
Style guide for voting system documentation

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Style guide for voting system documentation

Deliverable: Style guide for documentation required in the VVSG (Voluntary Voting System Guidelines) Technical Data Package.

Background

The goal of this project on Voting System Documentation Usability and Poll Worker Usability Testing is to improve the usability of documentation used by poll workers and election support staff by developing these resources:

- Style guide incorporating best practices for voting system documentation
- Protocol for voting system test labs to use to measure the usability of instructions supplied by voting system manufacturers for election workers

This document sets out guidelines for voting system manufacturers to use to implement best practices in their documentation for poll workers and election support staff. Ideally, these guidelines would be incorporated in the VVSG, in a section equivalent to the direction already included for user interfaces of voting systems (Part 1: 3.2.4-C “Plain Language”).

To develop the guidelines, we reviewed:

- Research related to technical communication and information design. This review resulted in *Review of relevant literature: technical communication and information design* (Chisnell and Becker 2007a).
- Writing guidelines from government agencies and other groups. This review resulted in *Current guidelines: technical communication and information design* (Chisnell and Becker 2007b).
- Documentation developed by voting system manufacturers that is directed to poll workers. We based our review on what we learned from our reviews of the research and guidelines in current use. This review resulted in *Gaps between voting system documentation and best practice in technical communication and information design* (Chisnell and Becker 2008a).

- The 2007 VVSG requirements for documentation for poll workers and for plain language in system instructions. This review resulted in *Applying best practice in technical communication and information design to documentation for poll workers* (Chisnell and Becker 2008b).

We also gathered information from voting system manufacturers about the people who write the voting system documentation. This helped us better understand the writers' tasks and constraints.

What is in this document

This document discusses guidelines for writing voting system documentation. It focuses on documentation for setting up voting systems, conducting polling, and shutting down and auditing voting systems.

Because poll workers usually perform these tasks, the guidelines and examples focus on writing documentation for poll workers. However, the guidelines apply to writing voting system documentation for all users.

These guidelines would add specificity to the VVSG in Part 2: Chapter 4: "Voting Equipment User Documentation (manufacturer)," as well as expand on points in Part 2: 3.1.1.1-C "TDP contents" and Part 1: 3.2.8 "Usability for poll workers," including Part 1: 3.2.8.1-C "Documentation usability."

How to use this document

Each guideline includes direction for voting system manufacturers to implement the guideline and to evaluate if it has been met. The discussion includes examples of typical mistakes in voting system documentation and suggestions of ways to revise.

We chose these best practice guidelines because:

- These guidelines can help writers solve many high-level problems that in turn eliminate typical, smaller problems.
- These guidelines are widely and consistently agreed upon and supported, based on the research we reviewed for this project.
- Testing methods are available to evaluate objectively whether these guidelines have been implemented effectively.

- Based on our experience as technical communicators and information designers, we believe these guidelines provide reasonable guidance that can fit into standard writing and review cycles.

Note: The examples used in this report are adapted for illustrative purposes and do not represent original documentation from voting system manufacturers.

Guidelines

Writing the documentation for specific users

- Understand your users
- Understand your users' tasks
- Address one group of users at a time

Organizing to meet your users' needs

- Focus on your users' tasks
- Organize the documentation logically and clearly
- Use informative headings

Using simple words your users understand

- Use familiar, common words
- Use consistent terminology
- Use gender neutral language

Writing directly to your users

- Use the imperative in instructions
- Use "you" when writing to your users
- Use the active voice

Keeping instructions short and simple

- Make each instruction a separate step
- Use numbers for steps
- Use bullets for lists
- Put steps in the order in which they must be completed
- Put information in a step in the order needed

Style guide for voting system documentation

- Put warnings before—not after—consequences
- Make each step as short as possible

Using graphics effectively

- Use graphics to illustrate tasks
- Make the relationship between graphics and text clear
- Keep graphics simple—show only what is necessary
- Identify items and actions on graphics

Designing the documentation for easy scanning and reading

- Use informative headers and footers
- Design pages for easy scanning and reading

Testing the documentation

Writing the documentation for specific users

The documentation set for a voting system can cover information for several different groups of users including election administrators, information technology workers, local elections officials, election judges, various clerks, and general poll workers.

The tasks and motivations of each group of users are different. For example, election administrators may review documentation to make decisions about purchasing systems, while poll workers refer to documents only if necessary to complete their tasks on Election Day.

When you write documentation for specific groups of users, each group can then understand and use their documentation more easily because it is shorter, simpler, and more appropriate. It contains only as much information as they need, when they need it, in language they can understand.

For example, the poll worker's guide addresses poll workers—the people who run polling places on Election Day, including clerks and election judges. It covers only their tasks on that day.

To write the documentation for specific users:

- Understand your users
- Understand your users' tasks
- Address one group of users at a time

Understand your users

Know your users, for example, election support staff, such as poll workers, clerks, and election judges.

What? To understand your users, you need specific information:

- Demographics: age, education, work and life experience
- Motivation and compensation
- Experience working on elections
- Previous knowledge of voting systems
- Previous knowledge of elections and election terminology
- Physical ability, if their tasks involve physical work

How?

- Visit polling places on Election Day:
 - Be a poll worker.
 - Vote at your polling place.
 - Observe a polling place.
- Read research reports and news articles about poll workers.
- Create personas of your users (composite representations of typical users). Use them as you develop and evaluate the documentation. (See the resources on page 67.)
- Test the documentation to make sure it speaks to your users. (See page 62.)
- Document your understanding of your users with an audience analysis or profile in the document project plan (but not the documentation itself).

Good example. This step from a poll worker's guide tells poll workers what to do in simple terms.



5. On the Access Code slip, check the voter's precinct I.D.

Revising. This note from a poll worker's guide includes terminology and information that most poll workers do not understand. No matter how the voting equipment is set up, the poll workers only need to know when to print the zero report.

Before

Note: The election definition determines if the zero report reflects an individual terminal or all open terminals.

After

Note: When you open the last terminal, print the zero report.

Why? When you know your audience, you can address them more effectively in these ways:

- Use language and terminology they understand.
- Include information they need and leave out what they already know.
- Break complex tasks into simpler steps suitable for the context.

Evaluation checklist

This guideline (understand your users) does not have any specific items on the evaluation checklist. But it affects how successfully the documentation meets all the other items.

Understand your users' tasks

Know your users' tasks; for example, if your users are the poll workers, know their main tasks for Election Day and all the steps involved in completing those tasks successfully.

What? The users' tasks are the actions they need to take to do their job or accomplish their goals. For example, the VVSG (Voluntary Voting System Guidelines), in Part 1:3.2.8.1 "Operation," defines the poll workers' tasks as:

- Setting up and opening the polls, including setting up the equipment, but not defining the ballots
- Running the polls during voting hours, including:
 - Checking voter identification and authorization
 - Preparing the system for the next voter
 - Assisting voters who need help
 - Performing routine operations like installing a new roll of paper
- Closing and shutting down the polls so that no more votes are cast

How?

- Visit polling places on Election Day:
 - Be a poll worker.
 - Vote at your polling place.
 - Observe a polling place.
- Interview your users, for example, poll workers and election officials.
- Think through your users' tasks using their personas. For example, walk through Election Day using your poll worker personas to develop a list of all the required tasks. (See the resources on page 67.)
- Talk with the designers and developers of the polling equipment to learn how it works.
- Document your understanding of your users' tasks with a task analysis, based on your research, in the document project plan.

Good example. See the example for "Understand your users" on page 9.

Revising. In this poll worker's guide, the first step of the day tells the poll workers to contact the manufacturer. The task of inspecting and replacing the cord is not the poll workers' job. Other staff must solve this problem.

Before

Opening the Polls

1. Inspect the power cord for damage.

If the cord is damaged, discard it and contact the manufacturer for a new cord.

After

Opening the Polls

1. Inspect the power cord for damage.

If the cord is damaged, contact Election Central.

Why? When you understand your users' tasks, you can develop the documentation to cover the specific information they need to do their jobs. See "Focus on your users' tasks" on page 16.

