8

Building an Affinity Diagram

Rapid CD Process	Lightning Fast	Lightning Fast +	Focused Rapid CD
Affinity Diagrams	✓	✓	✓

The affinity diagram (see Figure 8-1) brings issues and insights across all customers together into a wall-sized, hierarchical diagram. In the interpretation sessions you captured individual notes representing the users' data. We call these interpretation session notes affinity notes because you are now going to use them to build the affinity diagram.

The affinity diagram is relevant for any form of Rapid CD. It is your fastest and best method to see all the issues across your user population. System design must address a whole market or user population. It must take into consideration the issues of the population as a whole, the structure of work, and the variations natural to that work. Consolidating the affinity notes and individual work models enables you to see the issues for your whole user population, not just one individual. This chapter guides you to build an affinity.

The affinity diagram is built from the bottom up, grouping individual notes that reveal key themes in your data. We let the data suggest the labels for these groups rather than starting with predefined categories. Groups are then labeled using the voice of the customer—saying what they do and how they think. This process exposes and makes concrete common issues, distinctions, work patterns, and needs without losing individual variation.

The affinity diagram for Rapid CD can be built in one day with a few helpers or in two to three days by a two-person team depending on how many notes you have.

Once built, you can "walk" the affinity and let the data stimulate design ideas appropriate for your project. Walking the affinity, and for Focused Rapid CD, your consolidated sequences to prepare for creating your recommendations and high-level project vision are covered in Chapter 10.

Definition

The affinity diagram organizes the individual interpretation session, or affinity, notes into a wall-sized, hierarchical diagram grouping the data into key issues under labels that reveal the customer's needs. The affinity shows in one place the common issues, themes, and scope of the customer problems and needs. The affinity acts as the voice of the customer and the issues it reveals become the basis for user requirements.

Key concepts

Affinity diagram. This diagram is a hierarchical representation of the issues for your user population built from interpretation session affinity notes. Since it is initially built on the walls of a room, it's also referred to as the affinity wall or "the wall."

Affinity note. The interpretation session note and the affinity note are the same thing. The affinity notes will be printed so that a team can group them on a wall into the affinity diagram. The affinity notes are sometimes referred to as yellow notes or Post-its® because they can be printed on yellow Post-it® notes.

Blue labels. These labels collect together a coherent set of notes representing a theme or work distinction. The labels are written in the first person, as though the customer was directly talking to you.

Pink labels. The next level of label, these collect together a set of Blue labels with a common theme. Pink labels abstract the data another level and characterize the Blue labels under them. The language of Pink labels is also in the voice of the customer.

Green labels. The highest level of affinity label, these summarize the Pink labels under them. Green labels also can be written in the voice of the customer but may be more general in nature. Each Green label denotes a big piece of the user story. Most affinities have five to eight Green labels.

Affinity building process

- ☐ Prepare for affinity building
  - ☐ Decide when to build the affinity diagram
  - ☐ Identify affinity building team
  - ☐ Prepare to build the affinity
- ☐ Build the affinity
  - ☐ Introduce the affinity building process
  - ☐ Place all affinity notes

- ☐ Add Blue labels
- ☐ Reorganize the wall—add Pink and Green labels

☐ Creating the final affinity—rolling in new data

Figure 8-1 shows a section of an affinity. This section has a Green label at the top, the Pink labels below them, and the Blue labels in columns below each Pink category. The angled sticky notes are design ideas the team has attached to the data after the "wall walk" described in Chapter 10.

Figure 8-1: Section of the affinity showing label hierarchy.

Decide when to build the affinity diagram

For a typical Rapid CD project you will have a total of eight to 10 users at two or three work sites for the entire project. Generally, each user interpretation session yields 50 to 100 notes, so affinity diagrams contain about 500 to 1000 notes. You can choose to build your affinity all at once after you finish interviews or you can build it in two rounds.

Two rounds of affinity building make each session easier to deal with and allows for refocusing the project mid-way. You can start building your affinity diagram after you have completed roughly half of your interviews and have 300 to 400 notes. After you have completed your initial build, walk the wall to find holes in the data and areas where you need more information. This will drive whom you interview next and what you focus on during the interview. After completing your remaining interviews roll the additional data into your initial affinity.

Whether you build the affinity all at once or in two rounds it will take approximately the same length of time. Lapsed time in affinity building is determined mainly by how many notes you have, how many people are building at once, and how finicky you become about groupings and labels.

