotional frustration; partially-completed tasks

### Consequences:

- Project durations elongated
- Many unfinished projects in the pipeline
- Schedule estimates may be inflated to account for contingencies
- Meshing schedules of multiple projects is a challenge

## Quantifying the Cost of Multitasking

### From research conducted by Rubinstein, Meyer, and Evans

*The task switching premium can add 25% to 50% to the duration of a task, depending on task complexity.*

⇒ **Has Ramifications for Disruptive Interruptions**

### From research conducted by DeMarco and Lister

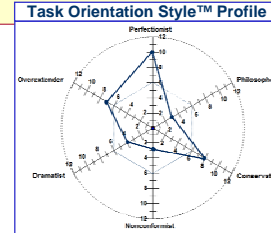
*"There is never less than a 15 percent penalty due to time-sharing a knowledge worker between two tasks."*

⇒ **Has Ramifications for Multiple Projects**

## Mastering the Art of Multitasking

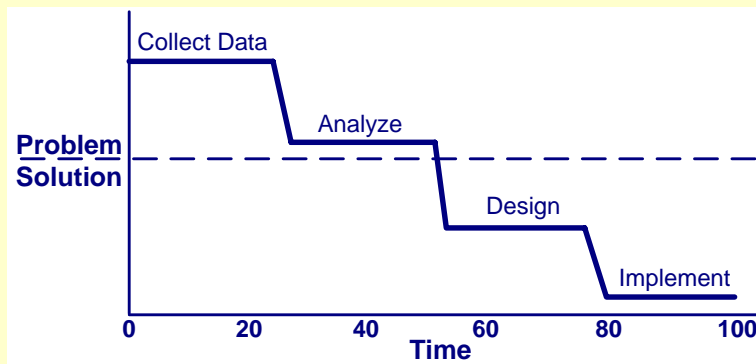
### Personal Factors that May Influence Multitasking Effectiveness

- **The Age Advantage** – truth vs. myth
- **The Gender Advantage** – truth vs. myth
- **Task Orientation Style™**
  - **Perfectionist:** "Do it right."
  - **Philosopher:** "Consider the choices before you do it."
  - **Conservative:** "Consider the risks before you do it."
  - **Nonconformist:** "Do it, then deal with the consequences."
  - **Dramatist:** "Do it with style."
  - **Overextender:** "Do it yourself if you want it to get done."

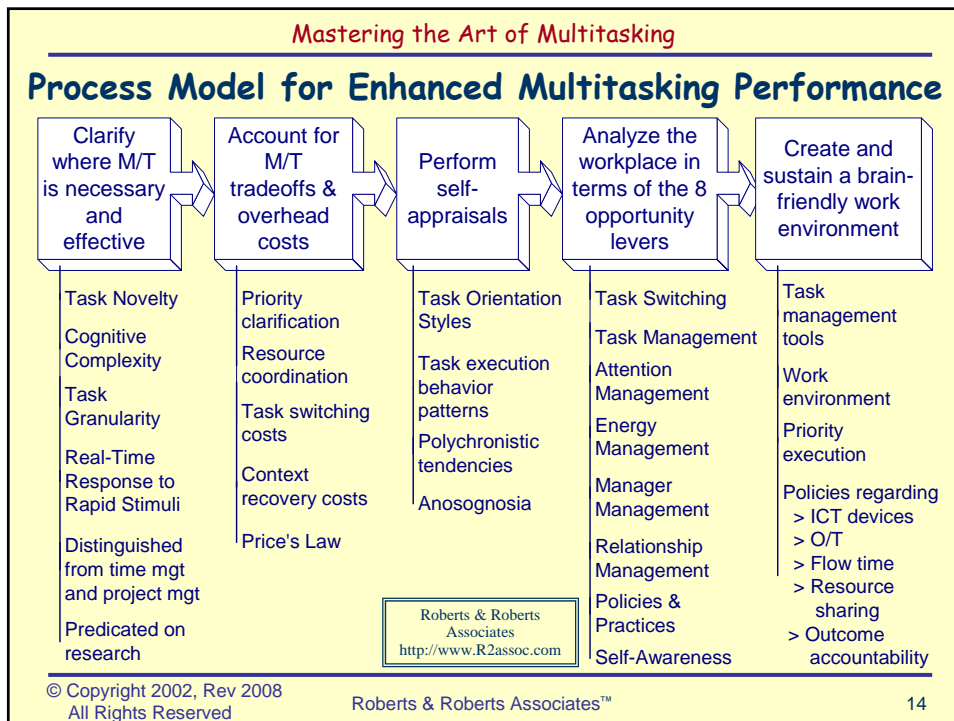


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### Impact of Multitasking on Complex Non-Algorithmic Tasks




SCENARIO: Given a building of a certain size, and a set of conditions and constraints (usability, maintainability, reliability, etc.), within the time limit design the control system for an elevator to service this building.



