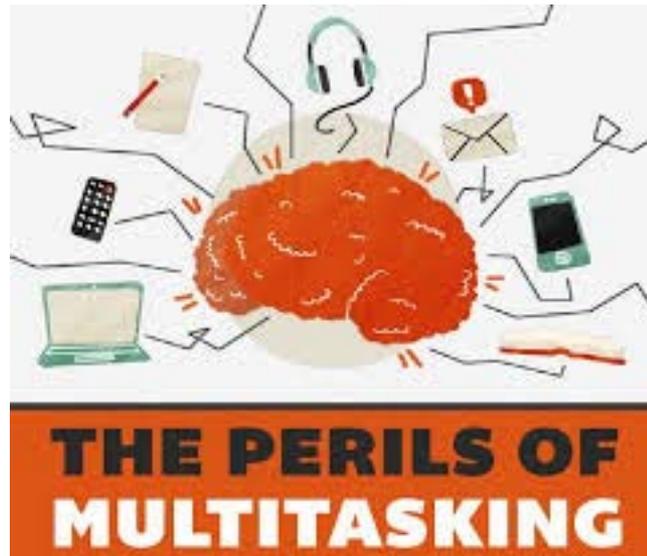


# The Myth of Multitasking

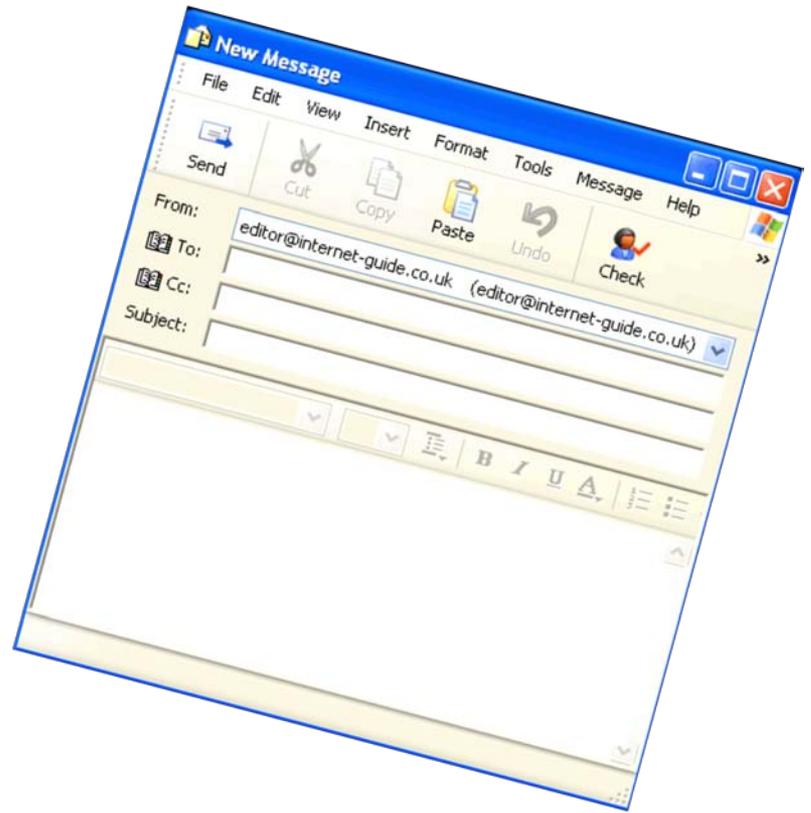
David Strayer Ph.D.  
University of Utah



# Myths of Multitasking

-  Multitasking is a new phenomena
-  You can multitask almost anything
-  Multitasking makes you more efficient
-  Multitasking can't hurt performance

# Device Addiction?



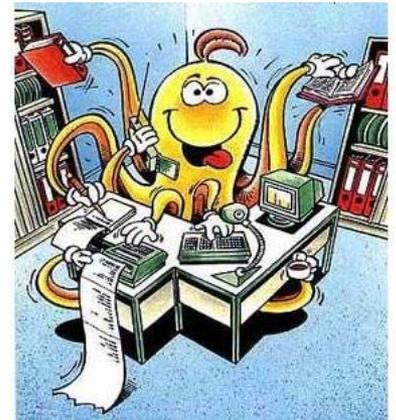
# The Modern Family



# Signs of Technology Addiction

- Do you check your smartphone compulsively?
- Do you experience *phantom vibrations*?
- Do you sleep with your phone?
- Do you suffer from *Facebook depression*?
- Do you check e-mail as soon as it arrives?
- Do you check e-mail on evenings and weekends?
- Is your memory impaired by the *Google effect*?
- Do you text while driving?
- Do you spend more time playing video games than outdoors?
- Do you interrupt intimate relations to read a text or e-mail?

- The average knowledge worker switches tasks every three minutes, and once distracted, a worker takes nearly a half-hour to resume the original task.
- Gloria Mark, a leader in the new field of “interruption science”



- Interruptions and the requisite recovery time now consume 28% of a worker's day.
- Estimate by the business research firm Basex



- Under deadline pressure, workers produce creative work on days when they are focused, not when they are scattered and interrupted.
- Harvard Business Review



- Employees who are routinely interrupted and lack time to focus are more apt to feel frustrated, pressured, and stressed.
- Families and Work Institute



- Multitaskers experience a 40% drop in productivity across the board.
- They take 50% longer to accomplish a single task and make up to 50% more errors than workers who focus on one task at a time.

- From Brain Rules



- Multitaskers experienced a temporary drop in IQ of up to ten points.
- BBC



# *Psych Today* Blogs on Multitasking

- <http://www.psychologytoday.com/blog/conquering-cyber-overload/201005/mining-your-inner-moron-why-multitasking-is-such-waste>
- [201005/five-reasons-we-multitask-anyway](http://www.psychologytoday.com/blog/conquering-cyber-overload/201005/five-reasons-we-multitask-anyway)
- [201006/the-fault-dear-brutus-is-not-in-our-gadgets-in-ourselves](http://www.psychologytoday.com/blog/conquering-cyber-overload/201006/the-fault-dear-brutus-is-not-in-our-gadgets-in-ourselves)
- [201012/competing-the-daily-show-keeping-students-attention](http://www.psychologytoday.com/blog/conquering-cyber-overload/201012/competing-the-daily-show-keeping-students-attention)
- [201102/flooding-your-brain-s-engine-how-you-can-have-too-much-good-th](http://www.psychologytoday.com/blog/conquering-cyber-overload/201102/flooding-your-brain-s-engine-how-you-can-have-too-much-good-th)
- [201202/mindus-interruptus-distractions-are-costlier-you-think](http://www.psychologytoday.com/blog/conquering-cyber-overload/201202/mindus-interruptus-distractions-are-costlier-you-think)
- [201305/is-background-music-boost-or-bummer](http://www.psychologytoday.com/blog/conquering-cyber-overload/201305/is-background-music-boost-or-bummer)

