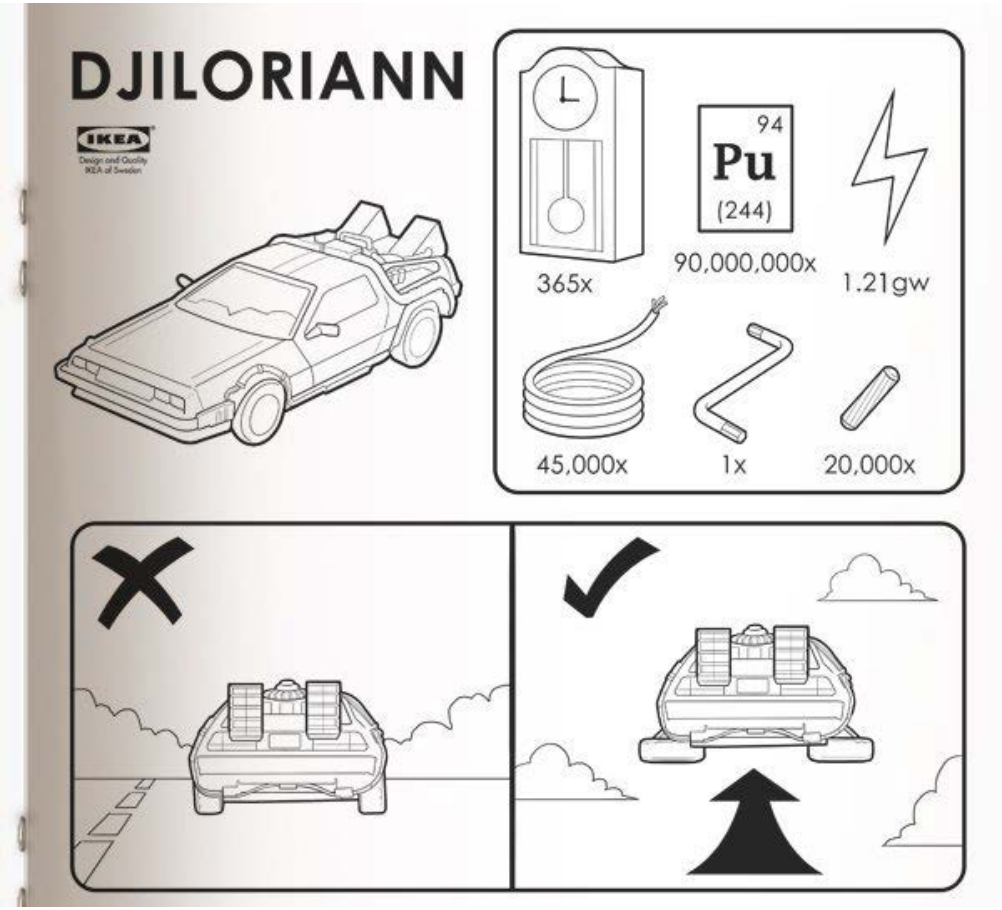
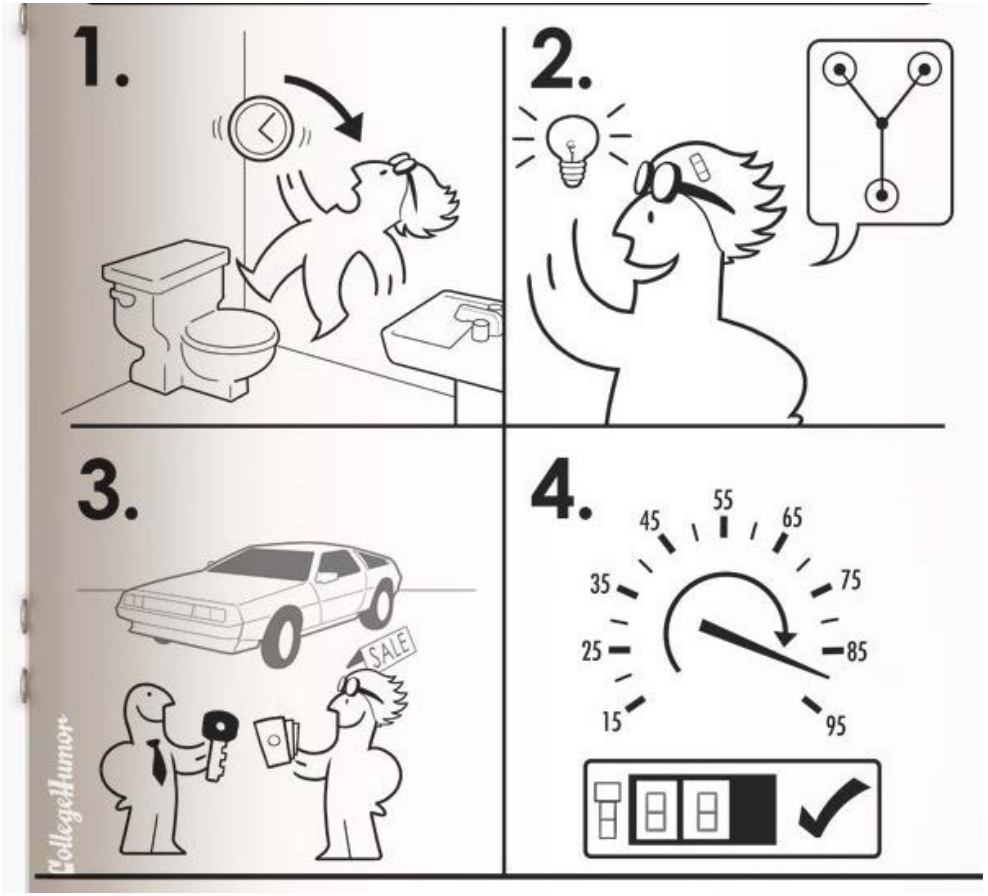
Instructions

