

Heuristic Evaluation of User Interfaces

Michael Coblenz

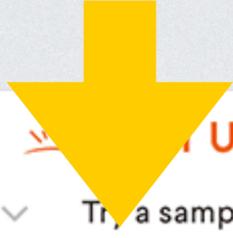
Goal: Identify Usability Problems Without a User Study

- Nielsen's 10 Usability Heuristics
- Date from 1994, but still very useful today
 - Timeless? I'm teaching a well-tested approach, anyway
- Goal: identify usability problems without recruiting participants

1: Visibility of System Status

- Examples:
 - *you are here* on mall maps
 - Progress indicators (is the system processing?)

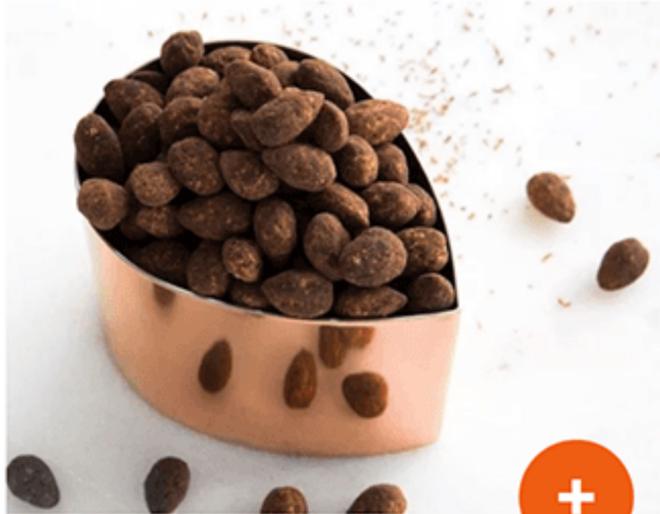
Banner at top shows how much more to spend for free delivery



CHEF PARTNERS WHERE TO BUY **SNACKS** **UREBOX** CONTACT US **FREE SNACKS** SIGN IN 

Shop by Categories ▾ Try a sample Sale Office snacks Gifts

Add \$5.01 for free delivery!



NEW
★★★★★
Mocha Almonds Single Serve, 12 pack
~~\$24.99~~ **\$19.99 (SAVE 20%)**



NEW
★★★★★
Sriracha Roasted Cashews Single Serve, 12 pack
~~\$24.99~~ **\$19.99 (SAVE 20%)**



NEW
★★★★★
Whole Wheat Honey Fig Bars
8 oz
~~\$6.99~~ **\$5.99 (SAVE 14%)**

1 in cart
Sriracha Roasted Cashews Singl...