# Everyday Multitasking



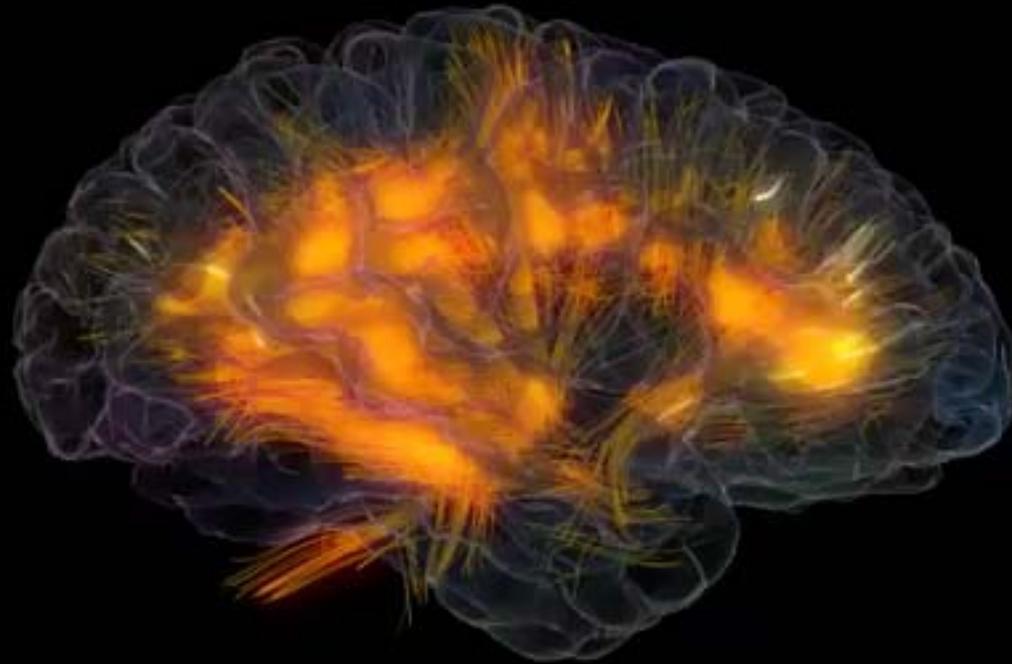
# What is Multitasking?

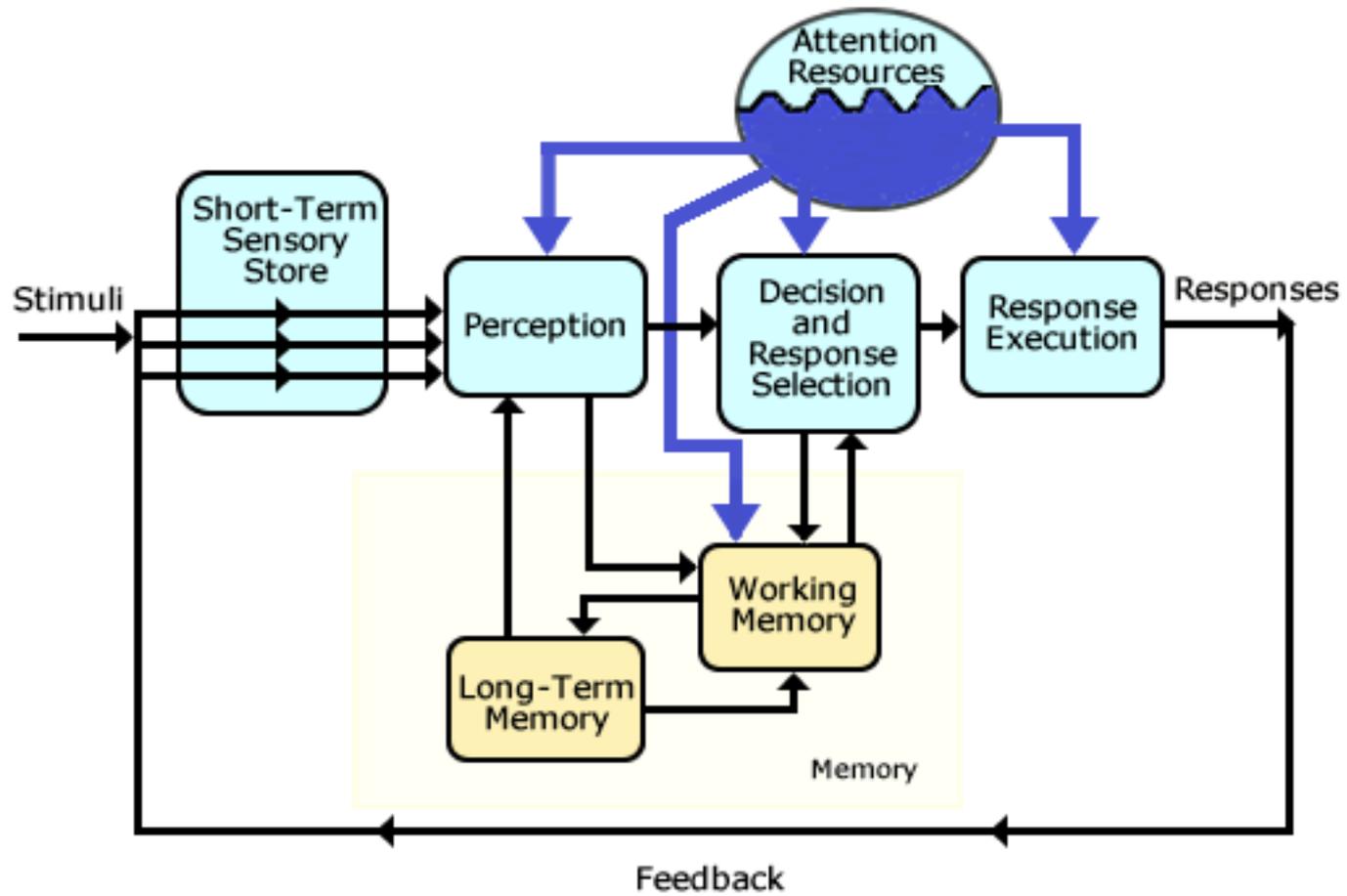
- Multitasking is defined as the concurrent performance of two or more functionally independent tasks with each of the tasks having unique goals involving distinct stimuli, mental transformation, and response outputs.
- Task 1:
  - Driving
- Task 2:
  - Reading a book
  - Reading on Kindle
  - Talking on a cell phone

# Multitasking by the Numbers

- **11** – The average number of minutes an employee can devote to a project before being interrupted
- **28** – Percent of the work day lost due to interruptions, inefficient multitasking is the biggest culprit
- **2.1** – Average hours estimated lost productivity per person per day, based on 40-hour work week
- **\$650 Billion** – Estimated annual loss to the US economy due to unnecessary interruptions plus recovery time

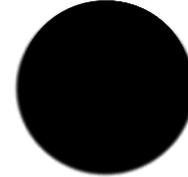
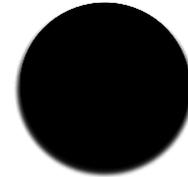
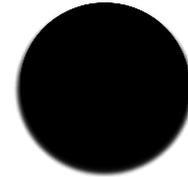
# The Multitasking Brain