Do not try to build an affinity all at once if you have more than 1000 affinity notes to put on the wall. For two people large numbers of notes quickly become overwhelming. Even if you get a large number of people to help, you then need strong moderation. So with that many affinity notes build your affinity in two steps.

Monitor your interpretation sessions to see how many notes you produce during an average interpretation session to predict when to build your affinity. You can get a quick overview of your progress in the CDTools project window.

See the box, **Distributed teams and affinity building,** for tips on how to manage the affinity building process with team members and interested parties in multiple locations.

Distributed teams and affinity building

Affinity building is one of the best times to get your distributed team together. It allows the team to form a shared understanding, and since it is preparation for visioning and design anyway it can precede other design work.

But if you can't get your team into the same place, consider splitting the building process into two locations, each with several team members and stakeholders in each place. Simply divide the affinity notes randomly or by user type, equalizing the type of user in both places. Let the team build separate affinities.

Then if you are using CDTools each team can enter their own Green, Pink, and Blue labels. Affinity owners from each group can review the affinity, consolidating labels and creating new groupings in the tool. Just display the affinity builder in a meeting support tool so you can both see the affinity and normalize the final affinity together. Moving affinity notes and labels around is easy to do electronically.

Then print out your final affinity in both places and hang it up on the team room walls in your multiple locations. Now everyone has the same user data to work from for the design step.

Identify the affinity building team

Decide if you have the resources to get helpers to build the affinity. Remember this is not just a resource issue—affinity building is also a great opportunity to involve your stakeholders. A half- to one-day commitment is usually something that stakeholders will be able to commit.

To build an affinity in a single day, get one person for every 50 to 80 affinity notes. So if you have 400 notes you will need six to eight people to build your affinity in one day. If you have less people then the affinity building will take longer. Go back and look at the suggested schedules in Chapter 2 to set expectations for time and resources for affinity building.

Never let your affinity building drag out over more than two to three days; the team will become tired and start to think it takes too long. Remember even if the manpower is the same, time is experienced as short if the task is completed in a day. This lets the team move on to the next step of design, speeding up the overall project schedule.

Your affinity building team can include your team members, stakeholders, and anyone who understands the project focus and is interested in the data. The people who sat in on your interpretation sessions would make excellent helpers. You could also invite:

- Marketing
- Management
- Business analysts
- Developers, information architects, usability professionals, UI designers, interaction designers, and others who have to build products but are not on the team
- People on related projects
- Documentation writers
- Technical support staff

Your helpers do not have to stay the entire day. As long as they can commit two- to three-hour chunks of time their help will speed up the process and create buy-in. Be sure to explain how to build the affinity before any helpers start. Try to start many helpers at the same time so they can hear the rules and process.

Note: Prior to building the affinity, send non-team members copies of the project focus and any other documents that will provide them with context.

Prepare to build the affinity

Your preparation includes getting your online notes formatted, and then printed out. You will also need to set up the room beforehand and gather supplies.

You need a conference-size room with enough wall space for the affinity to spread out. Line the walls with butcher paper, hanging the paper vertically in 6-foot vertical lengths, overlapping. Cover all walls of your team room, including the windows if there are many of them.

Do the following tasks before you start building the affinity:

- Print the interpretation notes on sheets of laser Post-it® notes or in label format on paper that has been cut into notes. If you don't use Post-its®, use removable tape to place notes on the wall. If you use CDTools, it will automatically format the notes for printing as 3x5 notes.

- Mix up the notes. Shuffle the notes so each person building the affinity has a mix of users in the notes they are working with.
- Break the notes into stacks of 20 or so. Smaller piles are less intimidating.
- Print a copy of the interpretation notes printed in numerical order (not as Post-it® notes) in a running list format. This can be used for reference if a particular note doesn't make sense; sometimes reading the note written before or after it will clarify it.
- Print a copy of the user and organization profiles. These can also help you better understand an unclear note.

Note: If you are using CDTools, its Print features automatically format the notes for printing as 3x5 notes, prints them in random order, prints the profiles, and also prints a list of notes in numeric order.

See the box, **Set up the room**, for a detailed supply list to have in the room.