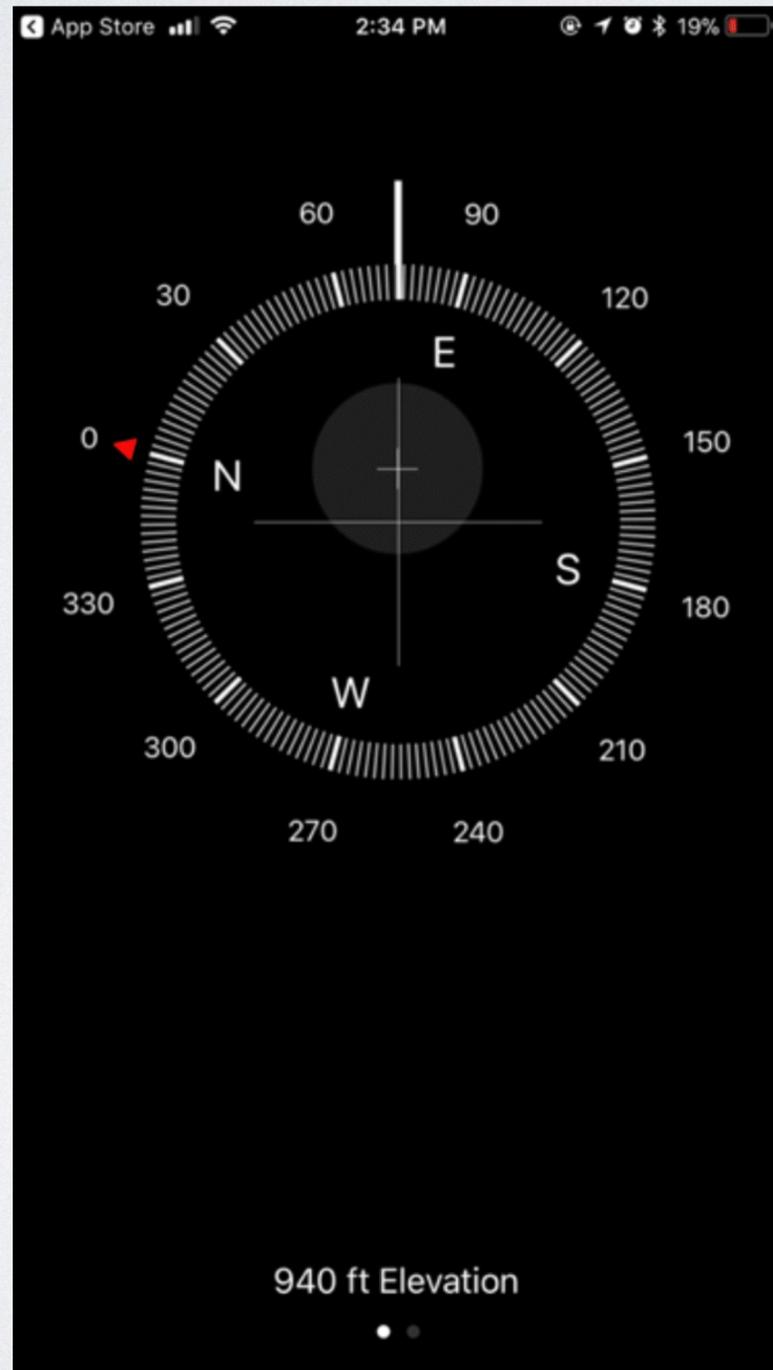


#2: Match Between System and the Real World

- The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.



The Compass Looks Like a Compass



suspension doesn't isolate bumpy roads well, and at lower speeds it feels a touch busy on *all* roads," said Mays.

[Research the 2018 Volkswagen Tiguan](#) | [Search Inventory](#) | [Car Seat Check](#) | [Photo Gallery](#)

How the Competitors Fared in Each Category

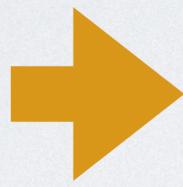


Cars.com graphics by Paul Dolan

How We Tested

Our weeklong test took place in the Chicago suburbs where judges drove each car on the same loop for back-to-back impressions. Other areas scored included awarding points for as-equipped crash avoidance technologies including forward collision warning with automatic emergency braking, blind spot warning, lane departure warning, lane departure steering and lane-centering steering. Plus, we evaluated and scored how well child-safety seats fit in each SUV.

How is the user supposed to know this means "back"?



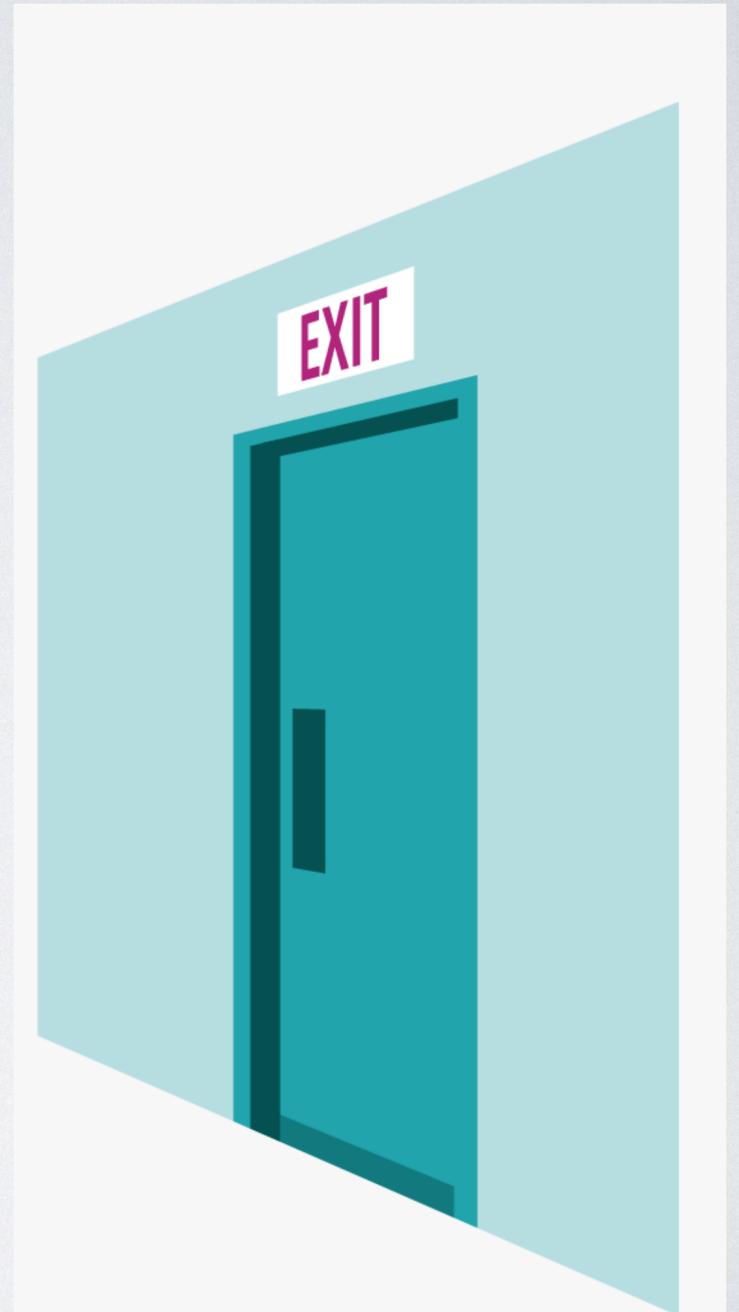
What Does This Button Do in Word?