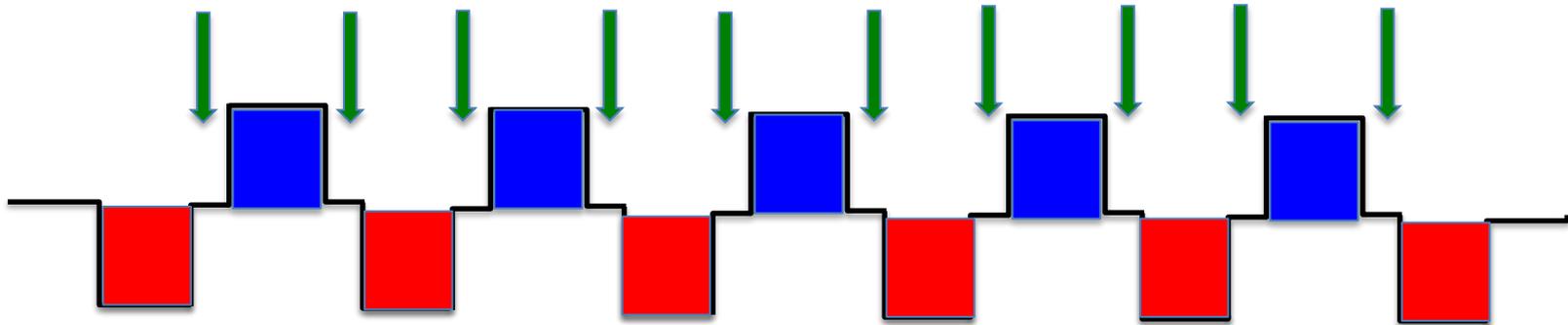


# Multitasking Example

- Recite letters A-I as fast as you can
- Recite numbers 1-9 as fast as you can
- Now recite A, 1, B, 2... as fast as you can
- Which is longer?



## Task Switching Costs



You actually perform only one task at time  
You incur switching costs whilst multitasking

# Multitasking and Driver Distraction



# An Example of Cognitive Distraction



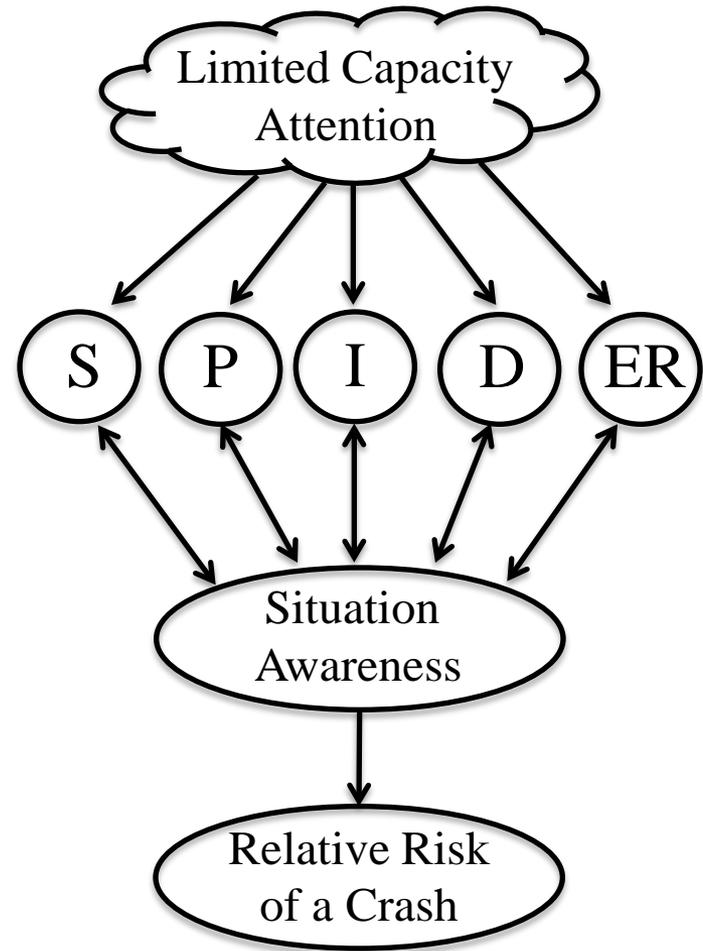
# Basketball Counting Task



Report the pass count for team in white

# The Multitasking Driver

- ✧ *Scanning* specific areas for indications of threats
- ✧ *Predicting* where threats might materialize if they are not visible
- ✧ *Identifying* threats and objects in the scenario when they occur
- ✧ *Deciding* whether an action is necessary and what action is necessary
- ✧ *Executing* appropriate *Responses*