Evaluation checklist

This guideline (understand your users' tasks) does not have any specific items on the evaluation checklist. But it affects how successfully the documentation meets all the other items.

Address one group of users at a time

Write to one group of users at a time. Include only the information that group needs to complete their tasks.

What? Provide information and instructions for one group of users at a time, rather than including information for different groups in the same paragraph, set of instructions, or chapter. For example, in the poll worker's guide, include only the information that poll workers need to complete their tasks on Election Day.

How?

- Address one specific group of users in a document or major section of the documentation.
- In a specific document or major section, include only the information that the users you are addressing need to complete their tasks.
- Make the poll worker's guide a separate document rather than including it as a chapter in a multipurpose guide.
- In a poll worker's guide, include only the information that poll workers need to complete their tasks.
- As much as possible, put information for each group of users in separate documents specifically for those users; for example, put information for the IT staff in an operator's guide.

See also

- Understand your users' tasks (page 11)
- Focus on your users' tasks (page 16)
- Use the imperative in instructions (page 29)
- Use "you" when writing to your users (page 30)

Good example. This statement from an introduction to a setup guide defines the audience (poll workers), speaks directly to them using "you," and describes the task from their point of view.

About this guide This guide provides you with the instructions for setting up voting equipment in a polling place.

Audience Election Judges (Poll Workers)

Revising. This operations manual includes one chapter for poll workers; the rest is for information technology (IT) staff.

Before

Chapter 5: Pre-Election Day Preparation

Chapter 6: Poll Worker Election Day Procedures

Chapter 7: Post-Election Tasks

After

Chapter 5: Pre-Election Day Preparation

Chapter 6: Post-Election Tasks

Poll Worker Election Day Procedures (a stand-alone document)

Why? Addressing more than one audience in a single document adds complexity for each audience. Multipurpose documents or documents that attempt to serve multiple audiences are difficult for almost anyone to use to find what they need to accomplish their goals.

Evaluation checklist

- Does the documentation address one group of users at a time?
- Does each document or major section include only the information needed by the group of users it addresses?
- Is the poll worker's guide a separate document rather than a chapter in a multipurpose guide?
- Does the poll worker's guide include only the information that poll workers need?

Tip! In a poll worker's guide, include tasks that are completed on Election Day, not before or after. (These tasks probably belong to someone other than a poll worker.)

Organizing to meet your users' needs

When information is presented logically from the users' point of view, they can find the information they need, fit it into what they already know, and use it to complete their tasks.

Some tasks can be completed and then forgotten. For example, poll workers can follow the instructions to print the opening reports, and then forget about that task. If they need the information again, they can find it more easily in documentation that is clearly organized.

Other tasks need to be repeated many times. For example, poll workers may need to process provisional ballots throughout Election Day. Users can remember the information more easily if it is organized with related ideas and tasks together. Or if they forget the information, they can find it again more easily in documentation that is organized based on their tasks.

To organize the documentation to meet your users' needs:

- Focus on your users' tasks
- Organize the documentation logically and clearly
- Use informative headings

Focus on your users' tasks

Focus on what your users need to do to complete a task rather than on what the system is doing (or can do).

What? The users' tasks are the actions they need to take to complete their job or accomplish their goals. For example, the poll workers' tasks on Election Day in general are:

- Setting up and opening the polls
- Running the polls
- Closing and shutting down the polls

How?

- Explain how to complete the tasks instead of describing the voting system.
- Describe only the relevant parts of voting system when the users need to understand them to complete a task, rather than in overviews.

See also

- Understand your users' tasks (page 11)
- Use the imperative in instructions (page 29)

Good example. These instructions from a poll worker's guide describe what the poll workers need to do—turn on and secure a voting machine.

1. Open the Polls Open/Closed switch cover.
2. Remove the red seal from inside and set it aside.
3. Turn the Polls Open/Closed switch to the Open position.
4. Close the Polls Open/Closed switch cover.
5. Secure the Polls Open/Closed switch cover with the red seal.

Revising. This step from a poll worker's guide describes the equipment (the color-coded plugs) rather than what poll workers need to do to set up the equipment.

Before

1. Note that there are two plugs. These two plugs are color-coded so that you plug them correctly into the power supply. The plugs with the red and yellow dots are plugged into the power supply so that the dots on the power supply match the dots on the plugs.

After

1. Insert the plug with the red dot into the power supply outlet with the red dot.
2. Insert the plug with the yellow dot into the power supply outlet with the yellow dot.

Why? Most readers scan until they find an action and then take the first reasonable action they see. When the system documentation describes the voting equipment rather than the tasks, the users have to figure out what to do from the description, rather than simply follow directions. They may need more time and make more errors.

Evaluation checklist

- Does the documentation explain how to complete the tasks rather than describe the voting equipment?
- Is voting equipment explained with the tasks, rather than in overviews?

Organize the documentation logically and clearly

Put the information in the order that your users need it.

How?

- Base the organization of the documentation on your analysis of the users' tasks. (See "Understand your users' tasks" page 11.)
- If the users complete the tasks in a particular order, organize the documentation based on that order.
- When chronological order is not important, organize by the importance or frequency of the tasks. Put the most important and most frequent tasks first.
- Organize the poll worker's guide chronologically, following the poll workers' tasks through Election Day.

Good example. In this poll worker's guide, the information is in the order that the poll workers need to complete the tasks.

Setting Up

Positioning the Voting Units

Setting Up the Voting Units

Turning On the Power

Revising. In this poll worker's guide, the first heading covers 2 tasks (start up and shut down) that the poll workers complete 12 or more hours apart. It is based on the equipment: the unit can be started and shut down with the same switch.

Before

Start Up/Shut Down Procedure

Setting Up the Unit for Voters

Assisting the Voters

After

Starting the Unit

Setting Up the Unit for Voters

Assisting the Voters

Shutting Down the Unit

Why? Users can find information quicker in a logically organized document. Chronological order is especially easy for users to understand. It is also appropriate for describing the activities and events of Election Day, which follow a set, time-based pattern of opening the polls, assisting voters, and closing the polls.

Evaluation checklist

- Is the documentation organized logically based on the user's tasks?
- If the users must complete the tasks in a particular order, is the document organized chronologically based on that order?
- When chronological order is not important, is the document organized by the importance or frequency of the tasks?
- Is the poll worker's guide in particular organized chronologically based on the poll workers' tasks?

Use informative headings

Use headings that help your users scan the documentation to find the information they need.

What? Informative headings describe each section of text or set of instructions and help users find the information they need.

How?

- Describe the users' tasks rather than the equipment.
- Use an effective form for headings:
 - Verbs and verb phrases: Determining if a voter is eligible.
 - Questions: How do I determine if a voter is eligible?
 - Sentences: Determine if the voter is eligible.
- Avoid nouns and noun phrases: Determination of voter eligibility.
- Make headings in a section grammatically parallel.

Good example. These headings from a poll worker's guide are verb phrases that describe the poll workers' tasks.

Ending the Election
Counting Outstanding Ballots
Locking the Ballot Counter
Printing the Election Results Report
Turning off the Ballot Counter
Sending Election Results to Election Central

Revising. The first subheading is a noun phrase, which is less effective. Also, the headings are not parallel; the top level heading and the last subheading are verbs phrases (specifically gerunds). But the others are not. In the revision, the headings are all the same type of verb phrase.

Before

Setting up the Voting Station
Assign Station Identification
Printer Set-Up
Testing the Voting Units

After

Setting up the Voting Station
Assigning the Station Identification
Setting up the Printer
Testing the Voting Units

More revising. Here the headings from a poll worker's guide describe the voting equipment rather than the poll workers' tasks and use computer terminology (coding) rather than language the poll workers use.

Before

Loading a Ballot

 Poll Worker Ballot and Precinct Selection Screens

 Coding a ballot

After

Loading a Ballot

 Selecting a Precinct

 Selecting a Ballot

 Marking a Ballot to Review for Voter Eligibility

Why? Informative headings aid scanning by describing what each section discusses and by breaking large blocks of text into smaller chunks that cover a single topic.