Perfect instructions are not easy to create



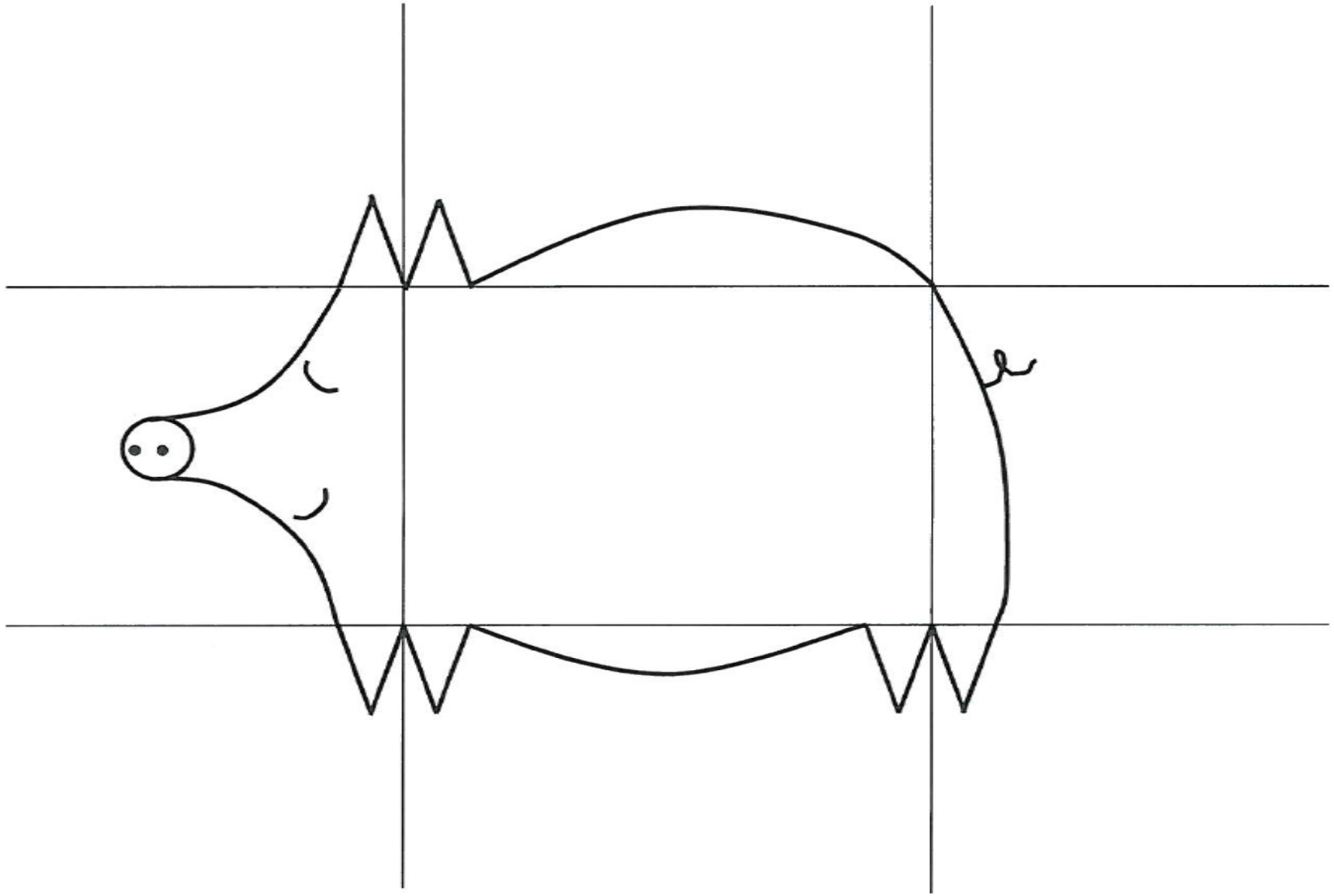


Some instructions are easier to follow than others

Follow the instructions on the paper

- Please follow the instructions alone. Looking at others' papers may confuse you, so try not to!
- You have about ten minutes to complete the instructions
- I'll let you know what to do when time is up

This is how it should look: like a pig!



Share what you created with a partner

- Some differences may occur

What are the problems with these instructions? What could help?

- Don’t know what we are meant to create
- No numbers
- Wording poor
- Terms are too vague (curly-cue!)
- No standard for writing instruction – verbs

Writing Instructions

Your future may include writing instructions

- You may have to create instructions for a set of tasks
- You may have to write an entire in-house manual
- In either case, your instructions must be effective and helpful for users

Software Instructions

- Written to help readers perform a specific software task
- Task is too complex to perform by themselves
- Guides readers step by step

As ever, focus on the reader

- The reader might use the instructions once or several times
- The instructions must be useful for both first-time readers and repeat readers

Experienced Writers vs. Inexperienced Users

- Instructions are written by technically proficient people for non-technically proficient people
- Experienced writers tend to overestimate the knowledge and abilities of the reader
- What's obvious to the writer isn't obvious to the reader

The COIK/COK Syndrome

- Occurs in all writing to a degree
- A particular concern in instruction writing
- Experts forget how little newbies know
- COIK = Clear Only If Known
- COK = Curse of Knowledge

The COIK/COK Syndrome

- Expert writers often communicate specialised information or omit important information altogether
- Readers are unable to complete the task according to instructions
- Specialised knowledge or equipment may be needed, but isn’t mentioned

How to draw an owl

1.

1. Draw some circles

2.

2. Draw the rest of the owl

The COIK/COK Syndrome

- When the writer reviews the procedure, the instructions make perfect sense to them
- Instructions need to be tested to ensure they are effective
- Your pig drawing was a useful test example

Clear Instructions

- A competent reader will understand them on first reading
- Various readers will be able to agree about what they mean
- Intended readers don’t have to read more than once

Unclear Instructions

- Unclear instructions cannot be understood on first reading
- Readers recognize them as unclear
- Readers will usually stop reading and ask questions to determine meaning