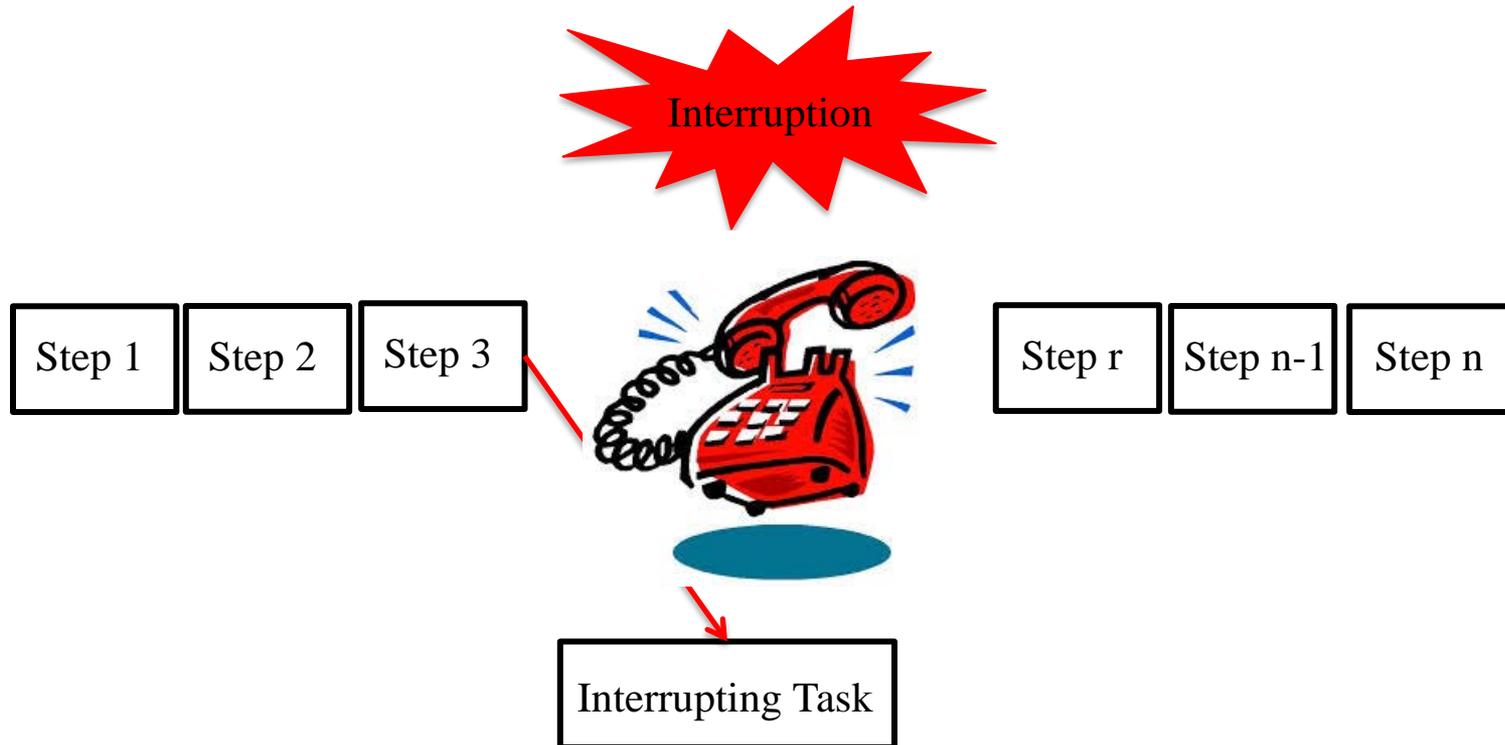
# Multitasking and Transportation



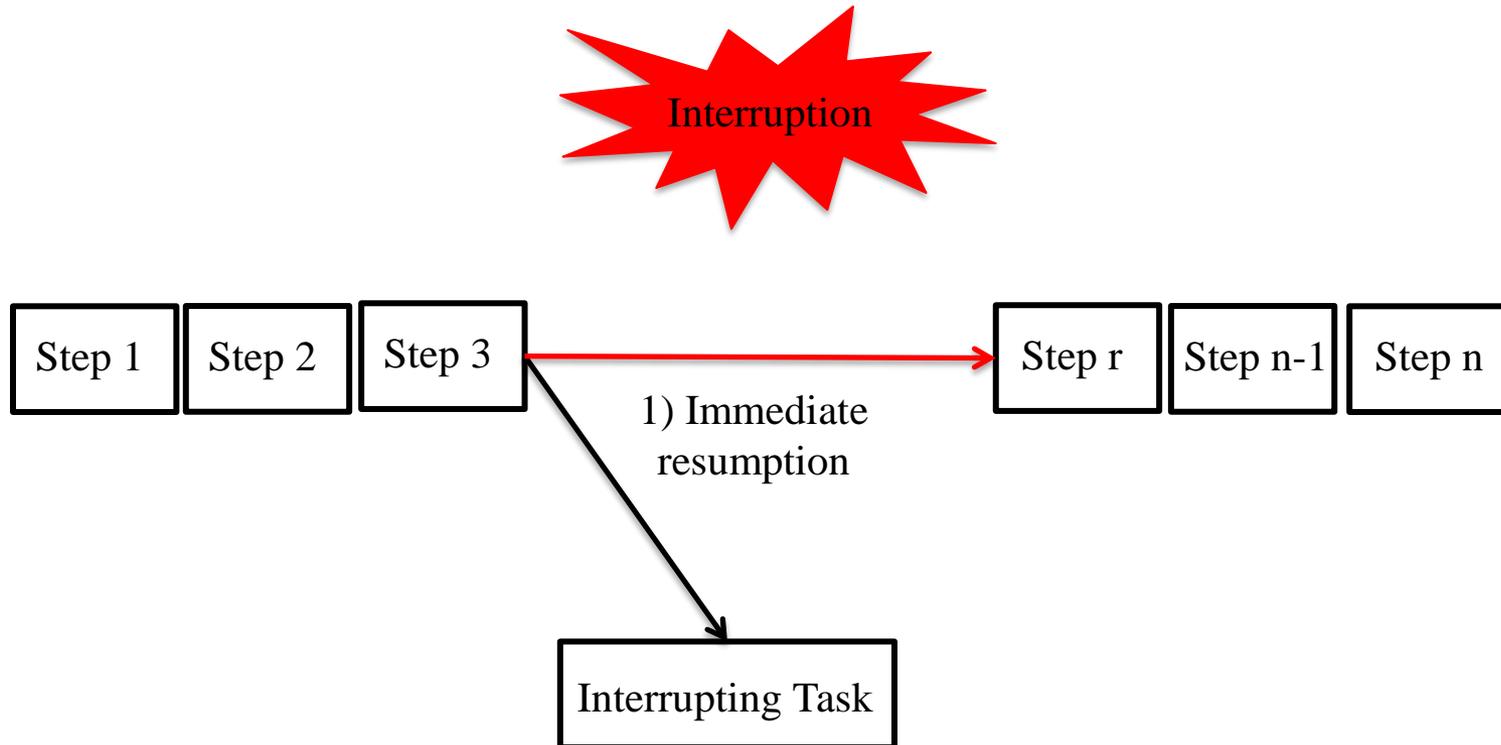
# Anatomy of an Interruption



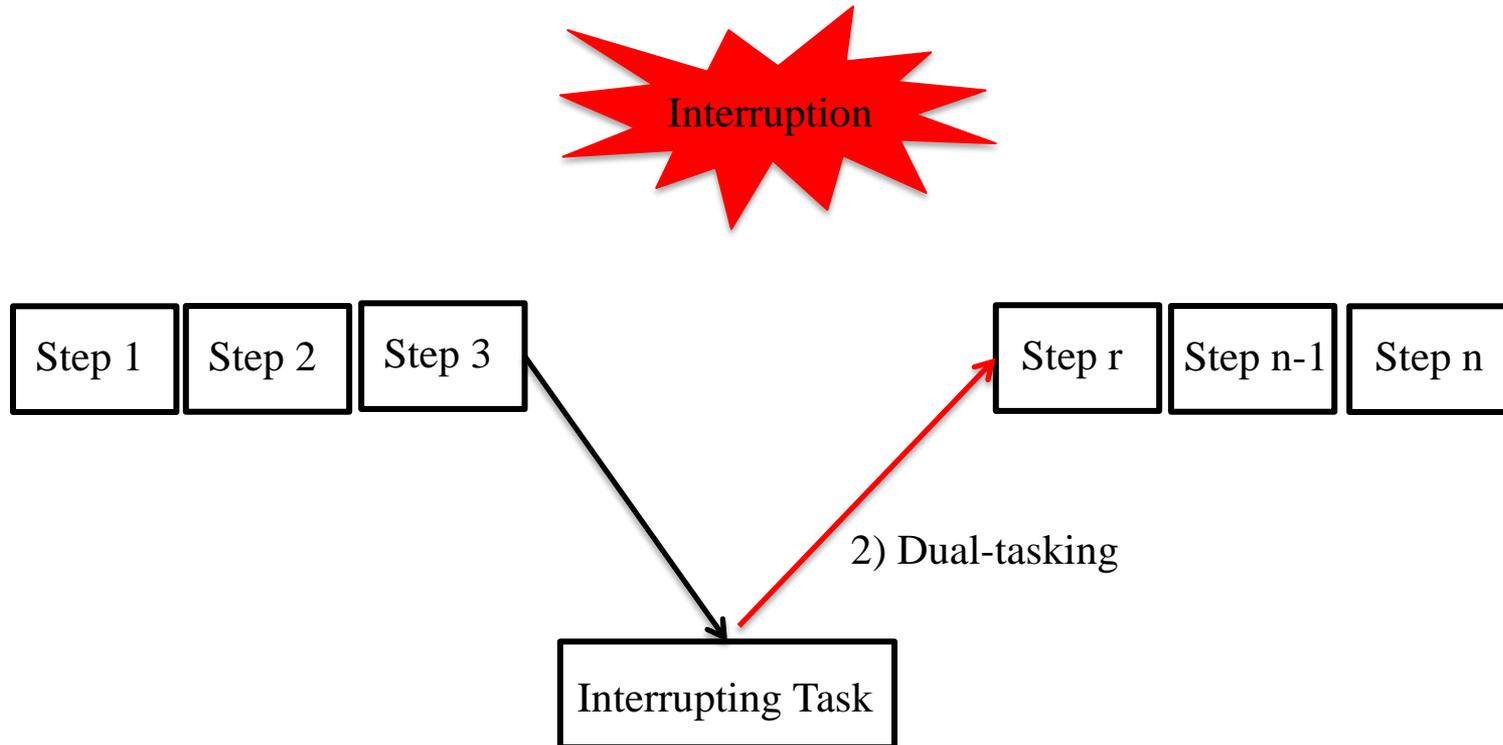