Evaluation checklist

- Do the headings describe users' tasks rather than equipment?
- Are the headings in an effective form: verbs, questions, or sentences?
- Are the headings in a section grammatically parallel?

Tip! For the poll worker's guide, create a table of contents from the headings. They should read like a set of high level instructions that follow the poll workers' day.

Using simple words your users understand

The normal reading process involves both recognizing letters in a word and applying contextual information to recognize the word. Short words and familiar words are easier to recognize.

For example, if a poll worker's guide uses short, familiar words, poll workers can quickly read what they need and get back to their job of running the polls on Election Day.

To use simple words that your users understand:

- Use familiar, common words
- Use consistent terminology
- Use gender neutral language

Use familiar, common words

Use the words your users use. Particularly for poll worker documentation, avoid technical or specialized terminology that poll workers don't understand.

What? Words that are familiar and common for the general population are appropriate for poll worker documentation. For other system documentation, specific terminology that is familiar and common for those users is appropriate.

How?

- Use short, simple words.
- Select the plain, rather than the formal word.
- Describe voting equipment rather than using the manufacturer's name for it.
- Avoid unfamiliar election terminology.
- In poll worker documentation, avoid computer and software terminology.
- Explain unfamiliar terms when they appear, not only in a list of terms.
- Avoid acronyms and abbreviations; define them when you use them.

Good (and bad) examples

Use...	Avoid...
find	locate, identify
help	assist
make sure, confirm	verify, validate
message	prompt
put	incorporate
turn on	power on
use	utilize
voting machine	terminal

Revising. In these instructions from a poll worker's guide, the first step uses computer and election terminology (election definition, card, operating system, LCD screen) and includes more information than the poll workers need.

Before

1. Insert the scanner key and turn it to the Open/Close Poll position.

It will take approximately two minutes for the scanner to load the election definition from the card into its operating system. The scanner will display "S-Mode" in the upper left corner of the LCD screen and the message "Election card inserted. Open polls now?"

2. Press Yes.

After

1. Insert the scanner key and turn it to Open/Close Poll.
2. Wait until this message appears (in about two minutes):
Election card inserted. Open polls now?
3. Press Yes.

Why? Familiar, common words are easier to understand and remember. All users benefit from documentation that uses simple words, especially poll workers.

Evaluation checklist

- Does the documentation use words the users understand?
- Does the documentation use short, simple words?
- Does the documentation avoid unfamiliar election jargon?
- Does the documentation avoid computer and software terminology?
- Are unfamiliar terms explained when they appear?
- Does poll worker documentation avoid acronyms and abbreviations?
- Are acronyms and abbreviations defined when they appear?

Use consistent terminology

Use the same word consistently to describe a particular object or action.

What? Using consistent terminology means using the same word or phrase to describe a particular object or action each time it appears in the documentation in text, headings, captions, and graphics, as well as in printed reports, messages on screen, and labels on voting equipment.

How?

- Pick one term to use for a particular action or object.
- Create a terminology table to keep track of preferred words and (unused) alternatives.
- Replace the alternatives in the documentation with the preferred word.
- Work with the voting equipment developers to agree on terminology.

Revising. In this poll worker's guide, the text and the caption for the graphic use different terms: two terms for the object (roll and printer tape) and two for the action (feeds and rolls out). It is especially confusing that a single word (roll) is used for both the object and the action.

Before



Printer tape rolls out from bottom

1. Insert the new roll so that it feeds from the bottom.

After



New roll feeds from bottom

1. Insert the new roll so that it feeds from the bottom.

Why? Users may be confused if the same object has different names or the same action is described in different terms. They may think that the documentation is discussing different objects or actions.

Evaluation checklist

- Is terminology consistent in text, headings, captions, and graphics?
- Is the terminology in the documentation consistent with the hardware and user interface terminology?

Tip! Don't use synonyms just to make your writing more interesting. They may also make it more difficult to read and understand.

Use gender neutral language

When you refer to both men and women, use words that refer to both. Don't use gender-based pronouns or words that refer to only one gender.

What? Gender-based pronouns refer to only one gender (male or female): she, her, hers, he, his, and so on. They are appropriate when you to refer a particular person.

How?

- Rewrite sentences in the plural to avoid gender-based pronouns.
- Use nouns instead of gender-based pronouns.
- Use articles instead of gender-based pronouns.
- Avoid using "one" and "he or she" or "he/she."

Good examples. These sentences use "their" and "a" rather than "his."

All voters who are in line before the polls close can cast their ballots.

Any voter who is in line before the polls close can cast a ballot.

Another good example. This sentence uses "the person's."

To vote for a write-in candidate, write the person's name on the line.

Revising. The steps explain how to assist a voter. They include seven gender-based pronouns. The revision replaces three of the pronouns with the noun, "the voter," and two with "the." It eliminates the need for the other two pronouns.

Before

1. Show him the keypad, and show him where to insert his ballot.
2. Assist him while he inserts his ballot for scanning (if he asks for assistance).

After

1. Show the voter the keypad and where to insert the ballot.
2. Assist the voter with inserting the ballot for scanning (if the voter asks for assistance).

Why? A gender-based pronoun can give the impression that the members of the other gender are not included.

Evaluation checklist

- Does the documentation avoid using gender-based pronouns?

Writing directly to your users

When documentation does not speak directly to users and tell them what to do, they mentally rephrase the information to create a scenario they can follow.

When the documentation speaks directly to users and clearly tells them what to do, they can spend more time working and less time reading.

To write directly to your users:

- Use the imperative in instructions
- Use “you” when writing to your users
- Use the active voice

Use the imperative in instructions

Use the imperative to tell your users what to do.

What? In the imperative, the subject of the sentence is “you,” implied or understood, rather than stated directly. (For example: Open the panel.)

How? Use the imperative to:

- Tell your users what to do rather than describe what they do.
- Tell your users how to use voting equipment rather than describe it.

Good examples. These instructions tell poll workers exactly what to do.

Raise the switch cover.

Enter the Polling Place I.D.

Tear off the Open Polls report and file it in the appropriate envelope.

Revising. The poll workers must complete this action, but the step doesn’t tell them that. The subject is the equipment, not “you” implied.

Before

1. The panel must be opened to remove the ballot.

After

1. Open the panel.
2. Remove the ballot.

More revising. This step from a poll worker’s guide describes the equipment, not what the poll workers need to do.

Before

1. After the roller guide has been removed, it may be put back with the rollers down for long ballots or up for short ballots.

After

1. Remove the roller guide.
2. Put the roller guide back with the rollers down for long ballots or up for short ballots.

Why? Instructions that are written in the imperative are easier for users to understand. Instructions tell users what to do. Writing instructions in the imperative is the most direct way to do that.

Evaluation checklist

- Are instructions written in the imperative?

Use “you” when writing to your users

Refer to the assumed readers of the documentation as “you.”

What? In a sentence that speaks directly to your users, the subject is the pronoun “you,” either stated (You remove the seal) or implied (Remove the seal).

How?

- When discussing a condition or situation, use “you” to write to the users rather than referring to them in the third person, for example, as “the poll workers” in a poll worker’s guide.
- When discussing voting equipment, use “you” to write to your users rather than describing the equipment.

See also

- Use the imperative in instructions (page 29)

Good examples. The sentence, heading, and note from a poll worker’s guide speak directly to poll workers as “you.”

This training guide will provide you with the instructions for setting up the voting equipment in a polling place.

Chapter 1: Before You Begin

Note: You can write Election Keys with the poll status of the Judge’s Check-In Station either “open” or “closed.”

Revising. This sentence from a poll worker’s guide explains why the voting machine must be locked. Poll workers must complete this action, but the sentence does not tell them that. It describes the equipment.

Before

After the polls have closed and all ballots counted, the voting machine must be electronically locked prevent further ballot counting and to issue the election tally.

After

After you have closed the polls and counted all ballots, you must electronically lock the voting machine to prevent further ballot counting and to issue the election tally.

More revising. This sentence from a troubleshooting guide talks about the equipment and poll workers. It doesn't tell them what to do.