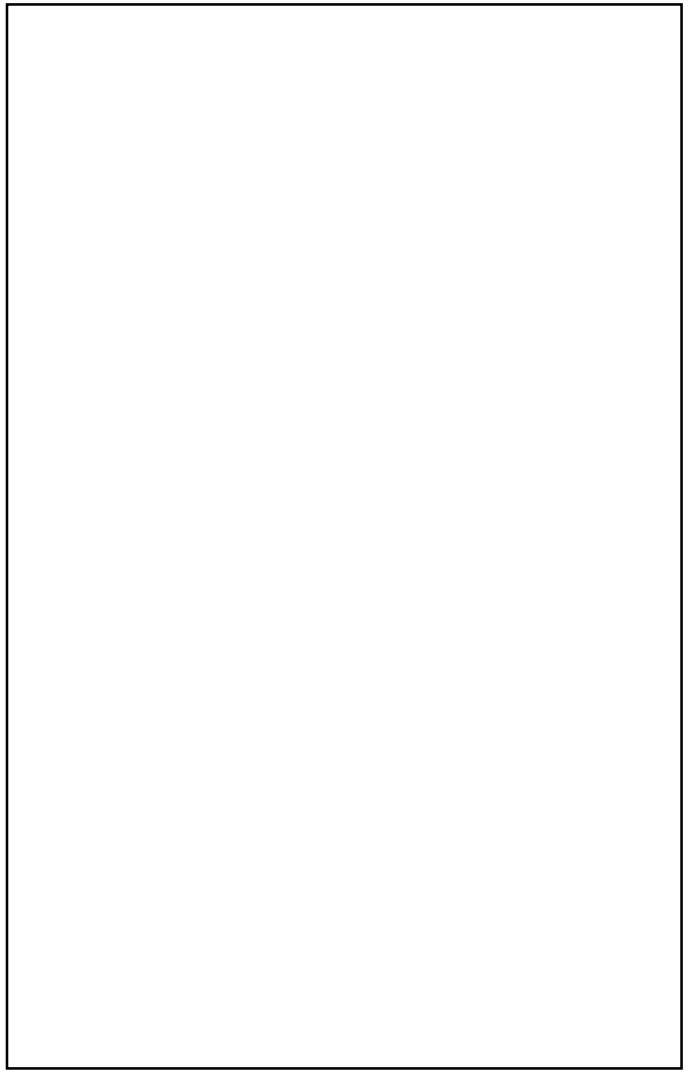
Misleading Instructions

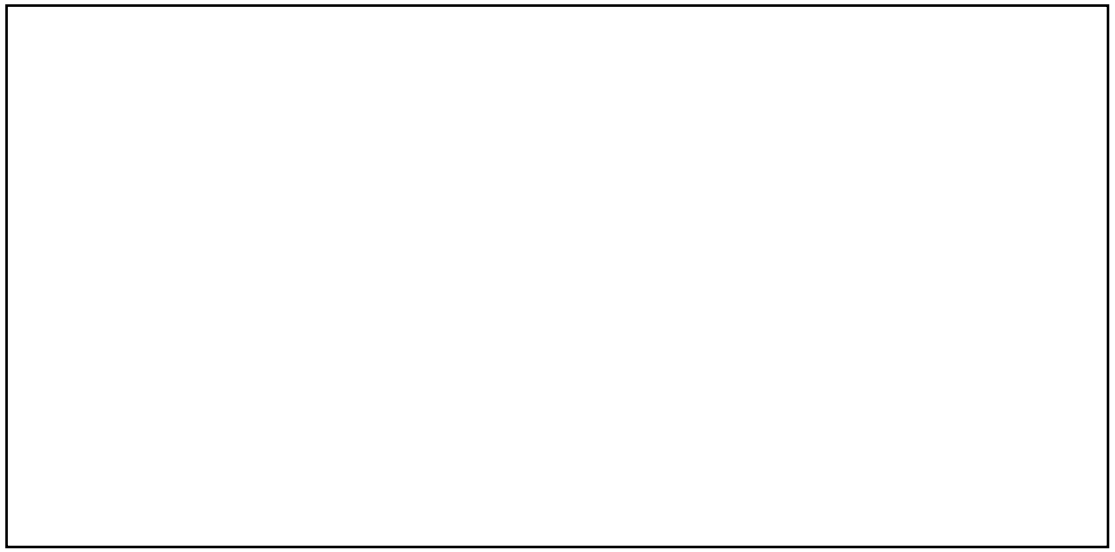
- Message that the reader receives is different from that intended
- The reader isn’t aware of a problem
- Readers will make erroneous decisions based upon their misreading