# Anatomy of an Interruption



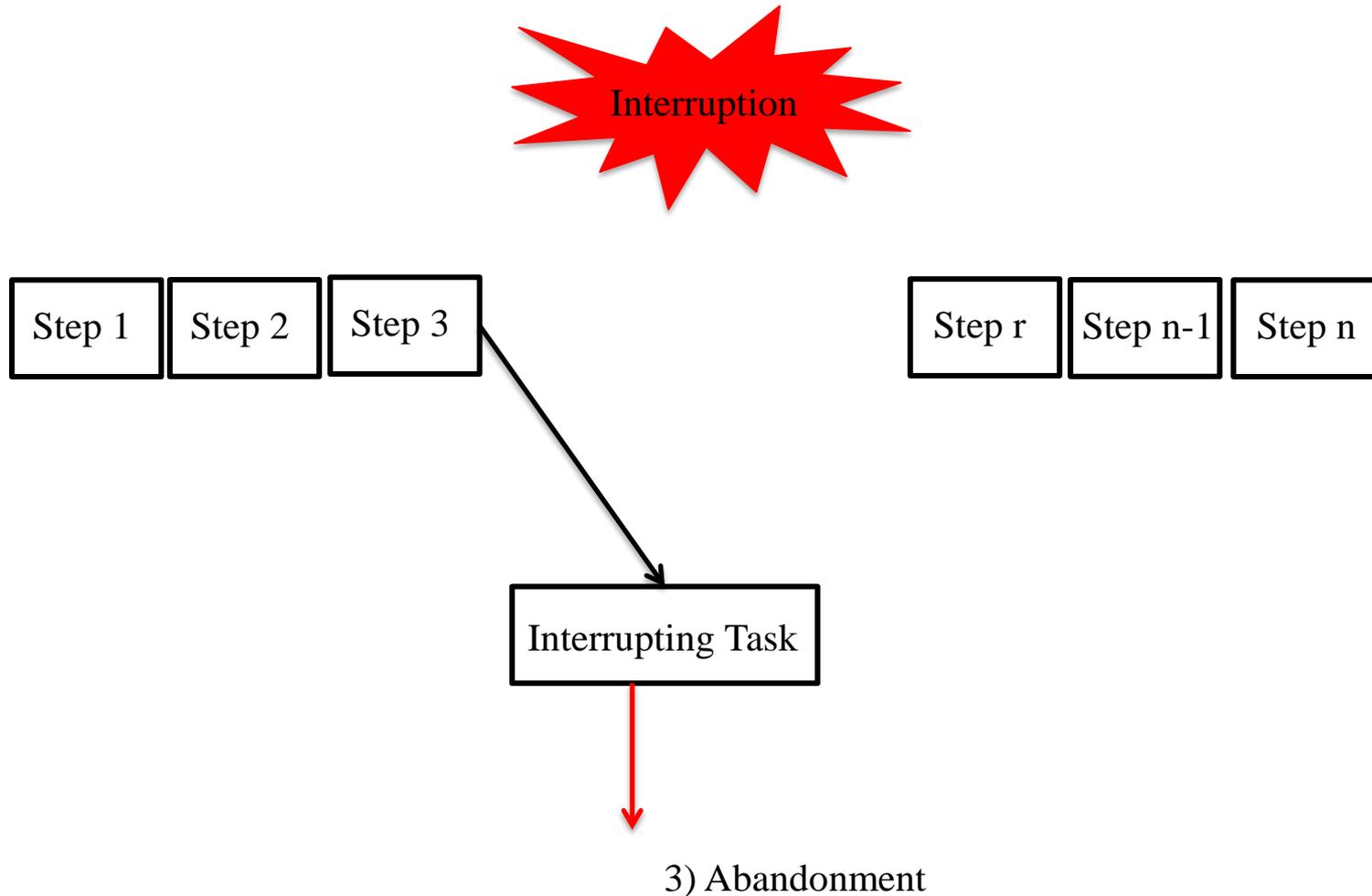
# Anatomy of an Interruption



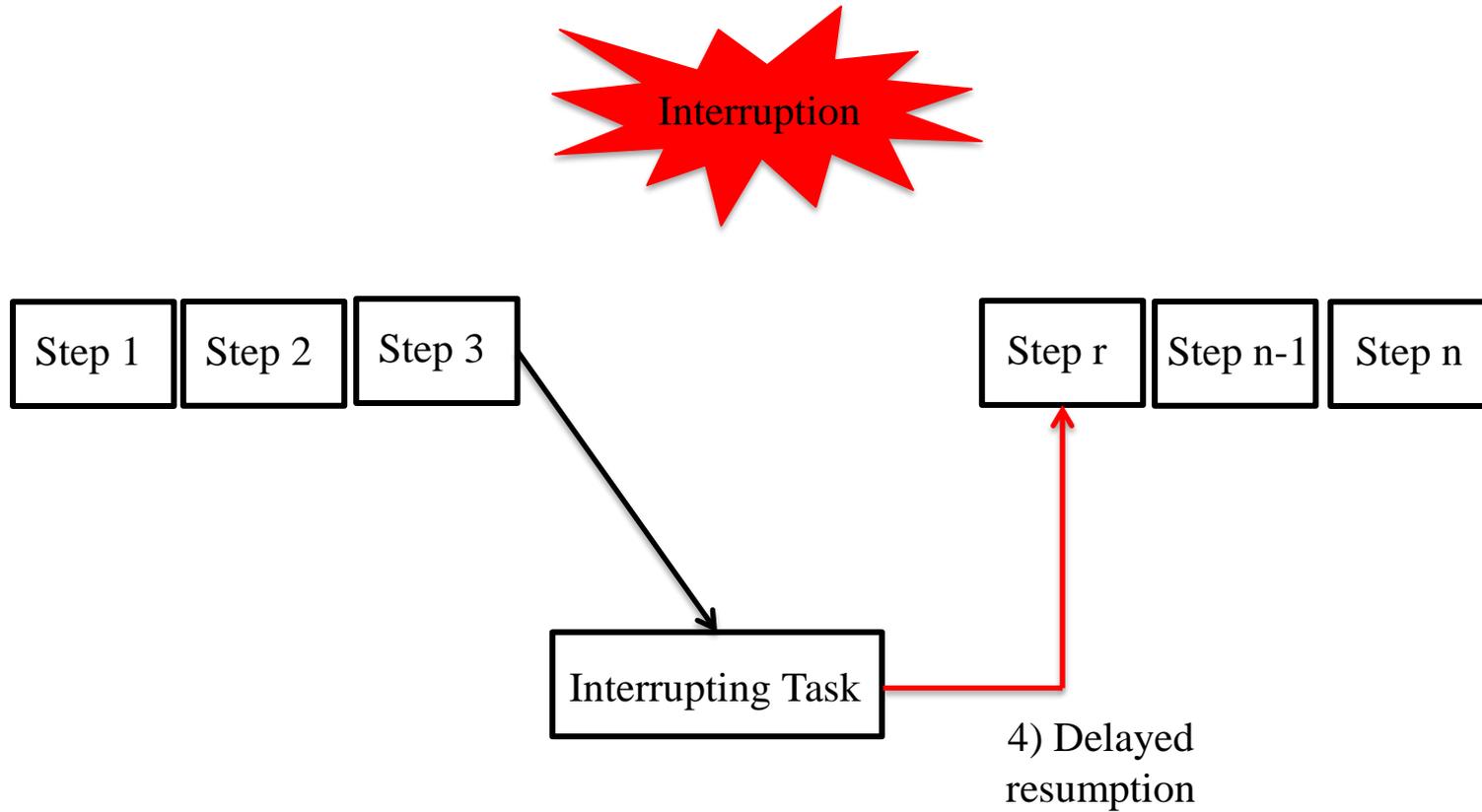
# Anatomy of an Interruption



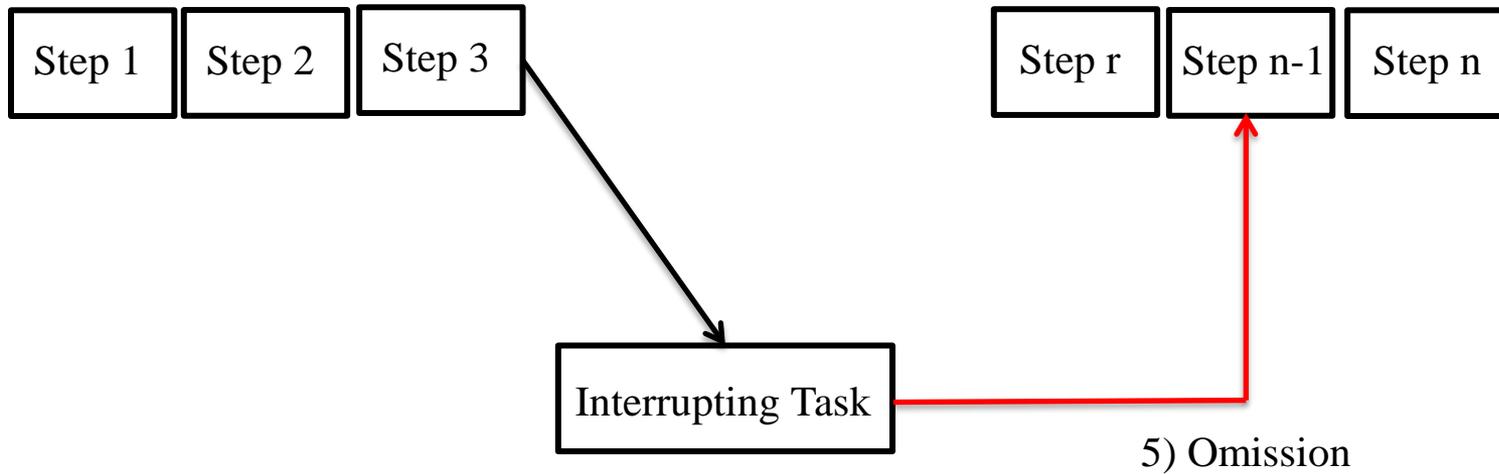