Before

Poll workers should make sure the unit is on. The ballot box should be unlocked and opened. Poll workers should then make sure the power cord is plugged into the back of the unit.

After

1. Make sure the unit is on.
2. Unlock and open the ballot box.
3. Make sure the power cord is plugged into the back of the unit.

Why? When the documentation speaks directly to the users, they understand more quickly that they are the ones who should take action or perform a task. When the documentation describes the equipment, users need to figure out what action is required and who should do it.

Evaluation checklist

- Does the documentation use “you” to write directly to the users rather than referring to them in the third person?
- Does the documentation use “you” to write directly to the users rather than describing the equipment?

Tip! You can use “we” to speak as the voting system manufacturer. For example, “We recommend that you check the power connection often.”

Use the active voice

Write sentences in the active voice most of the time. Use the passive voice only when necessary.

What? A sentence in English can be in either active or passive voice.

Active sentences have this pattern: actor — action — object.

You will file the report at the end of Election Day.

The voting machine records the ballot.

Passive sentences have this pattern: object — action — by the actor. Often, the actor is omitted.

The report will be filed at the end of Election Day.

The ballot is recorded.

An imperative sentence has this pattern: you — action — object. It is always active.

Remove the ballot.

Lock the panel.

How?

- Make the actors (your users) the subjects of your sentences, rather than the voting equipment.

See also

- Use the imperative in instructions (page 29)
- Use “you” when writing to your users (page 30)

Note: The passive voice is appropriate when it doesn't matter who the actor is or when you want your users to focus on the object. For example: Make sure that the cord is plugged in. The users don't know who plugged in the cord (or may have failed to), but it doesn't matter.

Revising. The sentence from a poll worker's guide explains how to prevent paper jams, but it doesn't tell the poll workers that they may need to do it. It describes the equipment.

Before

The Roller Guide allows the printer to be configured for various ballot lengths. It must be configured appropriately to prevent paper jams.

After

To prevent paper jams, you may need to configure the Roller Guide for the appropriate ballot length.

Why? Most readers understand sentences in the active voice more easily and quickly. Sentences in the active voice are also usually shorter and more direct.

Evaluation checklist

- Are most sentences in the active voice (and in passive only when appropriate)?

Keeping instructions short and simple

Most readers find short sentences (and short steps in instructions) easier to understand.

People can process only a limited amount of information at a time. Short steps break larger procedures down into manageable chunks of information. Short steps help limit how much users need to think about at one time.

But being short is not in itself enough to make a step easy to understand. The order of the words, phrases, and clauses in a step also affects comprehension. Steps that are grammatically simple, with the important information in the main clause, are easier for users to follow.

To keep instructions short and simple:

- Make each instruction a separate step
- Use numbers for steps
- Use bullets for lists
- Put steps in the order in which they must be completed
- Put information in a step in the order needed
- Put warnings before—not after—consequences
- Make each step as short as possible

Make each instruction a separate step

Make each action a new step and start each step on a new line.

What? A step is a single action. Users read a step and then complete the action, usually by turning away from the instructions.

How? Break each task down into a series of actions and then make each action a step.

Good example. Each action is a new step.

1. Place the unit on a table with the bottom storage side facing up.
2. Turn the four latches to a 45-degree angle.
3. Remove the bottom storage cover.
4. Remove the legs.
5. Replace the bottom storage cover.
6. Turn the latches to the original locked position.

Another good example. In a poll worker's guide, a single step in a long procedure is broken down into a series of actions. Each action starts on a new line.

1. When a voter needs to use curbside voting:
 - a. Qualify the voter.
 - b. Ask for the voter's preferred language.
 - c. Ask if the voter needs tactile input switches or headphones.
 - d. Assign an Access Code as usual.

Revising. One step with three actions becomes three steps. The phrase "When finished" isn't necessary when the actions are numbered steps.

Before

1. On the back of the voting unit, find the power receptacle (AC In). Plug the power cord into power receptacle (AC In). When finished, store the top cover in a safe location.

After

1. On the back of the voting unit, find the power receptacle (AC In).
2. Plug the power cord into the power receptacle (AC In).
3. Store the top cover in a safe location.

Why? Most users take the first reasonable action they come to. When each action is a new step, users can:

- Find their place in the instructions when they switch their attention (for example, from the instructions, to the voting system or voter, and then back to the instructions).
- See that there are multiple actions that they need to take.
- See all the instructions and avoid missing any.

Exception. A step can contain short, closely related actions. But users must be able to complete the actions without rereading the step.

For example:

Tear off the report and file it in the appropriate envelope.

Lift the unit, turn it right side up, and set it on the floor.

Evaluation checklist

- Is each action a new step?
- Does each step start on a new line?
- Are complex actions broken down into multiple steps if necessary?
- Exception. If a step contains more than one action, are the actions short and closely related?

Tip! Review the documentation for any steps that are more than a single line long to make sure that they cover only one action.

Use numbers for steps

Use numbers for the steps in instructions.

What? Instructions consist of numbered steps in the order in which they must be completed. Numbered steps tell users what to do.

How?

- Make each action the users take a step.
- Number each step.
- Do not use bullets instead of numbers for steps.
- Do not use numbered lists for anything other than steps.
- Do not number descriptions of system actions or changes.

Good examples. See the examples in “Make each instruction a separate step” on page 35.

Revising. The bullet list is actually a series of steps. The steps should be numbered rather than bulleted.

Before

- Insert the Supervisor card.
- Enter the password.
- Remove the Supervisor card.

After

1. Insert the Supervisor card.
2. Enter the password.
3. Remove the Supervisor card.

More revising. In this example from a poll worker’s guide, the first step is an action that the poll workers take, but steps 2 and 3 are system actions. The poll workers’ actions should be steps, not the system’s actions.

Before

1. Turn the power on.
2. A password screen appears.

To enter the password, you may use your stylus on the numeric on-screen keypad or the keys on the physical keypad. After entering the password, touch the green arrow.

3. After several moments, an Administration screen appears.

After

1. Turn the power on.
A password screen appears.
2. To enter the password, use your stylus on the numeric on-screen keypad or the keys on the physical keypad.
3. Touch the green arrow.
After several moments, an Administration screen appears.

Why? When steps are numbered, users can more easily:

- Skim and scan the documentation to find the instructions they need.
- Recognize instructions as a series of steps to follow.
- Find their place in instructions as they work through the steps.
- Avoid missing any steps.

Evaluation checklist

- Is each action that the users take a step?
- Is each step numbered?
- Are the steps in the order in which they must be completed?
- Are descriptions of system actions in instructions presented as paragraphs or notes rather than as numbered items?

Tip! Review bulleted lists in the documentation to make sure they are not really steps that should be numbered.

Use bullets for lists

Use bullets for all other lists that are not instructions.

What? Bulleted lists are lists of related items, with the most important or most frequently used items first.

How?

- Use bullets, not numbers, for lists of related items.
- Put the most important or most frequently used items first.
- Make the items grammatically parallel.
- Use vertical rather than horizontal lists.

Good example. This is a list from a poll worker's guide that tells the poll workers when they should cancel voting on an electronic voting booth. The items are parallel (all sentences) and the most likely is at the top.

Cancel voting on a booth if:

- A voter gets the wrong ballot style or language.
- A voter needs a unit with a different feature.
- A voter walks away from the booth with an active ballot.

Revising. This list of error messages is in the order of the most frequently used items, but it should be bulleted rather than numbered.

Before

1. Overvoted Race
2. Undervoted Race
3. Blank Voted Race

After

- Overvoted Race
- Undervoted Race
- Blank Voted Race

Why? Bulleted lists break up blocks of text and make skimming and scanning easier. When instructions are numbered and all other lists are bulleted, users can more easily tell the difference between the instructions and other information.

Note: Putting the most important or frequently used items first is important because readers tend to stop scanning a list as soon as they see something relevant.

Evaluation checklist

- Are bullets (not numbers) used for lists of related items?
- In bulleted lists, are the most important or most frequently used items first?
- Are the items in bulleted lists grammatically parallel?

