



Q: Which heuristic does this interface violate?

- A. Visibility of System Status
- B. Match between System & Real World
- C. User Control and Freedom
- D. Consistency and Standards
- E. Error Prevention

Would you mind answering a few questions to help us learn more about you and improve our service?

Continue



CPSC 100

Computational Thinking

HCI - Usability Heuristics

Instructor: Parsa Rajabi
Department of Computer Science
University of British Columbia



Agenda

- Course Admin
- Learning Goals
- Human Computer Interaction
 - Usability Heuristics (*continued*)

Course Admin



Course Admin

- **PC Quiz 8** (last PC Quiz! 🎉)
 - Due Sunday, April 6, 11:59pm
- **Project Milestone 3** *(you should be ~70% done by now!)*
 - Due Monday, April 7, 11:59pm
 - Make sure to submit your **AI Disclosure** via qualtrics form!
- **Final Exam**
 - Tuesday, April 22, 7pm; Location: SWING 121



Learning Goals



Learning Goals

After this **today's lecture**, you should be able to:

- **Understand** and describe the **last five usability heuristics** proposed by Jakob Nielsen.
- **Explain why** each heuristic is important in designing usable systems.
- **Illustrate** how each heuristic appears (or is violated) in real-world interfaces using provided examples.
- **Compare and contrast** different heuristics using concrete UI examples to determine which are adhered to or violated.

Usability Heuristics

10 Usability Heuristics (Nielsen, 1993)



Visibility of
System Status

1



Match Between
System & Real World

2



User Control
And Freedom

3



Consistency
And Standards

4



Error
Prevention

5



Recognition
Rather Than Recall

6



Flexibility And
Efficiency of Use

7



Aesthetic And
Minimalistic Design

8



Help Users
With Errors

9



Help And
Documentation

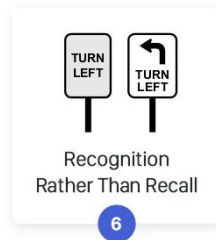
10

Activity

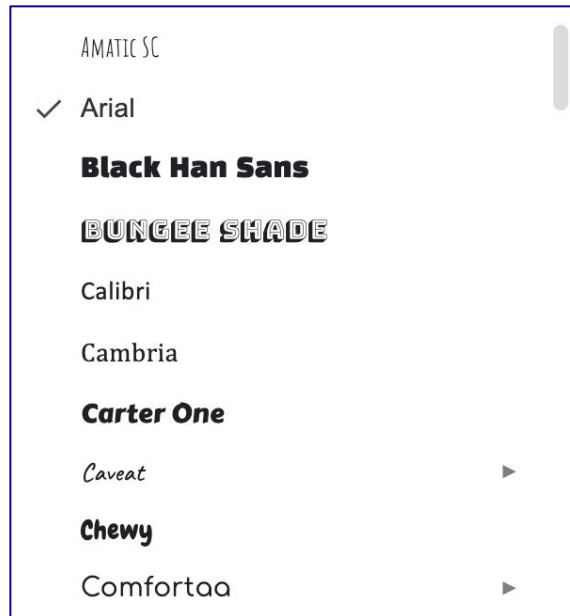
**How many items
can you store in your
short-term memory?**



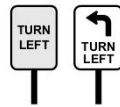
6. Recognition > Recall



- Make objects, actions, options visible
 - Reduce reliance memory
 - Door handle activity
- Short-term memory= 7 ± 2 items
 - 30 sec to 2 min unless interrupted
- Menus rather than type-in
 - But short enough