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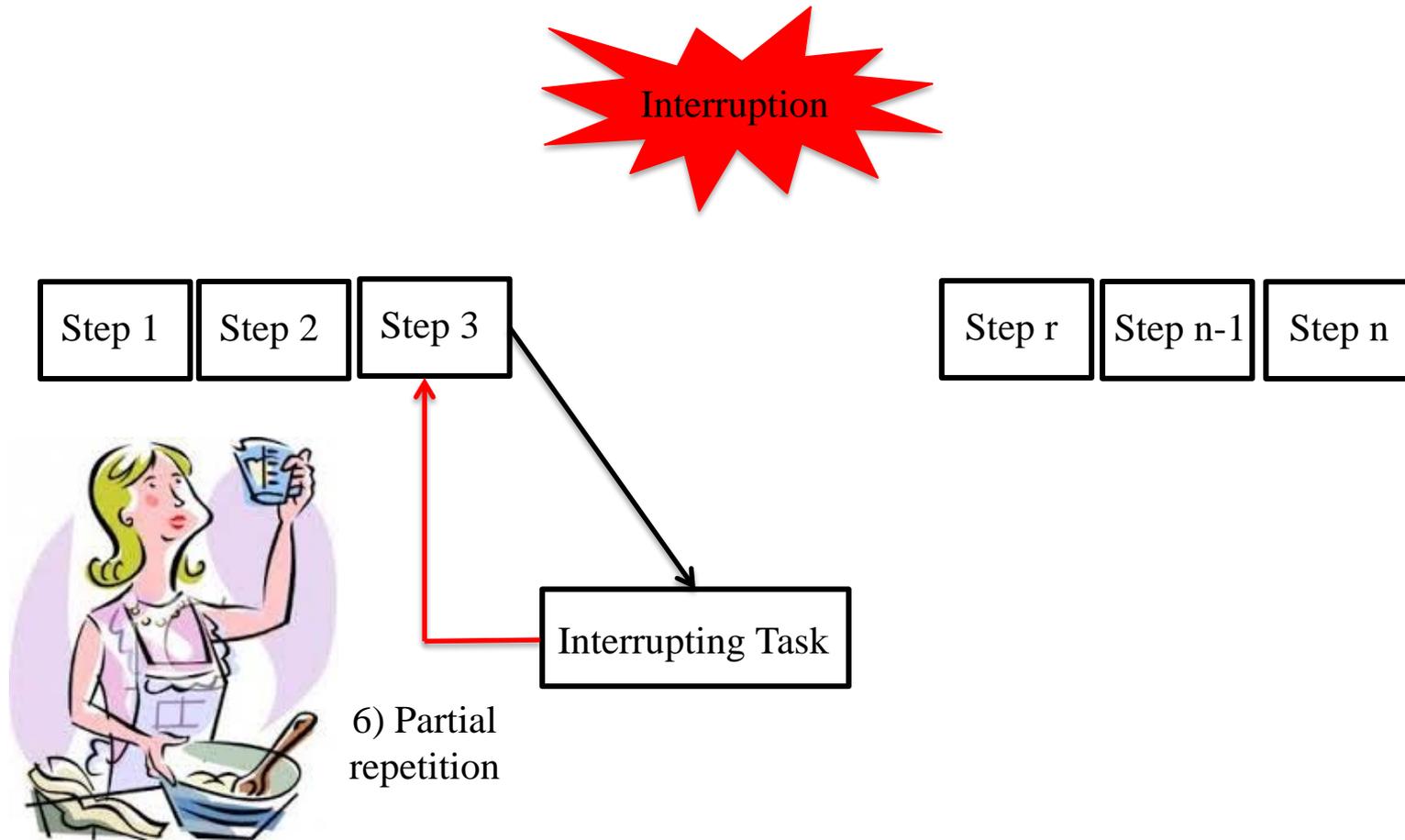
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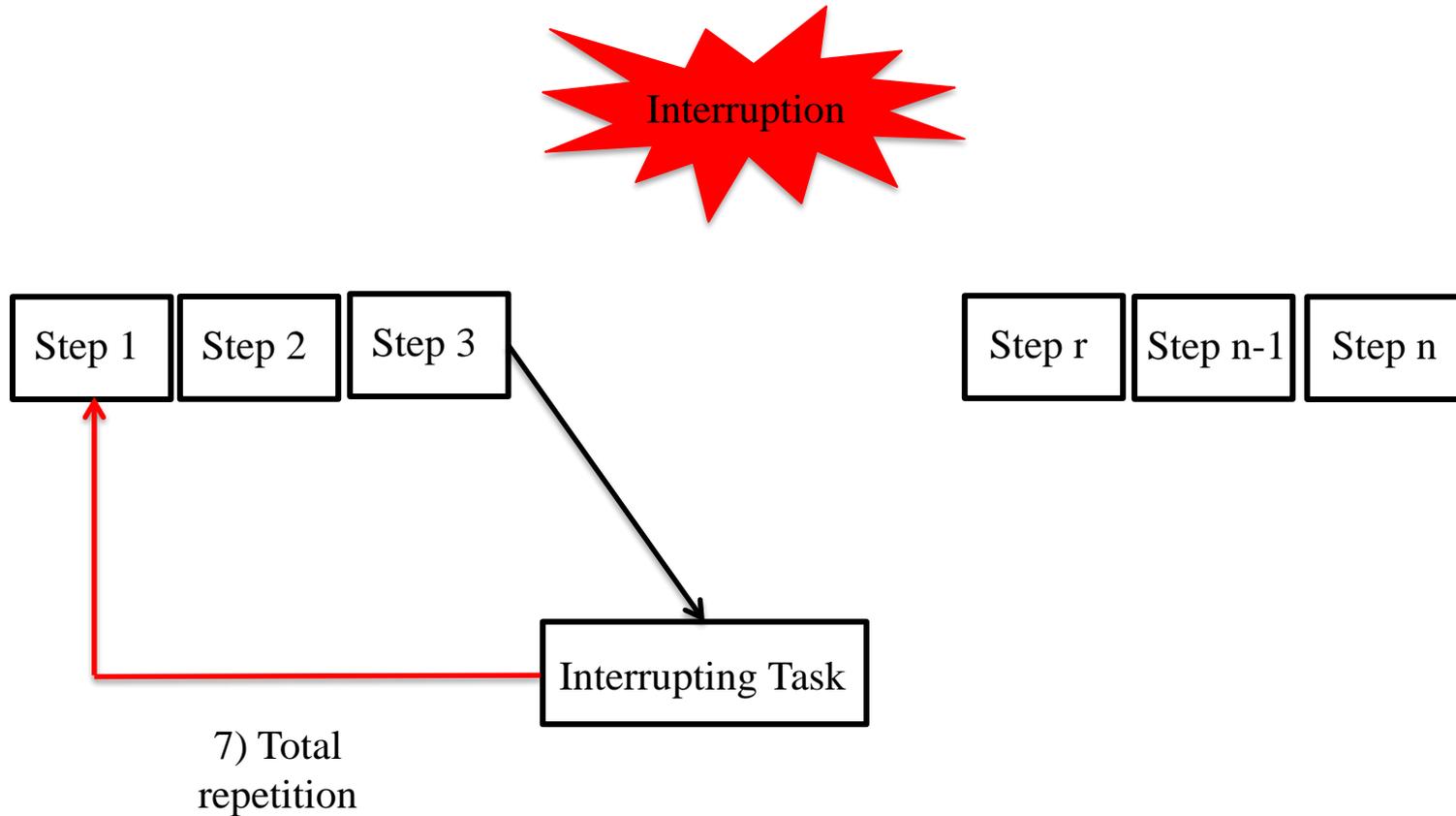