Put steps in the order in which they must be completed

Put the first step first, the last step last—and all the steps in between in the order they occur.

What? Steps, comments, exceptions, and warnings appear in instructions in a linear order. Users tend to read information in instructions in the order it appears and attempt to follow it in that order.

How? In instructions:

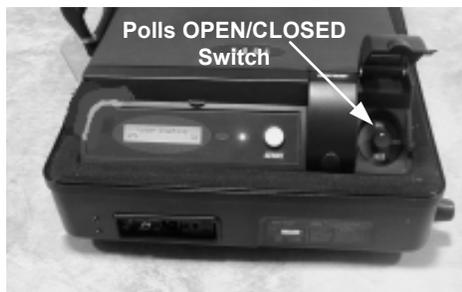
- Put steps in the order users must complete them.
- Number the steps.
- Include other information at the point users need it to complete a step.

See also

- Organize the documentation logically and clearly (page 18)

Good example. In this poll worker's guide, the steps are in order and numbered (or lettered). The illustration appears when the poll workers need it. The comment about the screen display and note about the report appear when the poll workers see those system actions.

1. After the polls are closed, go to the back of the voting unit and complete these tasks:
 - a. Break the seal on the Polls Open/Closed switch cover by twisting it.
 - b. Place the broken seal in the Results bag.
 - c. Lift up the cover and turn the Polls switch to Closed.



The screen displays the totals.

Note: The Official Election Results Report will begin to print.

2. Record the totals on the form.

Revising. In this example from a poll worker's guide, the preparation for transmitting is in step 1; the transmitting is in step 2. The poll workers need to prepare in step 1, but they don't need to know that the transmission starts until the end of the procedure.

Before

1. When you transmit results to election headquarters by modem, the scanner will begin to transmit after it has finished printing the reports. Unlock and open the Counter Access Panel, and connect the telephone cord to the modem jack below the scanner door.
2. Press Close Polls. The scanner will print the reports. After printing, if you transmit results, the scanner will begin to transmit automatically.

After

To transmit results to election headquarters by modem:

1. Unlock and open the Counter Access Panel.
2. Connect the telephone cord to the modem jack below the scanner door.
3. Press Close Polls.

The scanner prints the reports and then transmits the results.

Why? Information that is presented in a logical order is easier to understand. This is especially true for series of steps in a procedure. When the steps are order, users can:

- Avoid missing important steps.
- Concentrate on the current step and forget the previous one.
- Save the time and effort of figuring out what to do next.

Evaluation checklist

- Are the steps in the order in which they must be completed?
- Are the steps numbered?
- Is other information included at the point the users need it to complete the steps?

Put information in a step in the order needed

Put information in each step in the order the users need it.

What? Some steps include phrases that explain where or how to complete an action or how long to continue it. Users need the information in the order they act on it.

How?

- Put information in the order users need it to do the task.
- Put the context before the action.
- Put the result after the action, unless it is a warning.

See also

- Put warnings before—not after—consequences (page 45)

Good examples

Each step is a single action, but it includes other information (emphasized with italics) in the order the users need it.

After the report prints, turn the key back to Vote.

Press and hold the black button *until the green light comes on*.

On the Polls Open Menu, press Add Voter.

The context (emphasized with italics) is before the action.

If the battery does not work, call the Help Desk.

To add a new voter, press Add Voter.

In a single step, the context is before the action and the information is in the order the users need it.

To add a new voter, on the Polls Open Menu, press Add Voter.

Revising. In this example, poll workers need to know where the Print button is before they can press it. They need to know why to select Yes or No before they do. The report prints before the message appears.

Before

1. Press the Print button on the scanner.

The message “Print Another Report?” appears after the report prints.

- Select Yes if you need another report.
- Select No if you are finished with reports.

After

1. On the scanner, press the Print button.
After the report prints, the message “Print Another Report?” appears.
2. Select one of the following:
 - If you need another report, select Yes.
 - If you are finished with reports, select No.

Why?

- Information that is presented in a logical order is easier to understand.
- When context comes before the action people can understand what the task is before they act.
- When the action comes before the context, people tend to act before they read the rest of the sentence, and so make more mistakes.

Evaluation checklist

- In each step, is the information in the order users need it to complete the task?
- In each step, is the context before the action?
- In each step, is the result after the action (unless it is a warning)?

Put warnings before—not after—consequences

Put warnings immediately before their consequences, not after or all together at the beginning of a guide or section.

What? Warnings tell users when something they do can cause harm to the voters, the voting process, or themselves. Users need to know what can happen before they take the action, not after.

How?

- Put warnings immediately before the step that can lead to a harmful consequence.
- Make sure the warning is on the same page as the related step.
- Repeat warnings for each step that can lead to a harmful consequence, not just the first relevant step in a procedure.
- If you put all the warnings at the beginning of a document, repeat them before each step that can lead to a harmful consequence.
- Make warnings stand out from the rest of the text, for example, with bold or italics or a small graphic.
- Put warnings in mixed case, not all capital letters.

Note: We recommend putting the signal word (for example, Warning) in mixed case, but people are also used to seeing it in all caps (WARNING).

Good example. The warning about where to plug in the cord comes immediately before the step to plug it in.

1. Plug the end of the power cord with the socket into the back of the scanner.

Warning! Only plug the scanner into a grounded, three-pronged electrical outlet. Plug only one scanner into an outlet. Do not use an extension cord.

2. Plug the other end of the cord into a wall outlet.

Revising. The battery may explode before users find out it can.

Before

The Lithium-Ion Battery Pack can be replaced only by Authorized Service Personnel.

CAUTION: RISK OF EXPLOSION. THE BATTERY CAN EXPLODE IF IT IS REPLACED BY AN INCORRECT TYPE.

After

Caution! Risk of explosion! The battery can explode if it is replaced by an incorrect type.

The Lithium-Ion Battery Pack can be replaced only by Authorized Service Personnel.

More revising. In this poll worker's guide, the message appears before the poll workers look back to the instructions for the next step.

Before

1. Enter the password.

The message "Clear Election Day Totals" appears.

2. **CAUTION!** Press No.

Pressing Yes will cause the election results to be erased.

After

1. Enter the password.

2. **Caution!** Press No when the message "Clear Election Day Totals" appears.

The election results will be erased if you press Yes.

Or

Caution! After you enter the password, the message "Clear Election Day Totals" will appear. Answer No.

The election results will be erased if you press Yes.

1. Enter the password.
2. Press No when the message "Clear Election Day Totals" appears.

Why? People often act as soon as they see an instruction. They need to know the consequences before it is too late.

Evaluation checklist

- Do warnings come immediately before harmful consequences?
- Are warnings on the same page as the harmful consequences?
- Are warnings in mixed case, not all capital letters?
- Do warnings stand out from the rest of the text?

Tip! Review the documentation for warnings and cautions to make sure they are immediately before the relevant step and on the same page.

Make each step as short as possible

What? A step consists of a brief action statement (or perhaps two short, closely related action statements). Some steps contain a brief sentence that explains how the system responds to the action (feedback).

How?

- Delete unnecessary words.
- Consider putting feedback from the system in a comment or note below the step.

See also

- Make each instruction a separate step (page 35)
- Use the imperative in instructions (page 29)
- Use familiar, common words (page 23)
- Put steps in the order in which they must be completed (page 41)
- Address one group of users at a time (page 13)

Good example. This complicated task from a poll worker's guide is a series of short steps. Feedback from the card activator is included after each step.

1. Push the voter card—arrow facing down—into the card activator slot until it clicks into place.

The message **Activate this card?** appears.

2. Press the number **0**.

The message **Provisional Voter?** appears.

3. Press the yellow **Yes** button.

The message **Copy ID, then Press Yes** appears.

4. Copy the ID from the card activator to the provisional voter's form.
5. Press the yellow **Yes** button.

Revising. In this poll worker's guide, a single step contains several actions. It is written as a statement rather than in the imperative. It uses complex words, rather than simple, common ones. The information is not in the order that poll workers need it. The poll workers need to know that the voter can cast an overvoted ballot before they spoil that ballot.