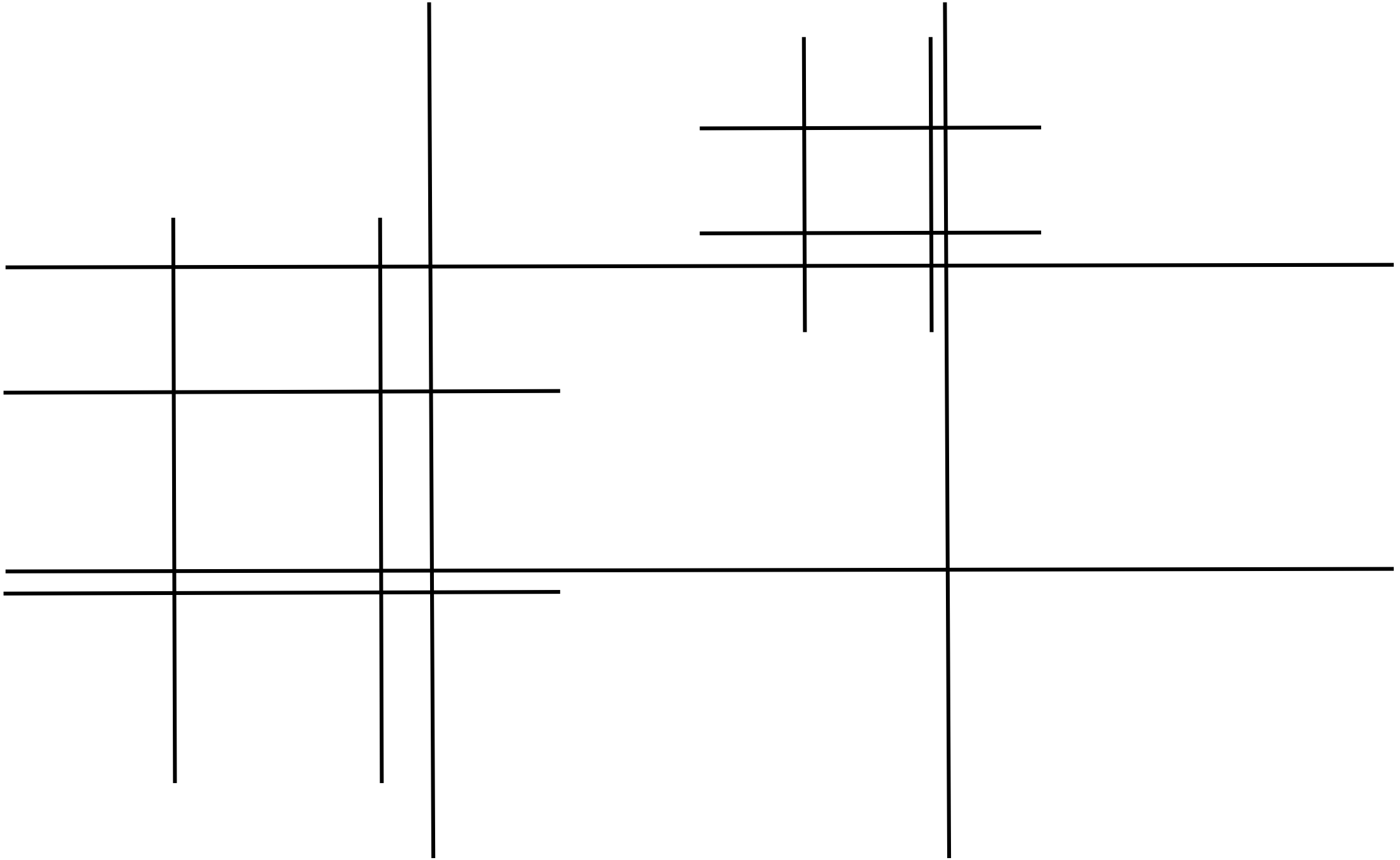
Ambiguous Instructions

- Have two or more possible interpretations
- The reader recognizes the ambiguity
- If the reader guesses, the results are haphazard

Draw a 3x3 grid?







Cures for Lack of Clarity

- Read the instructions aloud
- Give instructions to a test audience and see if clear to them
- Begin writing early and allow time between writing and editing

Good Writing is Accurate

- Accurate writing is exact and specific, rather than general
- A common novice mistake is to not be precise and specific enough
- Be precise about resources needed, individual steps, etc.

A1 Tighten bolt with wrench, vs.

A2 Tighten bolt with torque wrench to 8 Nm Note: over-tightening may strip the thread

B1 Select Multiple Copies and Enter, vs.

B2 Click on Multiple Copies and press Enter

Good Writing is Concise

- High information-to-words ratio
- Concise writing provides the most information in the least possible words
- Bad writing is ‘wordy’; it obscures meaning and increases reading times

Wordy Instruction Step

- You’ll now need to resize your Mac OSX system partition appropriately to make room for your Linux distribution of choice, vs.
- Resize your Mac OSX partition to make room for installing Linux.