- Floppy drives were obsolete in 2001
- This is Word 365, ©2024



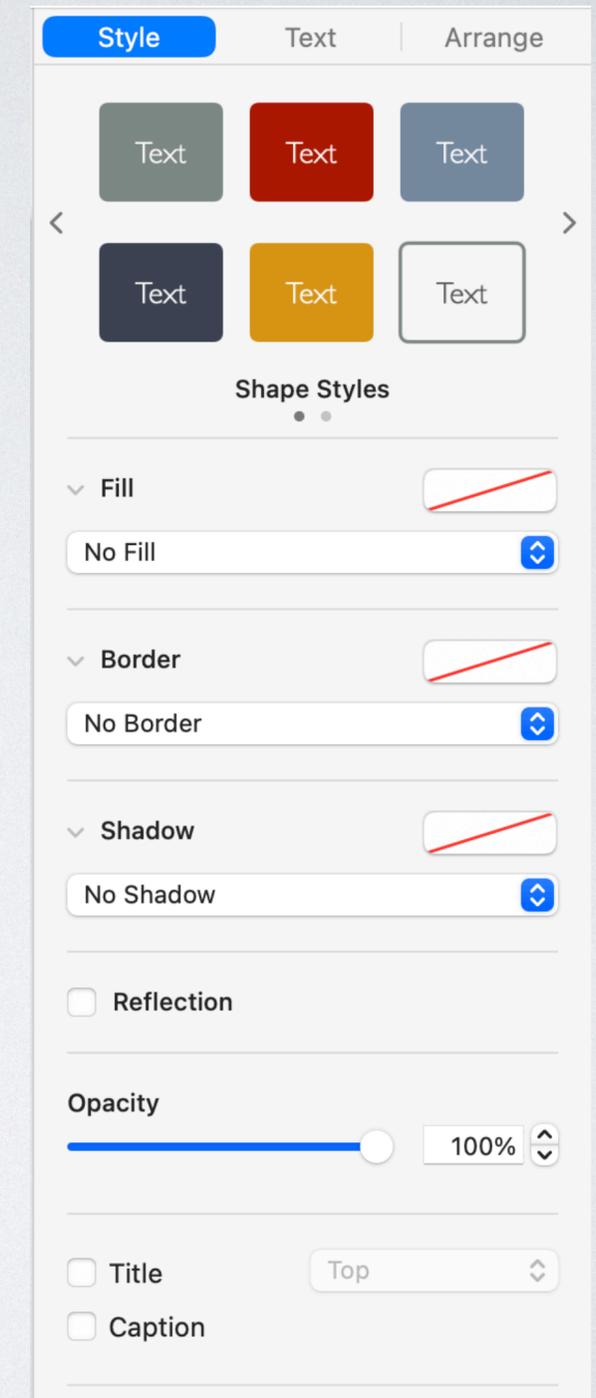
#3: User Control and Freedom

- Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.
- Support Undo and Redo.
- Show a clear way to exit the current interaction, like a Cancel button.
- Make sure the exit is clearly labeled and discoverable.



Let Users Pick the Order

- "Wizards" force users to make choices in an order the developer chose
- Inspectors let users choose in any order



#4: Consistency and Standards

- People spend more time using *other products* than *your* product
- Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.
- Your "clever" solution can cause confusion

I'm Looking at YOU, Microsoft

Undo Typing ⌘ Z

Redo Typing ⌘ Y

Cut ⌘ X

Copy ⌘ C

Paste ⌘ V

Paste Special... ^ ⌘ V

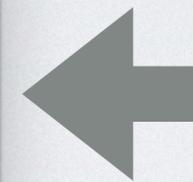
Paste and Match Formatting ⌥ ⌘ V

Clear >

Select All ⌘ A

Find >

Links...

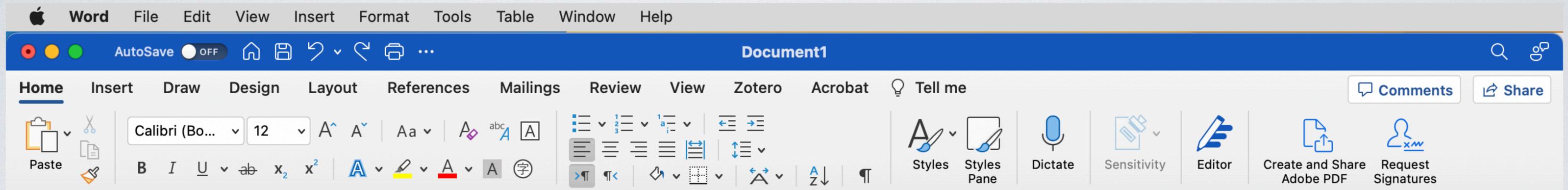


Mac standard for Redo is ⌘ Z

I'm STILL Looking at You, Microsoft

- ^A should move cursor to beginning of line (broken in Microsoft apps)
- Likewise ^E (end of line)

Not Just Shortcuts



- Two (!??) menu bars, THREE different sections of buttons

Error Prevention

- Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.