Before

1. If an overvoted ballot is encountered, the voter should be provided with an alternate ballot, and instructed to mark the ballot without incurring an overvote, then return the ballot for processing. The overvoted ballot should be filed as spoiled. If the voter does not want to mark another ballot, and is content with the candidate selections on the original ballot, the overvoted ballot should be fed into the unit in override mode.

After

If an Overvoted Ballot message appears:

1. Explain overvoting to the voter.
2. Ask if the voter wants to mark a new ballot or turn in the overvoted ballot.
 - If the voter wants to mark a new ballot:
 - a. Give the voter a new ballot.
 - b. File the overvoted ballot as spoiled.
 - If the voter does not want to mark a new ballot:
 - a. Ask the voter to put the overvoted ballot into the unit.
 - b. Press the override button.

Why? Short steps are usually easier to read, understand, and remember.

Evaluation checklist

- Is each step as short as possible?

Tip! Review the documentation for any steps that are more than a single line long and determine if they can be shorter.

Using graphics effectively

People like graphics—photographs, illustrations, line drawings, all kinds of images. And graphics, especially along with text, help people understand what they read.

Graphics can help users understand how to use voting equipment. When the picture, the equipment, and perhaps their own visualization are the same, users can see where to work on the equipment and what to do.

To use graphics effectively:

- Use graphics to illustrate tasks
- Make the relationship between graphics and text clear
- Keep graphics simple—show only what is necessary
- Identify items and actions on graphics

Use graphics to illustrate tasks

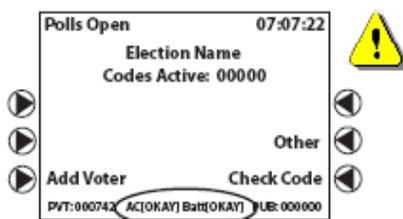
Use illustrations, photographs, tables, charts, and other graphics whenever possible and appropriate.

What? Graphics include illustrations, photographs, flowcharts, tables, screenshots, icons, and so on.

How?

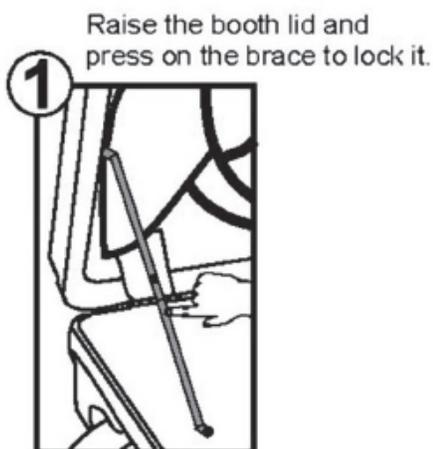
- When tasks involve voting equipment, use illustrations and photographs to show both the equipment and the actions to take.
- Use flowcharts to show a sequence of tasks, for example, the interaction of voters with different clerks and other poll workers on Election Day or the voters' path through the polling place.
- Use screenshots to show buttons, text boxes, and other screen elements for tasks.

Good example. The illustration of the LCD screen shows the area to check. The icon indicates that it's important.



6. Check AC and Batt (battery power) at the bottom of the screen. Both should say OKAY.

Another good example. The illustration shows where to press the brace.



Why? Instructions that include text and pictures are more effective than instructions with text or pictures alone. Graphics can help users:

- Understand a task faster.
- Locate items on a screen or on a piece of equipment.
- Figure out how to complete complex physical tasks.
- Remember the instructions while they complete a task.
- Switch from the instructions to the task and back.
- Confirm where they are in a procedure.
- Confirm that they are doing steps in a task correctly.

Evaluation checklist

- Do illustrations or photographs show how to complete tasks that involve physical equipment?
- Do screenshots show what to look for or how to complete tasks that involve computer monitors?
- Do illustrations or photographs show what to look for or how to complete tasks that involve LCD screens?

Tip! Use tables to display closely related sets of information in a smaller space; for example, use a table for error messages to show in one line the message, the cause, and the solution.

Make the relationship between graphics and text clear

Put each graphic near the step it relates to and make the relationship between the graphic and the step clear.

What? Graphics and text together show how to complete a task. Users need to easily grasp how the two work together.

How?

- Put graphics near the appropriate step (next to or immediately after).
- Use consistent terminology between the graphic and step.
- Make the title of the graphic match the task in the step.
- If the placement of the graphic doesn't make the relationship with the step clear, explain it in the step with a reference to the graphic.
- Be as consistent as possible in the placement of graphics, but base it on explaining the task, not on creating a consistent or pleasing layout.

Good example. In this poll worker's guide, the graphics for steps 2 and 3 appear next to the steps that they relate to. (A blank space appears next to step 1 because it is not illustrated.) The terminology is consistent in the text and the graphics (Close Polls, close the polls).

	1. Wait for all voters in the polling place to finish voting.
	2. On the controller, press CLOSE POLLS. It is located below the screen.
	The controller confirms that you want to close the polls.
	3. Press the button next to YES.

Another good example. In this poll worker's guide, the graphic appears next to the warning.

The official Zero Proof Report begins printing.



Do not remove the official zero proof report from the printer.

Revising. In this poll worker's guide, five steps appear next to one picture. Poll workers need to know which step goes with the picture.

Before



Remove the memory card

1. Disconnect the cable from the transfer compartment.
2. Close and lock the transfer compartment.
3. Unlock and open the data compartment.
4. Turn the unit off.
5. Remove the memory card from the data compartment.

After



Remove the memory card

5. Remove the memory card from the data compartment.

Why? Instructions that include text and pictures are easier to read and understand, but only if users can easily see the relationship between the graphics and text.

Evaluation checklist

- Are the graphics near the appropriate steps?
- Is the terminology consistent between the graphics and the steps?
- Do the titles of the graphics match the tasks in the steps?
- If placement doesn't make the relationship between a graphic and a step clear, does the step explain it with a reference to the graphic?

Keep graphics simple—show only what is necessary

Show only what your users need to know, not the voting equipment in complete and perfect detail.

What? Simple graphics include a limited amount of information. Users need simple graphics so that they can quickly pick out the relevant information and determine what to do.

How?

- Include only what is necessary in illustrations and photographs for your users to complete their tasks.
- Show only the part of the voting equipment that is necessary for your users to complete their tasks (not the whole thing).
- Reduce visual noise by removing extraneous details.
- Focus on the actions your users should take (not the features of the equipment or interface).
- Use illustrations such as line drawings when photographs include too much information.

Good example. In this poll worker's guide, the photograph shows only the part of the voting booth leg that poll workers work with in this step.

1. To secure the leg brace, connect the upper and lower portions in the center.



Revising. In this poll worker's guide, the photograph shows three complete units rather than just the part the poll workers need to understand, as well as bookshelves, tables, and other distractions.

Before

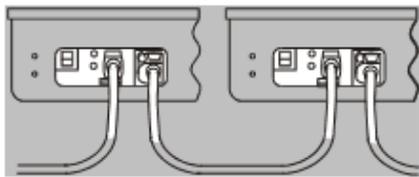


Daisy-chained units

1. Connect the unit to the power receptacle (AC in) of the previous unit.

This creates a daisy-chain of the voting units.

After



Daisy-chained units

1. Connect the unit to the power receptacle (AC in) of previous unit.

This creates a daisy-chain of the voting units.

Why? Simple graphics help users focus on the appropriate areas of the visual description so they can read and understand them faster and more easily.

Evaluation checklist

- Are illustrations and photographs as simple as they can be?
- Do illustrations and photographs include only what is necessary for users to complete their tasks?
- Do graphics of voting equipment show only the parts necessary for users to complete their tasks?
- Do graphics focus on the actions users should take rather than the features of the equipment or interface?

Tip! Review the documentation for large, complicated “overview” graphics and replace these with smaller, simpler graphics at the appropriate step.

Identify items and actions on graphics

Use captions to identify the important parts of graphics and arrows to show the direction of action.

What? Captions, labels, and arrows identify specific areas on graphics. Arrows and other devices indicate the direction of the action.