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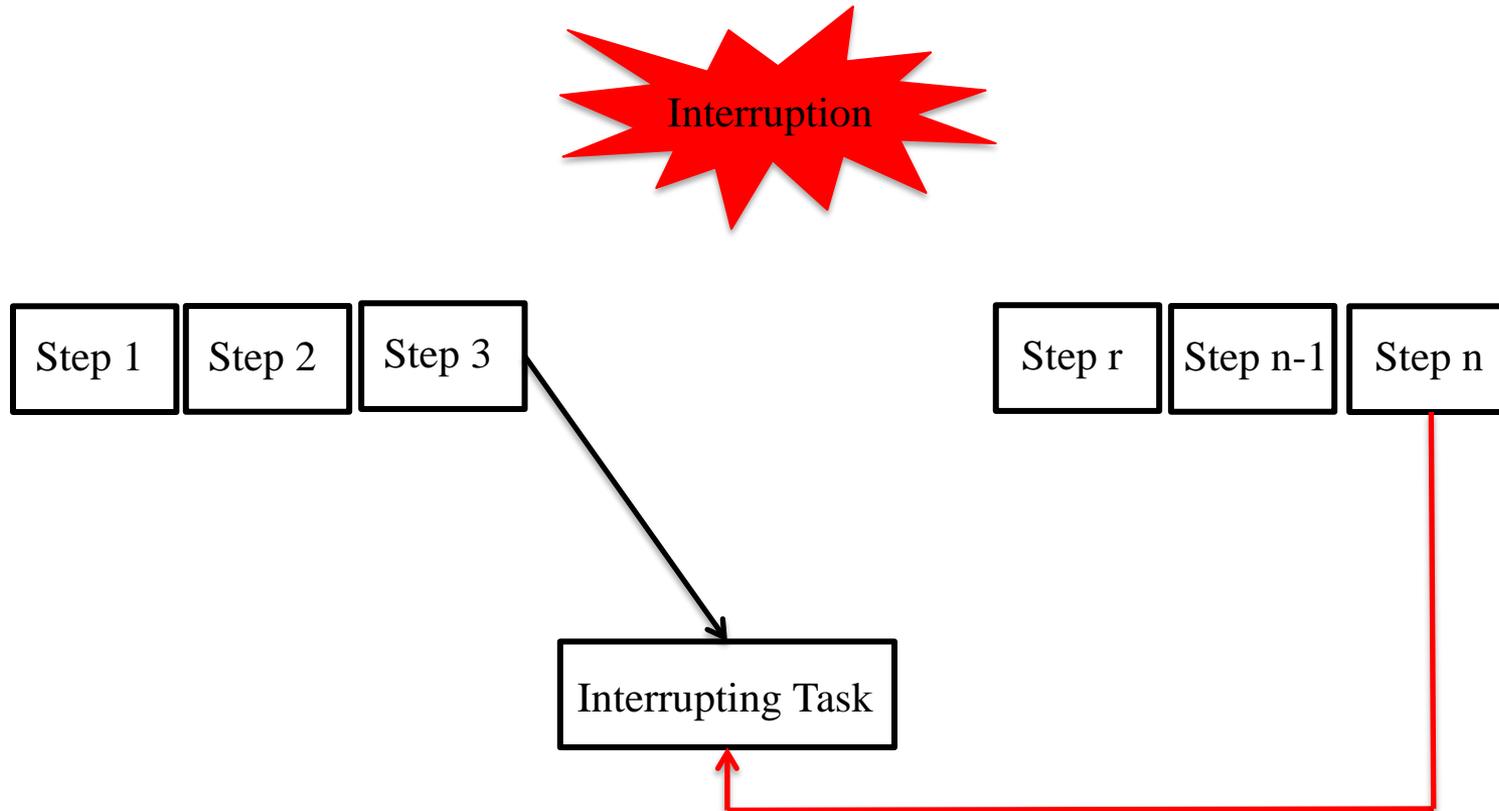
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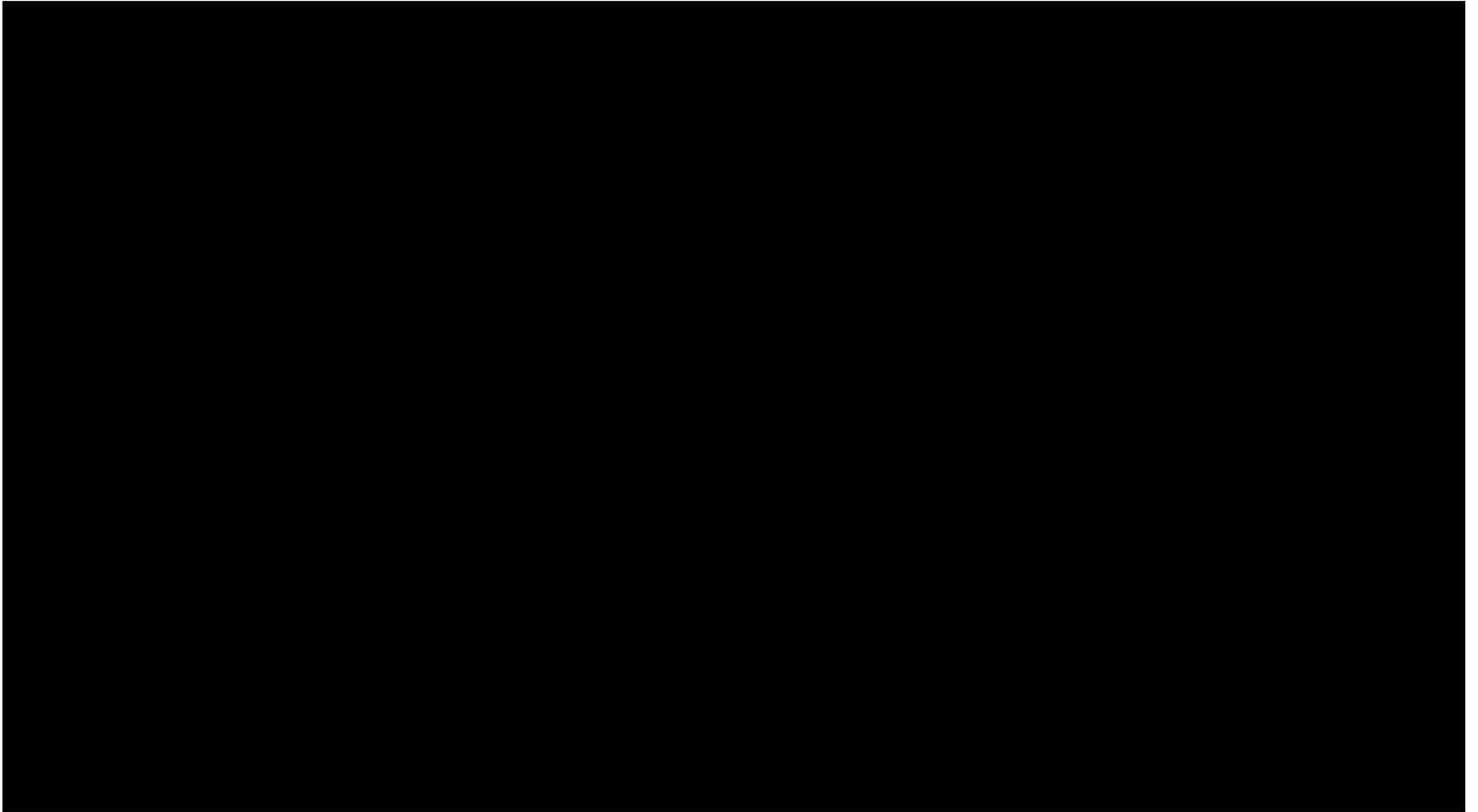