Southwest

- Can't set return date before departure date

Return date

January 2023

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February 2023

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

We are currently accepting air reservations through August 14, 2023.
On February 9, 2023 we will open our schedule for sale through October 4, 2023.
This date is subject to change! Please check back frequently.

Clockify Desktop

Time entry details

Start:

End:

Total:

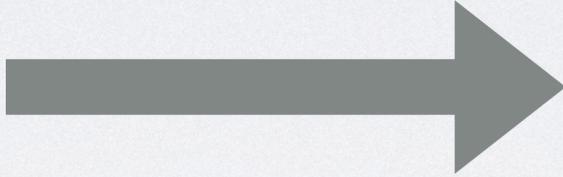
What have you worked on?

[Create new project](#)

Billable

Tags [Create new tag](#)

[Cancel](#) [Save](#)



Change start time: "2:00"

Time entry details

Start:

End:

Total:

What have you worked on?

[Create new project](#)

Billable

Tags [Create new tag](#)

[Cancel](#) [Save](#)

#6: Recognition Rather Than Recall

- Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

Command Line vs. GUI

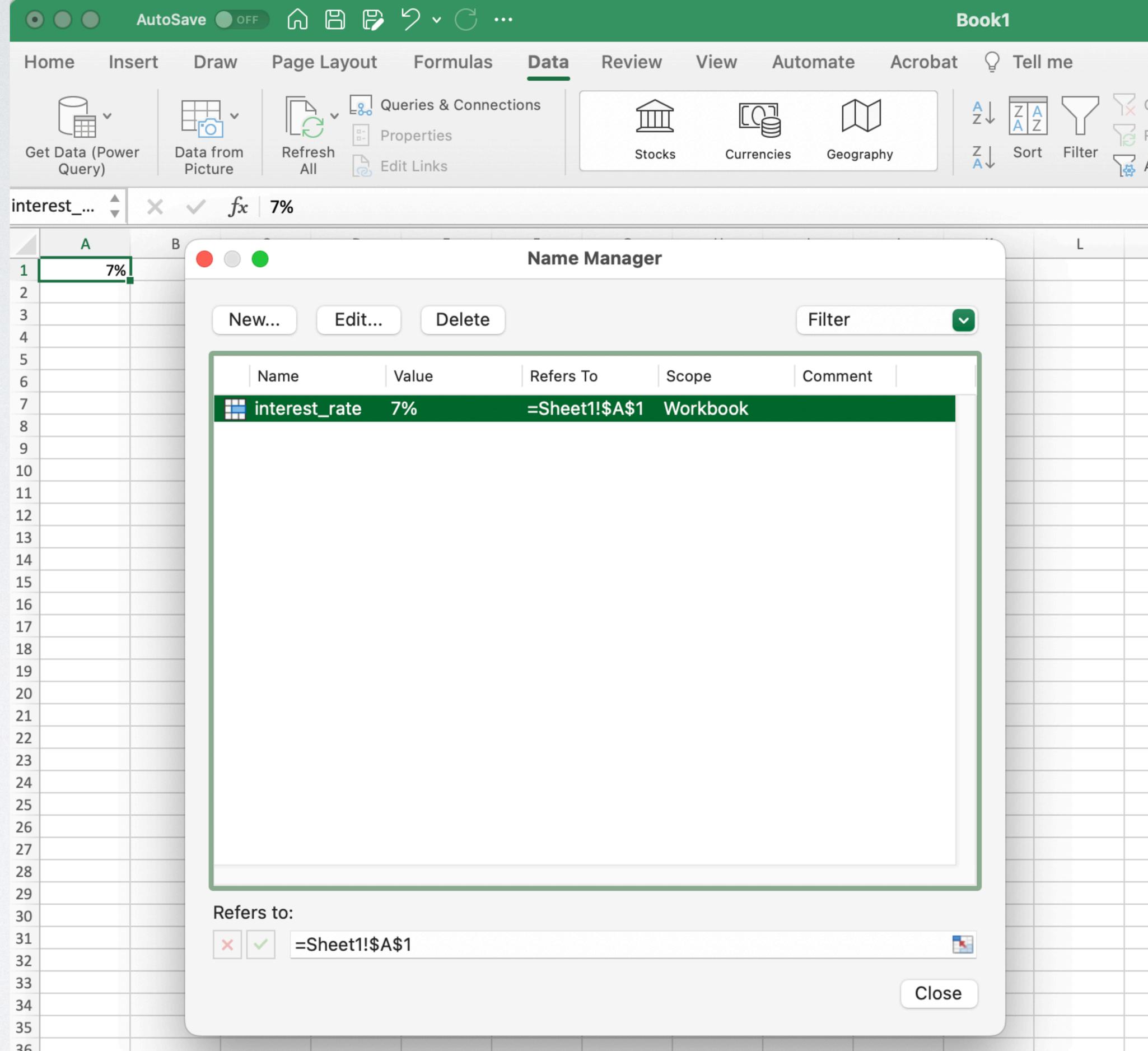
- Command line requires you to remember command names
- GUI gives you lists of possible commands in menus

Capitals

- What's the capital of Portugal?
- Is Lisbon the capital of Portugal?