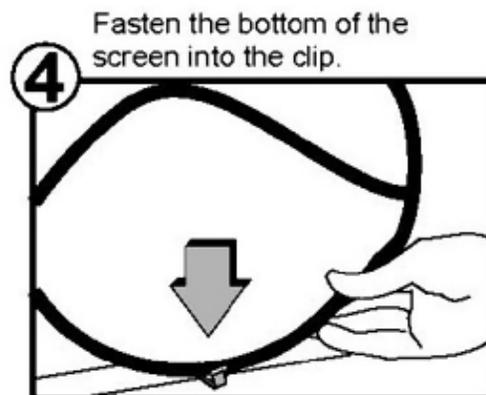
How?

- Use labels and callouts to emphasize the important parts of graphics.
- Use arrows or other markings to indicate the direction of the action.
- Use captions to identify the main point of the graphic.
- Provide more information than users can get by simply looking at the actual voting equipment or screen.

See also

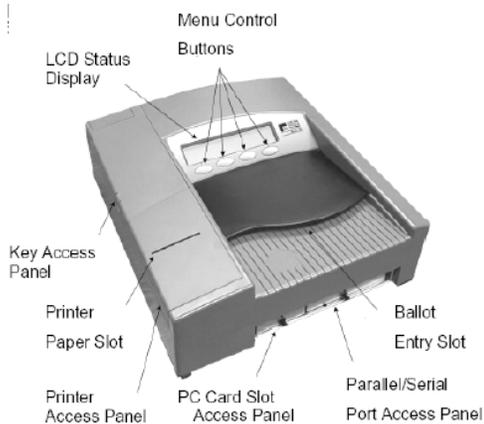
- Keep graphics simple—show only what is necessary (page 54)

Good example. The illustration shows only the part of the voting booth involved in the action. The step is the caption. The arrow points out the clip and shows the direction of the action.



Revising. The overview graphic labels the PC Card Slot, but it is difficult to pick out. The revision shows only the relevant part and the action. The caption describes the action.

Before



1. Insert the PC card into either slot.

If one slot does not accept the card, try the other.

After



Insert PC card

1. Insert the PC card into either slot.

If one slot does not accept the card, try the other.

Why? Users may focus on the biggest or brightest part of the illustration whether it is relevant or not. Labels and action indicators help users focus on the appropriate areas of a graphic and quickly find where to perform the action.

Evaluation checklist

- Are the important parts of graphics emphasized with labels or callouts?
- In graphics, is the direction of action shown with arrows or other markings?
- In graphics, is the main point identified with a caption?
- Do graphics provide more information than users can get by simply looking at the actual voting equipment or screen?

Designing the documentation for easy scanning and reading

Users scan documentation until they find what they need, rather than reading carefully from cover to cover.

For example, poll workers on Election Day use the poll workers' guide when they need to complete an unfamiliar task or solve a problem. They scan until they find what they need and then read. They want to get back to work as quickly as possible.

Headers and footers, headings, page numbers, a table of contents, and other navigation aids help users move through the documentation to find what they need. These aids also provide a context that helps users understand new information. The overall design of the page can also make scanning, as well as reading, easier.

To design the documentation for easy scanning and reading:

- Use informative headers and footers
- Design pages for easy scanning and reading

Use informative headers and footers

Show the page topic and the page number in the headers or footers.

What? Headers provide information about a page at the top of the page and footers provide information at the bottom.

How? Include this information in the headers or footers:

- Page topic (usually the chapter or section title)
- Page numbers
- If the documentation set includes more than one document, the document title

Good examples. These page headers show the subjects of the page.

setting up: removing booths from storage caddy

opening polls for election day

curbside voting

The footer shows the page number and the title of the guide.

D	E	S	K	R	E	F	E	R	E	N	C	E
---	---	---	---	---	---	---	---	---	---	---	---	---

10

Note: Although headers and footers normally use either sentence or title capitalization (for example, Setting up or Setting Up), this example uses other typographic devices effectively.

Why? Informative headers and footers help users scan the documentation and find their way through it quickly.

Evaluation checklist

- Do the headers show the page topic (chapter or section title)?
- Do the headers or footers show the page numbers?
- If the documentation set includes more than one document, do the headers or footers show the document title?

Design pages for easy scanning and reading

Design pages that your users can scan quickly and read easily. Use appropriate font size, leading, line length, and layout.

What? Page design includes layout, typography (font size, leading, and line length), type face, techniques for emphasizing, text alignment, and more.

How?

- Use familiar fonts (either serif or sans serif or both).
- Use a legible font size (about 12 points for text).
- Use font variations consistently, for example, in headings and captions.
- Use appropriate leading; that is, space between lines (1 to 4 points).
- Use a reasonable line length (8 or 9 words a line).
- Use mixed case (not all caps) for the text.
- Use emphasis to highlight important information (but don't overdo it).
- Use bold or italics rather than all caps to show emphasis.
- Use a physical format suitable for the work place.

Examples

This guide uses:

- A sans serif font (Arial)
- 11 point type
- Leading of 11/15 or 4 points (11 point type with 15 point line spacing)
- A line length that may be slightly too long for optimal reading, about 10 or 11 words
- Mixed case for text and headings
- Italics for *emphasis*
- PDF with a page size of 8½ by 11 inches for delivery

This guide does *not* use:

- An unfamiliar font like Gill Sans MT or AmericanaT
- 10 point type or 8 point type or **14 point type** for text
- ALL CAPS FOR TEXT, HEADINGS, OR EMPHASIS

Why? Readers find familiar fonts, mixed case, bigger fonts (12 point), and shorter lines easier to read. These elements help users skim for information more quickly and read it more easily.

Evaluation checklist

- Are the fonts familiar?
- Is the font size legible (about 12 pt)?
- Are font variations consistent, for example, in headings and captions?
- Is the leading appropriate (1 to 4 points)?
- Are the lines a reasonable length (8 or 9 words a line)?
- Is mixed case rather than all caps used for the text?
- Is important information highlighted with bold or italics?
- Is the physical format of the documentation suitable for the work place?

Tip! If you don't have someone with graphic design skills on your team, consider hiring a consultant to help with your page design.

Testing the documentation

Test the documentation throughout development to make sure people can use it to complete their tasks.

What? Testing documentation means having someone use it to complete a task while you watch to see if the documentation helps them do that easily, and then revising the documentation based on what you learn.

How?

- Observe other people following instructions you have written. Watch without training, helping, or hinting.
- Take notes about where people had problems following the instructions or made mistakes.
- Test throughout the development cycle, starting at the beginning, not just at the end.
- Use what you learn to revise the documentation and then test again.
- Do informal try-outs as often as possible.
- Do at least one formal usability test with your users or participants like your users.
- Test the documentation yourself often by doing tasks as if you were one of the personas you created. (See “Understand your users” page 9.) But don’t rely solely on these tests!
- For more about usability testing, see the resources on page 69.

Why? You are not your user, so you cannot imagine how well the documentation will work. Even if you are a poll worker, you experience only one part of the election process in one polling place, not the full variety other people involved in the election process may face. Testing the documentation can help you discover and correct problems that you overlooked so your users don’t encounter them during the election process—especially on Election Day.

Evaluation checklist

- Is the document easy for people to use to do their job throughout the election process and especially on Election Day?

Tip! If you don’t have someone with experience in usability testing on your team, consider hiring a consultant to help you design your ongoing informal try-outs and formal usability test.

Checklist

Writing the documentation for specific users

Address one group of users at a time

- Does the documentation address one group of users at a time?
- Does each document or major section include only the information needed by the group of users it addresses?
- Is the poll worker's guide a separate document rather than a chapter in a multipurpose guide?
- Does the poll worker's guide include only the information that poll workers need?

Organizing to meet your users' needs

Focus on your users' tasks

- Does the documentation explain how to complete the tasks rather than describe the voting equipment?
- Is voting equipment explained with the tasks, rather than in overviews?

Organize the documentation logically and clearly

- Is the documentation organized logically based on the user's tasks?
- If the users must complete the tasks in a particular order, is the document organized chronologically based on that order?
- When chronological order is not important, is the document organized by the importance or frequency of the tasks?
- Is the poll worker's guide in particular organized chronologically based on the poll workers' tasks?