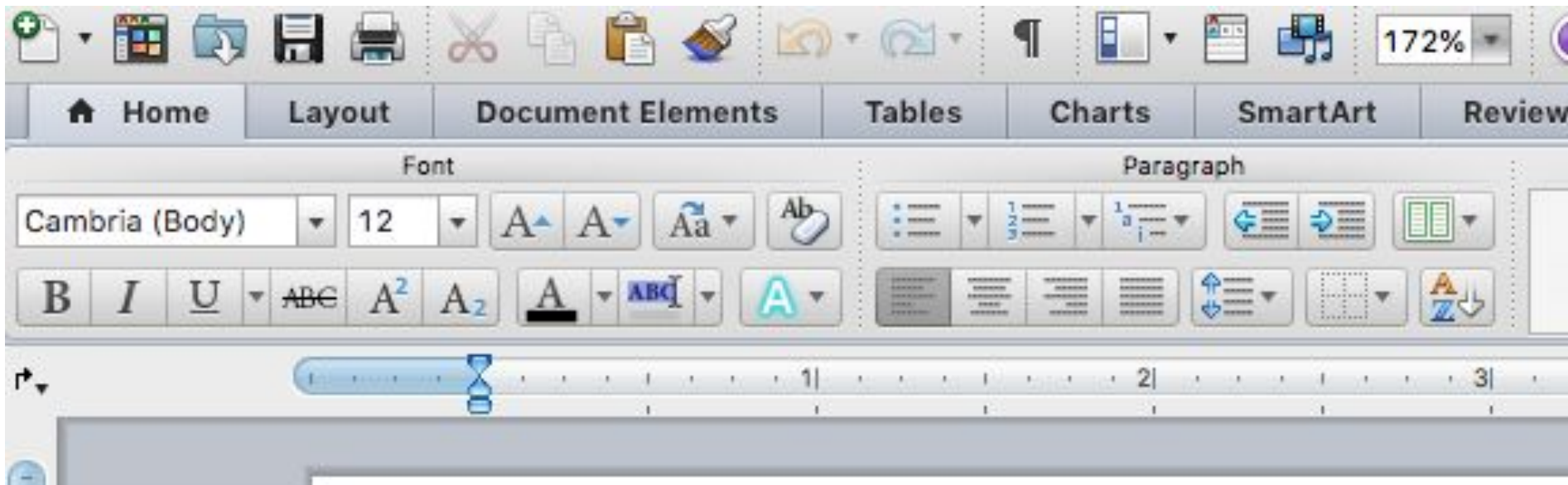


MS Word Control Bar



Recognition
Rather Than Recall

6





7. Flexibility + Efficiency



Flexibility And
Efficiency of Use

7

- Provide shortcuts
 - Expert/power users love it!
- Jump directly to desired location
 - CMD/Control + Tab
- Reuse previously entered information
 - Avoid introducing typos
- Good default values
 - Are your users usually from Canada? Pre-select it.



Flexibility to Choose Options



Flexibility And
Efficiency of Use

7



888-L16-17.pptx

1 member



To: Email or name

Can view



Anyone with the link can **view** this file

[Link settings](#) • [Copy link](#)

8. Aesthetic + Mini

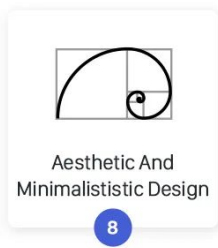
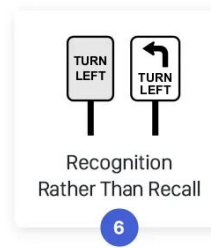
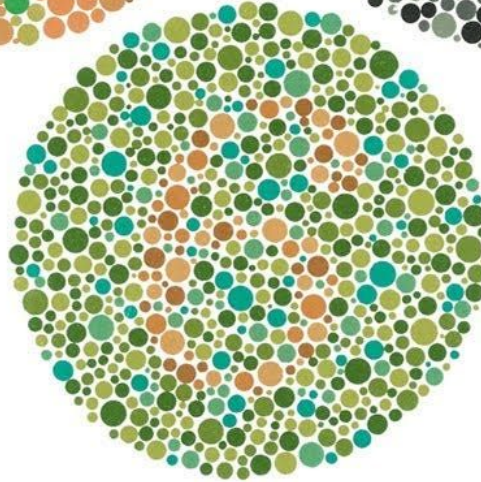
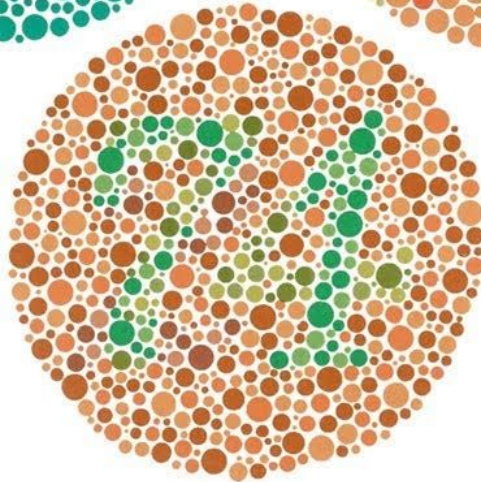
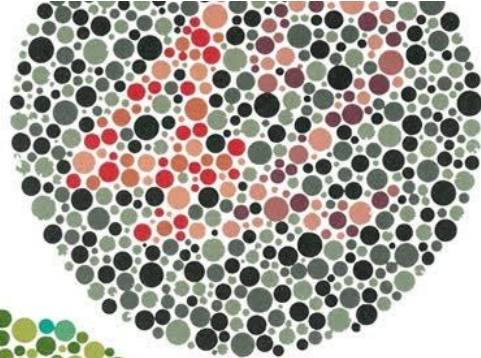
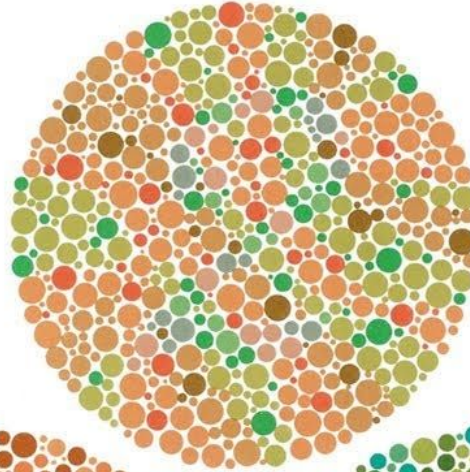
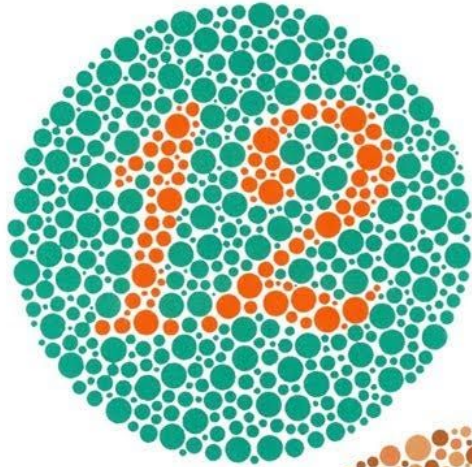