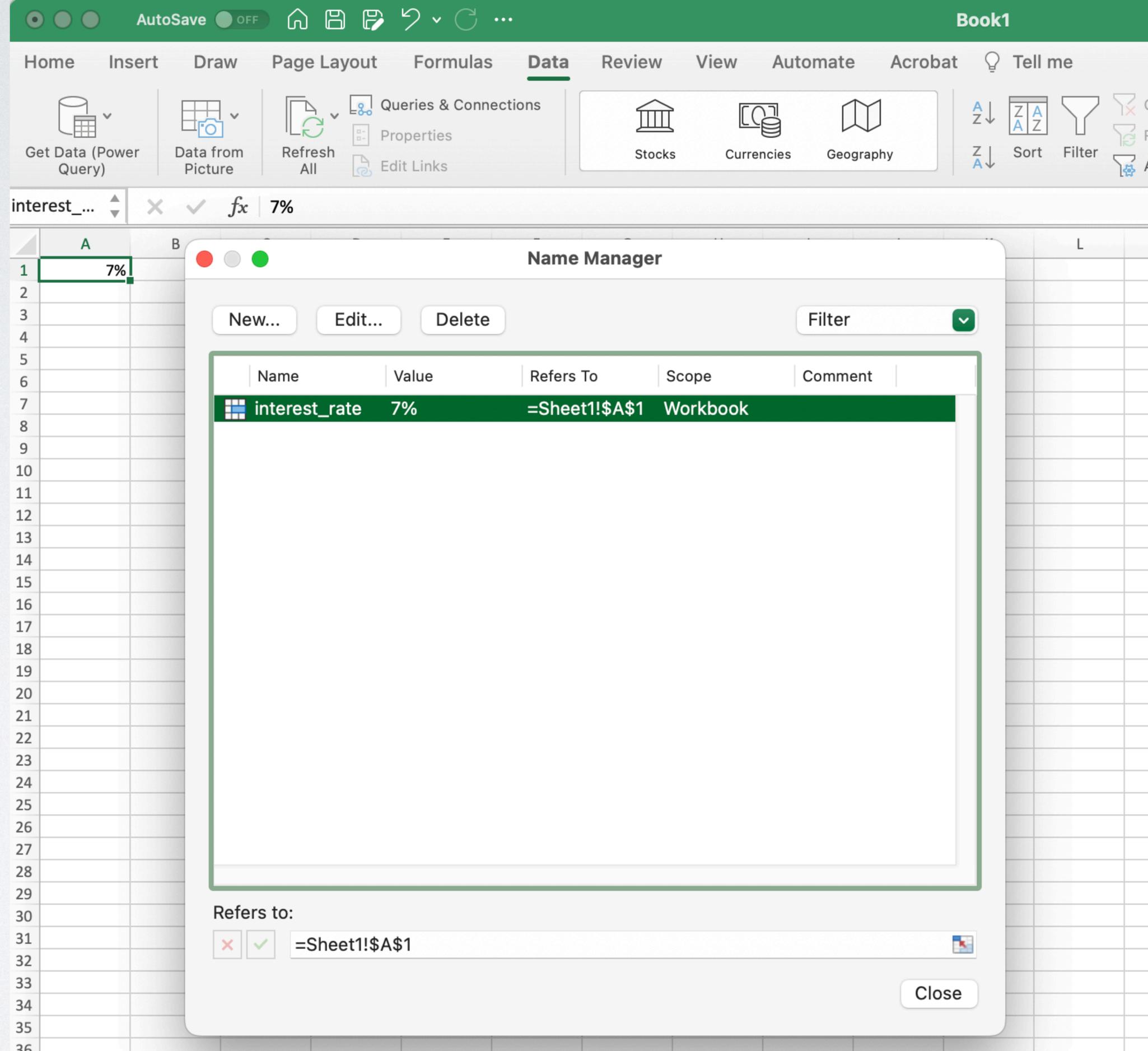
Excel Name Manager

- Can't see the list of named ranges in the formula editor or in the table
- Instead, use the "Name Manager": a modal dialog box!
- Close the box. What were the names, again?



Excel Name Manager

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#7: Flexibility and Efficiency of Use