Use informative headings

- Do the headings describe users' tasks rather than equipment?
- Are the headings in an effective form: verbs, questions, or sentences?
- Are the headings in a section grammatically parallel?

Using simple words your users understand

Use familiar, common words

- Does the documentation use words the users understand?
- Does the documentation use short, simple words?
- Does the documentation avoid unfamiliar election jargon?
- Does the documentation avoid computer and software terminology?
- Are unfamiliar terms explained when they appear?

- Does poll worker documentation avoid acronyms and abbreviations?
- Are acronyms and abbreviations defined when they appear?

Use consistent terminology

- Is terminology consistent in text, headings, captions, and graphics?
- Is the terminology in the documentation consistent with the hardware and user interface terminology?

Use gender neutral language

- Does the documentation avoid using gender-based pronouns?

Writing directly to your users

Use the imperative in instructions

- Are instructions written in the imperative?

Use “you” when writing to your users

- Does the documentation use “you” to write directly to the users rather than referring to them in the third person?
- Does the documentation use “you” to write directly to the users rather than describing the equipment?

Use the active voice

- Are most sentences in the active voice (and in passive only when appropriate)?

Keeping instructions short and simple

Make each instruction a separate step

- Is each action a new step?
- Does each step start on a new line?
- Are complex actions broken down into multiple steps if necessary?
- Exception. If a step contains more than one action, are the actions short and closely related?

Use numbers for steps

- Is each action that the users take a step?
- Is each step numbered?
- Are the steps in the order in which they must be completed?
- Are descriptions of system actions in instructions presented as paragraphs or notes rather than as numbered items?

Use bullets for lists

- Are bullets (not numbers) used for lists of related items?

- In bulleted lists, are the most important or most frequently used items first?
- Are the items in bulleted lists grammatically parallel?

Put steps in the order in which they must be completed

- Are the steps in the order in which they must be completed?
- Are the steps numbered?
- Is other information included at the point the users need it to complete the steps?

Put information in a step in the order needed

- In each step, is the information in the order users need it to complete the task?
- In each step, is the context before the action?
- In each step, is the result after the action (unless it is a warning)?

Put warnings before—not after—consequences

- Do warnings come immediately before harmful consequences?
- Are warnings on the same page as the harmful consequences?
- Are warnings in mixed case, not all capital letters?
- Do warnings stand out from the rest of the text?

Make each step as short as possible

- Is each step as short as possible?

Using graphics

Use graphics to illustrate tasks

- Do illustrations or photographs show how to complete tasks that involve physical equipment?
- Do screenshots show what to look for or how to complete tasks that involve computer monitors?
- Do illustrations or photographs show what to look for or how to complete tasks that involve LCD screens?

Make the relationship between graphics and text clear

- Are the graphics near the appropriate steps?
- Is the terminology consistent between the graphics and the steps?
- Do the titles of the graphics match the tasks in the steps?
- If placement doesn't make the relationship between a graphic and a step clear, does the step explain it with a reference to the graphic?

Keep graphics simple—show only what is necessary

- Are illustrations and photographs as simple as they can be?
- Do illustrations and photographs include only what is necessary for users to complete their tasks?
- Do graphics of voting equipment show only the parts necessary for users to complete their tasks?
- Do graphics focus on the actions users should take rather than the features of the equipment or interface?

Identify items and actions on graphics

- Are the important parts of graphics emphasized with labels or callouts?
- In graphics, is the direction of action shown with arrows or other markings?
- In graphics, is the main point identified with a caption?
- Do graphics provide more information than users can get by simply looking at the actual voting equipment or screen?

Designing the documentation for easy scanning and reading

Use informative headers and footers

- Do the headers show the page topic (chapter or section title)?
- Do the headers or footers show the page numbers?
- If the documentation set includes more than one document, do the headers or footers show the document title?

Design pages for easy scanning and reading

- Are the fonts familiar?
- Is the font size legible (about 12 pt)?
- Are font variations consistent, for example, in headings and captions?
- Is the leading appropriate (1 to 4 points)?
- Are the lines a reasonable length (8 or 9 words a line)?
- Is mixed case rather than all caps used for the text?
- Is important information highlighted with bold or italics?
- Is the physical format of the documentation suitable for the work place?

Testing the documentation

- Is the document easy for people to use to do their job throughout the election process and especially on Election Day?

Resources

These books, web sites, and other resources provide more information on how to follow the guidelines. They are presented by section, but because the ideas are closely related, a resource listed in one category is often relevant to several others. Within a category, the resources are listed in the order that we have found them most helpful.

Writing the documentation for specific users

Resources on user-centered design and personas

User and Task Analysis for Interface Design by JoAnn T. Hackos and Janice C. Redish. New York, NY: John Wiley & Sons, 1998.

The User is Always Right: A Practical Guide to Creating and Using Personas for the Web by Steve Mulder with Ziv Yaar. Berkeley, CA: New Riders Press, 2006.

Understanding Your Users: A Practical Guide to User Requirements Methods, Tools, and Techniques by Catherine Courage and Kathy Baxter. San Francisco, CA: Morgan Kaufmann, 2004.

The Persona Lifecycle: Keeping People in Mind Throughout Product Design by John Pruitt and Tamara Adlin. San Francisco, CA: Morgan Kaufmann, 2006.

Organizing to meet your users' needs

Resources on information design and information architecture

Dynamics in Document Design by Karen A. Schriver. New York: John Wiley & Sons, 1997.

Minimalism beyond the Nurnberg Funnel by John M. Carroll, editor, and others. Cambridge, MA: The MIT Press, 1998.

Using simple words your users understand

Resources on plain language and writing clearly

PlainLanguage.gov. *Federal Plain Language Guidelines*.
<http://www.plainlanguage.gov>.

Plain Talk. The State of Washington's *Plain Talk Guidelines*.
<http://www.accountability.wa.gov/plaintalk>.

Usability.gov. *Research-Based Web Design & Usability Guidelines*.
<http://www.usability.gov/pdfs/guidelines.html>.

Letting Go of the Words by Janice (Ginny) Redish. San Francisco: Morgan Kaufmann, 2007.

Writing directly to your users

See the resources for “Using simple words your users understand” on page 67.

Keeping instructions short and simple

Resources on writing instructions

Guidelines for Writing Clear Instructions and Messages for Voters and Poll Workers by Janice (Ginny) Redish. NIST, 2006. Available at: <http://vote.nist.gov/032906PlainLanguageRpt.pdf>

See also the resources for “Using simple words your users understand” on page 67.

Using graphics effectively

Resources on using graphics in documentation

Illustrating Computer Documentation: The Art of Presenting Information Graphically on Paper and Online by William Horton. New York: Wiley, 1991.

The Visual Display of Quantitative Information (Second Edition) by Edward R. Tufte. Cheshire, CT: Graphics Press, 2001.

Envisioning Information by Edward R. Tufte. Cheshire, CT: Graphics Press, 1990.

Visual Explanations: Images and Quantities, Evidence and Narrative by Edward R. Tufte. Cheshire, CT: Graphics Press, 1997.

See also: *Dynamics in Document Design* by Karen A. Schriver. New York, NY: John Wiley & Sons, 1997.

Designing the documentation for easy scanning and reading

Resources on document design

The Non-Designer's Design Book (3rd Edition) by Robin Williams. Berkeley, CA: Peachpit Press, 2008.

UI Design Newsletter. <http://www.humanfactors.com>

See also: *Dynamics in Document Design* by Karen A. Schriver. New York: John Wiley & Sons, 1997.

Testing the documentation

Resources on usability testing

A Practical Guide to Usability Testing by Joseph S. Dumas and Janice C. Redish. Intellect, 1999.

Handbook of Usability Testing by Jeff Rubin and Dana Chisnell. Indianapolis, IN: Wiley Publishing, Inc., 2008. In press.

Journal of Usability Studies.

http://www.usabilityprofessionals.org/upa_publications/jus/jus_home.html

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