# Mastering the Art of Multitasking™

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		<b>Multitasking Work Load</b>							
<b>Name:</b>	Bill Bailey							<b>Interval:</b>	Jan-Jun
<b>Project Mgr.</b>	<b>Project/Task</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Total</b>	
T. Elizondo	LAN Network Project								
	Plan	40						40	
	Design		60	20				80	
	Code			100	120	100		320	
	Test					40		40	
	Install						24	24	
M. Baker	Network Security Project								
	Plan			40				40	
	Design				75			75	
	Code					80	80	160	
	Test								
	Install								
E. Fermi	Quality Task Force								
	Meetings	8	8	8	8	8	8	48	
	Site Reviews		32		32		32	96	
<b>Totals:</b>		48	100	168	235	228	144	923	
<b>Nominal:</b>		173	173	173	173	173	173	1038	
<b>Overtime:</b>		-125	-73	-5	62	55	-29	-115	



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## Using Excel to Create an In-Cell Priority Bar Chart

	<b>Project/Activity</b>	<b>Rating</b> (L-M-H)	<b>Ranking</b> (1=high)	<b>Relative Importance</b>
6	Membership Drive	H	2	
7	Proposal for Astor-Annon Grant	H	4	
8	Proposal for Wilhite Grant	H	3	
9	Facility Expansion Analysis	M	9	

**Conditional Formatting**

Condition 1  
Formula Is       Preview of format to use when condition is true:

Condition 2  
Formula Is       Preview of format to use when condition is true:

Condition 3  
Formula Is       Preview of format to use when condition is true:

Use Conditional Formatting to Color-Code Bars WRT **Rankings**

Use the REPT text function to create bar lengths based on **Rankings**

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### Technology Tools to Support a Windows-Based Multitasking Environment

#### GroupBar

- A desktop tool to aid in organizing multiple windows
- <http://research.microsoft.com/vibe/groupbar.aspx>

#### Microsoft Scalable Fabric\*

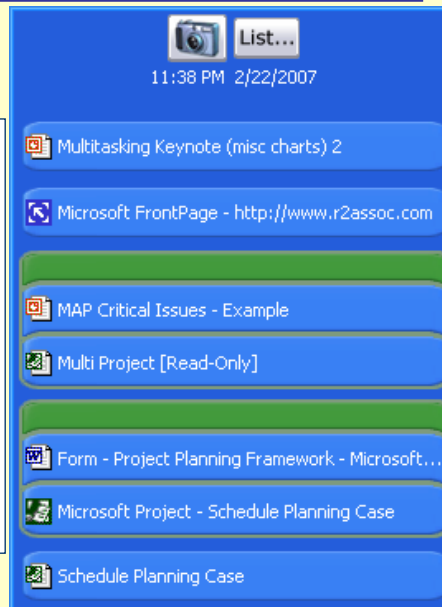
- Allows you to miniaturize open windows by dragging them to the edge of the screen
- <http://research.microsoft.com/research/downloads/Details/20682d64-c8c0-4427-8157-41a8bae15e13/Details.aspx>

\* Note: This tool requires .NET Framework Version 1.1.4322

### Using GroupBar to Assist in Managing Multiple Tasks

- GroupBar is a Microsoft desktop tool (in prototype stage) that offers enhanced window management in a taskbar-like setting.
- Using drag-and-drop operations on window tiles within the bar, users can create grouping relationships that allow them to perform windows layout functions on multiple windows at once.
- Also, windows and groups in the GroupBar can be captured in a "Snapshot" that remembers the position and contents of each window, thus facilitating recreation of the Snapshot at a later time.

<http://research.microsoft.com/vibe/groupbar.aspx>



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## Using GroupBar to Assist in Managing Multiple Tasks

Select a Snapshot from the list on the left in order to view its properties and see a preview. Click 'Restore' to recreate the selection on the desktop.

Selected Snapshot

Date: 2/22/2007

Time: 11:37:57 PM

Number of Windows: 2

Microsoft PowerPoint - [MAP Critical Issues - Example]  
Multi Project [Read-Only]

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## Hollowell's Suggestions for Improving Attention

(Ref.: "CrazyBusy" by Edward Hollowell, M.D.)

- *Physical Well-Being (6 suggestions)*
- *Emotional Well-Being (2 suggestions)*
- *Work Environment (3 suggestions)*
- *Task Related (3 suggestions)*
- *Self-Improvement (3 suggestions)*

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## 10 Tips for Improving Multitasking Effectiveness

### Self

1. Recognize when multitasking is and isn't effective
2. Try to avoid task fragmentation and task nesting
3. "Out" the sources of interruptions . . . and control them
4. Set priorities; rehearse how you will handle interruptions
5. Use memory aids to minimize task switching overhead

### As a Project Manager

6. Perform a reality check on how priorities are communicated
7. Recognize your contribution to multitasking mania
8. Abolish "dotted-line" reporting relationships
9. Practice "weed" control
10. Help team members discover their Task Orientation Style™ and what this means in terms of multitasking effectiveness

Roberts & Roberts Associates

Ph: (972) 596-2956

E-mail: [Lon@R2assoc.com](mailto:Lon@R2assoc.com)

<http://www.R2assoc.com>



*Lon Roberts, Ph.D.*

*Author of . . .*