- Give yourself enough time to edit your first draft
- Good instructions begin with a long first draft which is edited down
- Make it more concise with each revision

- Use language understandable to your target audience
- Familiar terms are more readily understood and remembered
- Whenever a short word can be used instead of a long word, use the shorter word

Analyzing Your Users

- User analysis makes up some of the basic research for writing instructions
- Analysis may involve the use of interviews and questionnaires
- The analysis gathers information about the users according to the following:

- Task the users will perform
  - Inputting, processing, generating reports
- Users' computer experience
  - What computers, operating systems and applications have they used before? For how long? How long ago?
- Users' understanding of program concepts
  - Do the users understand the concepts behind the program which determine its use and function?

Computer User Types

- Novice Users
- Advanced Users
- Casual Users
- System Administrator

Novice Users — Profile

- The novice user:
  - is a beginner
  - focuses on simple tasks; easily confused by complex tasks
  - does not easily recognize or troubleshoot problems
  - relies on advanced users for help

Novice Users

- The novice user’s information needs:
- get just enough information to get started (such as ‘getting started guides’)
- get simple, tutorial-style descriptions with screenshot examples
- to filter out complex, infrequent tasks
- understand pitfalls to avoid and simple troubleshooting

Advanced Users — Profile

- The advanced user is a high performance user who:
- performs complex tasks efficiently and independently
- re-applies mental models (prior experience) and common patterns of usage
- easily recognizes and troubleshoots problems
- supports novice users

Advanced users needs are to get

- information supporting efficient task performance.
- a holistic view: task purpose, context and significance
- ‘power user’ shortcuts, tips, automation, environment setup, restrictions, etc.
- advanced troubleshooting procedures

Casual Users — Profile

- A casual user is a part-time, intermittent computer user who:
- performs self-service tasks occasionally, as required (e.g. file a claim, write an expense reports, calculate taxes)
- Makes up the largest user population!

Casual Users information needs are to get:

- easy access and navigation (just in time)
- modular information (just enough)
- tailored examples
- complete, self-contained instructions (everything in one place)

System Administrators — Profile

- The system administrator is somebody who knows or is responsible for:
- software installation and setup (configuration)
- additional related software (e.g. operating systems, databases, etc.)
- user partitioning and security profiles
- troubleshooting and performance tuning

System Administrators needs are to get:

- Installation guides
  - preparation, procedures, validation steps
- Configuration guides
  - settings (reference information)
- Administration guides
  - routine maintenance (e.g. archive/purge data)
  - troubleshooting procedures

Task Analysis for User Types

- Imagine you are designing a new word processor or other office software.
- List user tasks for each user type:
- Simple, frequent tasks for novice users
- Complex, infrequent tasks for advanced users
- Administrative tasks that are restricted to system administrators

- Users’ information needs
  - *What do they know and still need to know to complete tasks?*

- Users’ learning preference.
  - *How do they usually learn a new program? What do they usually do first; after that, what next?*

Analyzing the Users

Conducting Interviews

- Question the potential users of a program
- Before you interview, research as much as you can about the users
- The particular questions you ask will differ with every situation

To find out about…	*Ask something like…*
What tasks will the user perform?	What tasks do you do over and over as part of your job? When you get a new program, what do you do first?
What is the user's range of computer experience?	What kinds of computers have you used? What kinds of programs have you used? What kinds of programs do you use on a regular basis? How have you learned to perform new software tasks in the past?

Writing Questionnaires

- Questionnaires enable you to get information from users
- Increases the number of people from whom you are able to receive feedback
- Patterns of behaviour can be identified and taken into account

- Open-ended questionnaires work best in producing information
- Indicate the type of information you're looking for but don't force a simplistic choice
  - e.g. ask "What has been your experience using online help systems?"
  - rather than asking the reader to choose between multiple-choice ratings of online help systems

- Make sure your questions are objective in nature and wording

- Don’t ask leading or negative questions:
  - e.g. “What don’t you like about using Microsoft Word?”

- Negatively-worded questions encourage negative responses
- Ask neutral questions instead:
  - e.g. “Is there anything about Word that you would like to change, and why?”