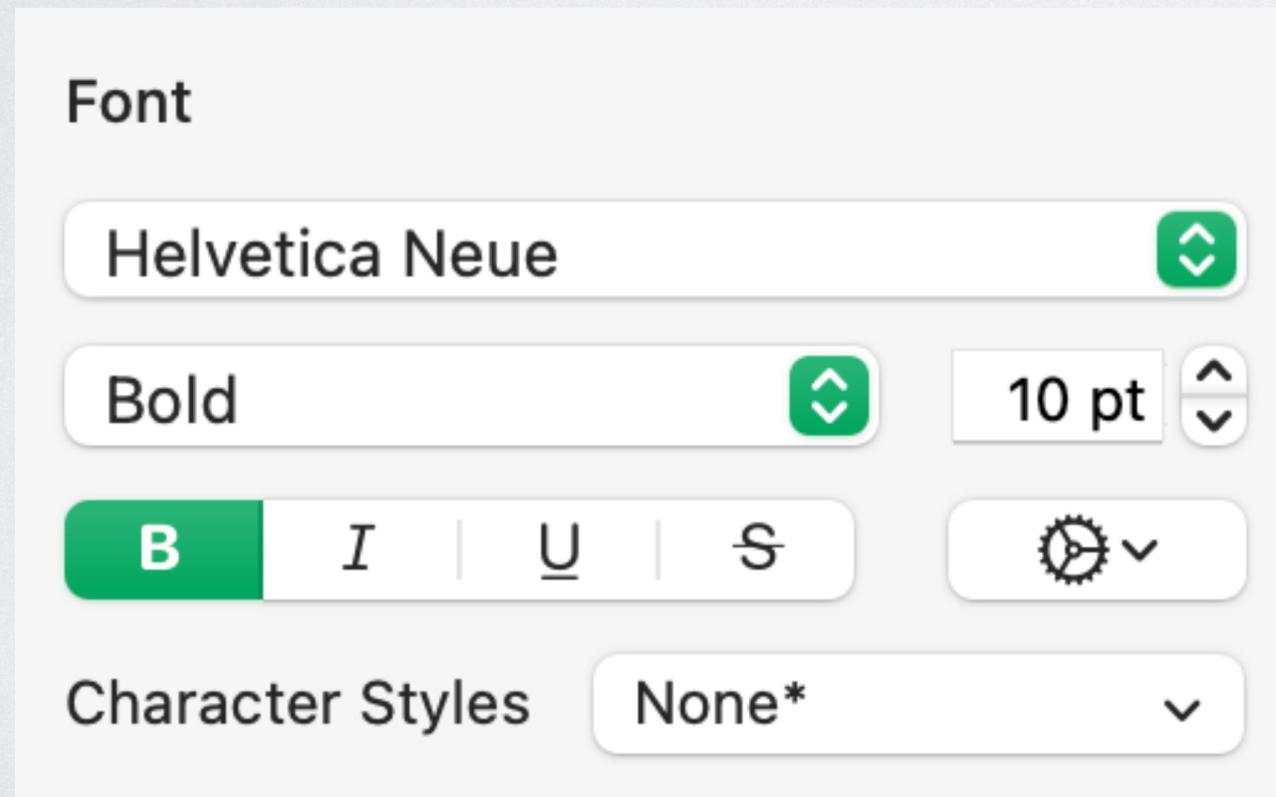
- "Shortcuts — hidden from novice users — may speed up the interaction for the expert user so that the design can cater to both inexperienced and experienced users. Allow users to tailor frequent actions."
- Novices and experts have different needs
 - Novices need *discoverability*
 - Experts need *efficiency*

Sending Lots of Similar Emails

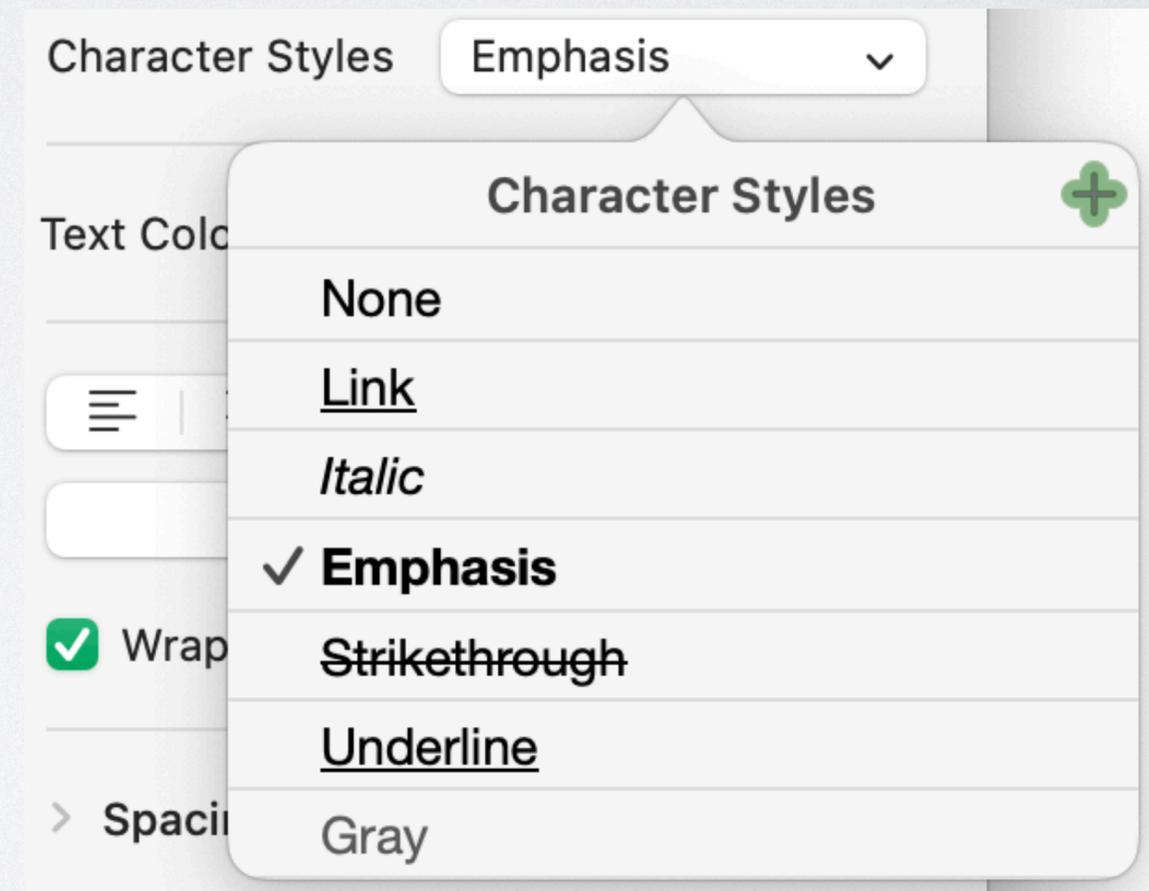
- Retype?
- Copy/paste, modify?
- Standardize, use CC/BCC?
- Mail merge
- Fancy CRM tool