- Good graphic design + colour choice
 - Appropriately direct attention
- Is your design too complex to explain or document?
 - → Redesign it
- Group related objects
 - Alignment, decorations, etc.
- Balance and blank space
 - Use all the space you have, but wisely

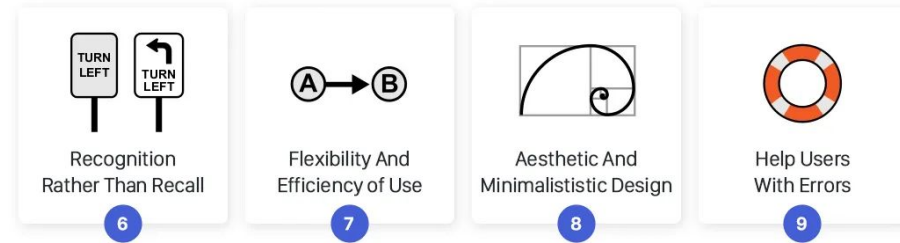
8. Aesthetic + Mini





- Few fonts and colors (5 to 7 colors)
- Appropriate contrast
 - [Check your contrast ratio](#)
- "Less is more"
- Colour blindness (Red / Green / Blue / Yellow)
 - Don't rely on colours for improving readability



9. Help Users



- **Recognize, diagnose, and recover from errors**
- Help users when they are in trouble
- Opportunities for users to learn about the system
- Clear language; no codes
- Unclear:
 -  Error 404... good luck!
- Clear:
 -  Oops! The page you're looking for doesn't exist

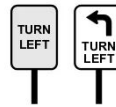
9. Help Users



- Be precise
 - ✗ “Syntax error”
- Constructively help the user solve the problem
 - Say **why** the error happened
 - Provide info on how to fix it
- Be polite and not accusing; positive wording:
 - ✗ "Fatal error."
 - ✓ "Something went wrong; let's get you back..."



✗ Bad Warnin



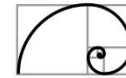
Recognition
Rather Than Recall

6



Flexibility And
Efficiency of Use

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Aesthetic And
Minimalistic Design

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Help Users
With Errors

9

Home Store How to Buy News About Us Products Services Support

View Cart My Account Dow

Tablets

Buy online or call 1-800-FUJITSU Fujitsu recommends Microsoft® Windows® XP Tablet PC Edition for Mobile Com

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 - T3000
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Friendly Error Message



Error #49371A8QMV67.
Have a nice day!

OK

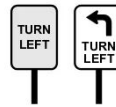
Are you sure?

Yes

No



Good Warn



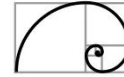
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Secure Empty Trash permanently erases the items in the Trash. Are you sure you want to permanently erase them?

If you choose Secure Empty Trash, you can't recover the items unless you've backed them up using Time Machine or another backup program.

Cancel

Secure Empty Trash



10. Help + Documentation



Help And
Documentation

10

- Most people will not read documentation
- If do, then
 - First time product is used, or else
 - In a panic, need information right away
- Iterative design of documentation needed
- Peer review, pilot instructions
 - Does it make sense?



