



# DWTMIM Ch. 11

Luke Henke

# Many Factors Affect Learning

- We learn faster when practice is frequent, regular, and precise
- We learn faster when operation is task focused, simple and consistent
- We learn faster when vocabulary is task focused, familiar, and consistent
- When risk is low, we explore more and learn more

# Frequency of Practice

- Rarely using interactive systems makes it harder for you to remember how to use them
- ATMs don't expect you to remember everything from one usage to the next
- Most messaging platforms do the opposite, as they expect very frequent usage



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# Regularity of Practice

- Building an automatic habit
- Lally conducted a study asking 100 volunteers to choose a new activity to do every day for at least two months
- Anywhere from 18 to 254 days
- Form faster if daily
- Regular skipping slows progress

# Precision of Practice

- Be intentional with your practice
- Going through the motions and not focusing will train you to do just that
- Practice how you play
- Design with this is mind
  - Guides and grids
  - Encourage purposeful and careful use



[https://www.google.com/url?sa=i&url=https%3A%2F%2Ftenor.com%2Fsearch%2Fsoccer-kick-fail-gifs&psig=AOvVaw30-XxnTdb17tQh1zF3BAdb&ust=1667316152105000&source=images&cd=vfe&ved=0CAwQjRxqFwoTCMjh\\_OriivsCFQAAAAAdAAAAABAJ](https://www.google.com/url?sa=i&url=https%3A%2F%2Ftenor.com%2Fsearch%2Fsoccer-kick-fail-gifs&psig=AOvVaw30-XxnTdb17tQh1zF3BAdb&ust=1667316152105000&source=images&cd=vfe&ved=0CAwQjRxqFwoTCMjh_OriivsCFQAAAAAdAAAAABAJ)

# We Learn Faster when Operation is Task Focused, Simple, and Consistent

- We need to translate what we want to do into a tool's operations
  - Pointing a telescope at a star
  - Calling someone not in your contacts list
- Reduce the gulf of execution
  - Create a database of celestial objects to track
  - Add that number to your contacts list
- Perform task analysis
- Conceptual model
- Design the UI based on those things



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# Task Analysis

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- Answers these types of questions:
  - What goals do users want to achieve by using the application?
  - What set of human tasks is the application intended to support?
  - Which tasks are common, and which ones are rare?
  - Which tasks are most important, and which ones are least important?
  - What are the steps of each task?
  - What are the result and output of each task?
  - Where does the information for each task come from?
  - Etc.



<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.awesomeinventions.com%2Fadorable-angry-cats%2F&psig=AOvVaw1rHF8J7-JczNkifOHd2DKN&ust=1667317458700000&source=images&cd=vfe&ved=0CAwQjRxqFwoTCPCSitrnivsCFQAAAAAABAABAK>

# Conceptual model

- We've talked about this a lot before you guys already know what it is
- Here's a cat





# Conceptual model (continued)

Object	Document Editor Keyboard Shortcuts: Alternative Designs					
	Design A		Design B		Design C	
	Cut	Paste	Cut	Paste	Cut	Paste
Text	CTRL-X	CTRL-V	CTRL-X	CTRL-V	CTRL-X	CTRL-V
Sketch	CTRL-X	CTRL-V	CTRL-C	CTRL-P	CTRL-X	CTRL-V
Table	CTRL-X	CTRL-V	CTRL-Z	CTRL-Y	CTRL-X	CTRL-V
Image	CTRL-X	CTRL-V	CTRL-M	CTRL-N	CTRL-X	CTRL-V
Video	CTRL-X	CTRL-V	CTRL-Q	CTRL-R	CTRL-E	CTRL-R

- Devise a model that is:
  - Task focused
  - As simple as possible
  - As consistent as possible
- Goal of keystroke-level consistency
  - Builds muscle memory
  - Stratified by type

# Terminology should be task focused

- Focus on the task, not the technology
- Investment transaction templates
  - Save to their PC or to a network server
  - PC saves were private
  - Network saves were available to others
  - “database” and “local”
  - BAD
  - “shared”, “public”, “private”
  - GOOD

# Terminology should be familiar

- We want to reduce the time for people to master your application
- Familiar words
  - Automatic recognition
  - Good
- Unfamiliar words
  - Conscious decoding methods
  - Consumes short-term memory resources
- No “geek speak”

# Terminology should be consistent

- Same name, same thing; different name, different thing
- Photoshop
  - Replace color function uses “fuzziness”
  - Paint bucket tool uses “Tolerance”
- But what about this powerpoint?

# When Risk is Low, we Explore More and Learn More

- Think about this:
  - Two cities
    - City A
      - Beautiful, eco-friendly, nice consistent layout, friendly people
    - Detroit
      - UGLY, POLLUTED, ONE WRONG TURN AND YOU WILL DIE, CAN'T HAVE SHIT
- Which would you visit?
- Apply similar thinking to UI design





# Thank you

- Questions?