Multiple Methods for One Task

- **To make text bold:**



- ⌘B



Is More Better?

- Perl motto: "There's more than one way to do it."
- Using a language feature forces maintainers of the code to understand that feature
- But no one cares whether you clicked or used **B** to make text bold

#8: Aesthetic and Minimalist Design

- "Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility."



Google

Google Search

I'm Feeling Lucky

 Carbon neutral since 2007

Display a menu

[Advertising](#)

[Business](#)

[How Search works](#)

[Privacy](#)

[Terms](#)

[Settings](#)



Southwest learns the cost of canceling 16,700 flights

Southwest Airlines reported a loss for the fourth quarter, as the company took an \$800 million pretax hit to earnings due to the airline's holiday travel meltdown.

CEO Bob Jordan issues statement »

Trending Now

- 1. Tyre Nichols
- 2. Patrick Mahomes Injury
- 3. Donald Trump
- 4. Alex Murdaugh Trial
- 5. Russia-Ukraine War
- 6. Paul Pelosi
- 7. Madison Brooks
- 8. Poker Face
- 9. Stéphane Rolland
- 10. Sean Payton



Why did San Diego waves suddenly turn bright pink?



'Cheers' favorite makes rare TV appearance in series



Store chain bars employees with 'missing, broken' teeth



Bristol Palin has 9th surgery after breast reduction



Former NFL linebacker Jessie Lemonier dies at 25

Stories for you



Alicia Keys Rocks a Purple Bikini While on Tropical Birthday Getaway: 'Aquarius Energy'

The Grammy winner soaked up the sun in style for her 42nd birthday

Average Retirement Savings By Age: Are You Normal?

The shocking amount some people have saved, and why speaking with a financial advisor could help increase your returns and alleviate stress.



4 Signs Of Dying Liver (Write These Down)

Ad Liver Renew

Weather

San Diego

Today	Fri	Sat	Sun
68° 41°	68° 44°	60° 50°	55° 46°

See More » AccuWeather

Scoreboard

Trending

Yesterday Today Tomorrow

St. Francis (NY) 22

Half



Architect

Personality

INTJ-A / INTJ-T

(WHAT'S THE DIFFERENCE?)

Explore This Type

[Introduction](#)[Strengths & Weaknesses](#)[Romantic Relationships](#)[Friendships](#)[Parenthood](#)[Career Paths](#)[Workplace Habits](#)

Introduction

WHO IS AN ARCHITECT (INTJ)?

An **Architect (INTJ)** is a person with the [Introverted](#), [Intuitive](#), [Thinking](#), and [Judging](#) personality traits. These thoughtful tacticians love perfecting the details of life, applying creativity and rationality to everything they do. Their inner world is often a private, complex one.

"Thought constitutes the greatness of man. Man is a reed, the feeblest thing in nature, but he is a thinking reed"

New Here?

[Take the Test](#)

Already have your results? [Log in.](#)

#9: Help Users Recognize, Diagnose, and Recover From Errors

- Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.



Sorry, a system error occurred.

error type 41

To temporarily turn off extensions, restart and
hold down the shift key.

Restart

WRONG

WAY

We have a little problem.



Your Premium payment failed. Please make sure we've got your details right.



DESIGNER'S PLAYLIST

▶ SHUFFLE PLAY

Hei Bae

⬇ Kharfi • Hei Bae



Orbit

⬇ SÿDE • Orbit



I'm Just A Skipping Stone

⬇ Claire Guerreso • I'm Just A Skipping Stone



Beat the Sunrise - Gianni Kosta Remix

⬇ Michael Mizko Wong • SNBRN • Beat The Su...



How Hard I Try - Gianni Kosta Remix

⬇ filous • How Hard I Try (Remixes)



Dream - Gianni Kosta Remix

⬇ Autograf • Dream (Remixes)



Hey Hey - Gianni Kosta Remix

⬆ Welcome to Paradise (Gianni Kosta Remix) [feat...]
CS



Home



Browse



Search



Radio



Your Library

Woopsie Daisy!