10. Help + Documentation



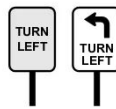
Help And
Documentation

10

- Help system is an extra feature to learn
 - If need to add help, maybe fix the feature?
- Use documentation writers to help refine system
 - How to improve flow / increase productivity
- Simple & clear quality writing
 - What if users do not speak English?
 - Leave no room for assumptions
 - Screenshots, GIFs, videos are great!



Example: Help + I



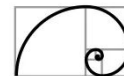
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Google Chrome Help

Help Center Community

Passkeys are the simplest and most secure way to sign in to your account. To sign in with just your fingerprint, face scan, or screen lock, [create a passkey](#).

How can we help you?

Describe your issue

Browse help topics

- Get started with Chrome
 - Download and install Google Chrome
 - Create or manage your Google Account in Chrome
 - Sign in and sync in Chrome
 - Make Chrome your default browser
 - Use Chrome at home
 - Sign out of Chrome
 - Check location info & directions in Chrome

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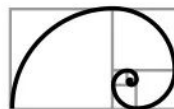
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10 Usability Heuristics (Nielsen, 1993)



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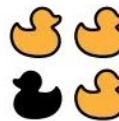
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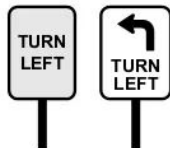
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Q: Which heuristic does this interface violate?



Payment Error

Your payment didn't process. Please check the details you entered and try again.

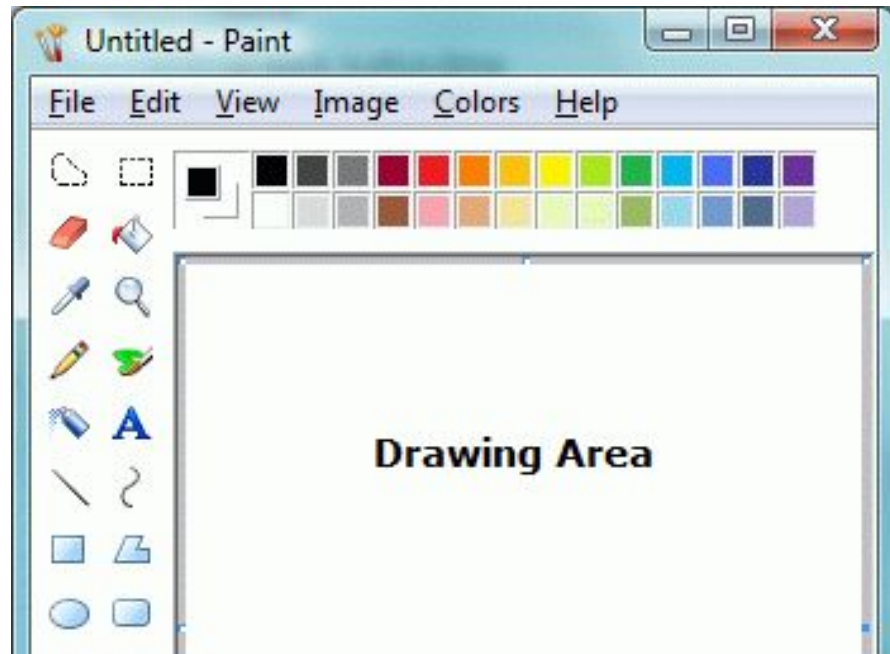
- A. Recognition Rather Than Recall
- B. Flexibility and Efficiency of Use
- C. Aesthetic And Minimalist Design
- D. Help User with Errors
- E. Help and Documentation



iClicker

Q: Which heuristic does this interface adhere to?

- A. Recognition Rather Than Recall
- B. Flexibility and Efficiency of Use
- C. Aesthetic And Minimalist Design
- D. Help User with Errors
- E. Help and Documentation



Wrap up

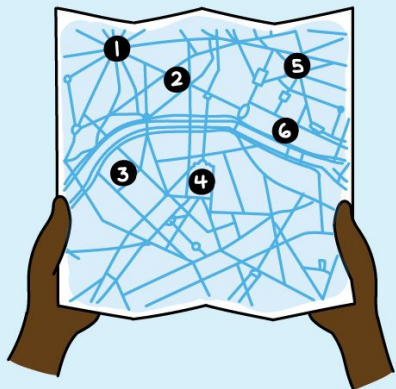


Wrap Up

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 - Due Sunday, April 6, 11:59pm
- **Lab 9 Project Co-working + Feedback Session**
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WHAT WE THINK WE NEED TO GET STARTED

A PERFECT MAP
OF THE FUTURE



WHAT WE ACTUALLY NEED

A GENERAL
DIRECTION



LIZ FOSSLIE



What was your main takeaway from today's session?