8) Delayed  
interruption

# Anatomy of an Interruption

- 1) Immediate resumption
- 2) Dual-tasking
- 3) Abandonment
- 4) Delayed resumption
- 5) Omission
- 6) Partial repetition
- 7) Total repetition
- 8) Delayed interruption

Work Smart



# Solutions to Multitasking Overload

- ① 20-minute rule, rather than switching between tasks every minute or so, chunk tasks into 20-minute blocks without interruptions
- ② Don't become a slave to e-mail. The average professional spends 23% of their day e-mailing, often switching tasks when new e-mail arrives
- ③ Configure e-mail to be delivered hourly, rather than immediately
- ④ Use voice-mail to control interruptions

# Interruptions Lead to Errors and Unfinished... Wait, What Was I Doing?

- Safe Practice Recommendations:
  - No Interruption Zone
  - Do not disturb
  - Staff education
  - Best times for necessary interruptions
  - Develop checklists
  - Mobile device management strategy
  - Alerts, alarms, and noise

# Pomodoro Technique

- 25 min uninterrupted work (set alarm 25 min)
- 5 min break, no work (set alarm 5 min)
- 25 min uninterrupted work (set alarm 25 min)
- 5 min break, no work (set alarm 5 min)
- 25 min uninterrupted work (set alarm 25 min)
- 5 min break, no work (set alarm 5 min)
- 25 min uninterrupted work (set alarm 25 min)
- 15 min break, no work (set alarm 15 min)

# Don't be be Slave to Technology



- “There is time enough for everything in the course of the day, if you do but one thing at once, but there is not time enough in the year, if you will do two things at a time.”
- “This steady and undissipated attention to one object, is a sure mark of a superior genius; as hurry, bustle, and agitation, are the never-failing symptoms of a weak and frivolous mind.”

Lord Chesterfield, 1740



THE EROSION OF ATTENTION  
AND THE COMING DARK AGE

# DISTRACTED



MAGGIE JACKSON

Foreword by BILL McKIBBEN,  
*author of The End of Nature and The Bill McKibben Reader*



*"I wasn't texting. I was building this ship in a bottle."*