Looks like something went completely wrong! but don't worry

It can happen to the best of us, and it just happened to you

[Go To Homepage](#)

- Cutesy language is annoying
- Not clear what's wrong or how to fix it
- You probably just lost what you typed (sorry, not sorry)

10: Help and Documentation

- It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.
- Enable search in documentation
- Present documentation in context

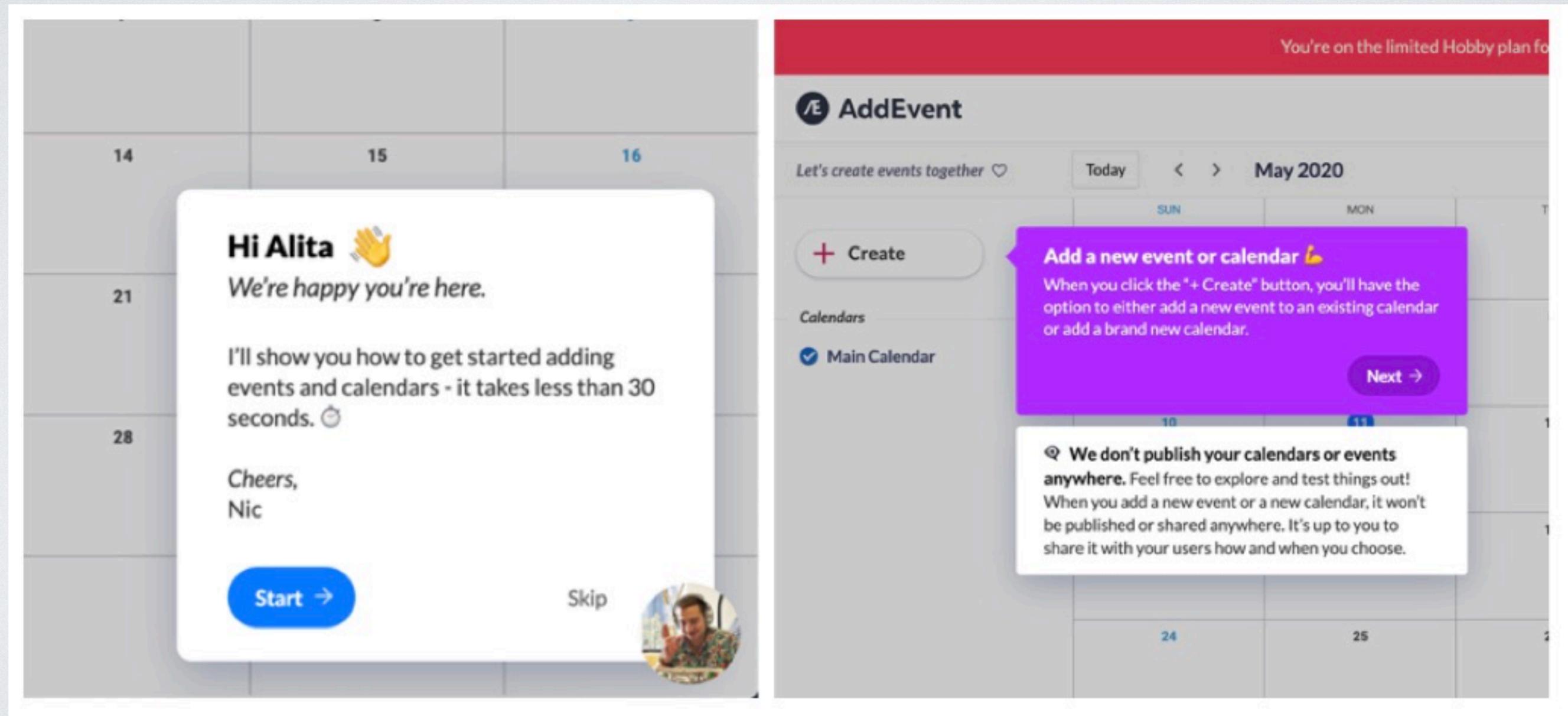
Proactive vs Reactive Help

- Proactive: help before people get stuck (e.g., tutorials)
 - Push: not relevant to user's goals
 - Pull: Just in time
- Reactive: answer questions, troubleshoot problems

Push Revelations

The screenshot displays the O'Reilly website interface. On the left is a dark navigation sidebar with the O'REILLY logo at the top. The sidebar contains links for Home, Featured, Explore, Attend, Newsletters, Settings, Support, and Sign Out. At the top right is a search bar with the placeholder text "Find a Solution...". Below the search bar, a banner for "Oct 16—Spotlight on Cloud: DevSecOps Lessons Lea" is visible. A white push notification overlay is centered on the page, titled "Get there from anywhere" and containing the text: "Access live online training courses, expert playlists, and more right here —from any page. Check out our new topics, conferences and newsletter pages too." The notification also shows "Step 2 of 2" and a red "Close" button. The background of the notification features a colorful, abstract pattern of overlapping squares.

Pull Revelations



Activity

- In small groups, do a heuristic evaluation of an app of your choice.
- Try to find problems that you think might present significant usability challenges to users.

Nielsen's Heuristics

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help users recognize, diagnose, and recover from errors
- Help and documentation