Set up the room

Ideally, the session will take place in your design room; if not, then in a large room (approximately 15x15). In your room you will need:

- White, waxless butcher paper or craft paper to cover all the walls of the room. Hang the paper vertically in 6-foot vertical lengths, overlapping. Cover all walls of your team room, including the windows if there are many of them.
- One or two flipcharts to create additional places for organizing notes if needed. These are back-ups.
- Masking tape to secure the butcher paper to the wall, and removable tape for the notes when you have finished the wall and want to tape it down to move it. You never want to use regular tape—affinity building is all about moving notes around.
- Yellow 3x5 Post-it® notes. You will need these while building the affinity in case you need to break any existing notes apart into multiple notes and add them to the wall.
- 3x3 square Post-it® notes for the affinity labels, in approximately this number: Blue (8 packs), Pink (6 packs), Green (2 packs). Use high-end sticky notes like the Post-it® brand because other, less expensive brands will fall off the wall more easily over time.
- Fine-tip felt colored pens. You will need enough blue, red, green, and black pens for each person with a wide enough point so that the writing can be seen from a distance—extra-fine is too small (use fine point, not extra-fine). If anyone is color blind, use black instead of green.

Introduce the affinity building process

If you are a two-person team building the affinity, review how to build an affinity and start building your wall. If you have helpers you will need to do an introduction to help them understand what is going to happen. As soon as you have helpers one person needs to run and moderate the session—he or she will also build the affinity but one eye must be kept on the process and progress (see the box, **Managing people during**

affinity building). After people have built lots of affinities this watchfulness won't be needed because people will know what to do.

Managing people during affinity building

Building an affinity is not an easy process for some and people will react to the process in different ways. Here are some guidelines.

Response	Advice
The number of affinity notes and the lack of structure overwhelm some. These people can organize a limited part of the affinity, but find it hard to put up the original groups.	Talk about this before starting so people who get overwhelmed will know it is normal to feel this way. Reassure them that they will find it easier later in the process, and that at the end when the wall is organized they will have the structure they need. Explain that building the affinity this way is the most practical way to get the affinity notes up and organized, while taking advantage of multiple perspectives.
Some get concerned about creating the "right" affinity.	Help them see that there are many ways to put an affinity together and you will produce only one. This is okay—the purpose is to push your understanding of the customer by revealing key distinctions for the users. As long as your affinity makes you think new and appropriate design thoughts it is good for your purposes.
Some people need to clear out distractions and focus on just a part of the problem.	They may not be able to deal with working with someone else to do it. If you have two people who work like this, suggest that they pair up because they will work in parallel but engage in some discussion.
Some will get frustrated trying to track "their" section of the wall or Post-it® notes when others add to these groups or move their Post-it® notes somewhere else.	Coach people to be comfortable with multiple people creating the diagram, without anyone keeping the whole thing coherent. Tell them to trust that something good will come out. This is how to move quickly.

Explaining everything about affinity building in advance will not clarify what to do. You need to give a brief overview to set expectations and then guide people each step of the way. Here is an introduction script you can start with, which will also help you see the big picture of what happens in the affinity building process.

Example script: eChalk

Affinity building is a group process that relies on inductive reasoning—you look at instances of data and ask yourself what this point is really about and whether it can be grouped with other data points already on the wall. The groups emerge from paying attention to the data—not by predetermining categories to sort things into.

So this note says (Read one of your affinity notes and discuss it like we do in this example with this affinity note from eChalk).

"The principal includes a personal note on each printed e-mail that he sends to the teacher"

This note has the word "e-mail" in it, but it isn't really about e-mail or even about the fact that the school principal prints e-mail. This note is really about the need for a sense of personal or person-to-person communication.

We want to look beyond the key words in the affinity note and see the work issues relevant to this project that they reveal. Create your groups based on that kind of reasoning.

So let's get started. Everyone will get about 20 Post-its® to start. First we are going to stand at the wall and get these notes up into these natural groupings. I'll lead you through this process—we'll move from doing it together to acting individually until all the notes are up on the wall with no labels.

Then we will stop and label the notes. We'll start with Blue labels for each of our groupings. All labels are in the voice of the customer as though you were writing a story to read later. We use "I" language in the label (substitute a possible label language for your project) "I want every parent to feel they are special." Our goal is to have all the relevant issues expressed in the Blue labels so we don't have to read the individual interpretation notes again. We don't want category labels like "Strategies I use with parents." This label would make me have to read all the affinity notes under this section to find out what the strategies are.

After we create Blue labels we will then group the Blues under the Pink labels and the Pink's under Green labels. Then we will have our whole affinity and we can read it back, hearing the voice of the customer as we read it from the top down—Green, to Pink, to Blue. (If you have another affinity group read them the labels so they get the idea of creating a story.) Think of the affinity building as happening in multiple passes or stages where we iterate and clean up in each pass.

Let's get started (pass out piles of affinity notes to each person).

This is a conceptual description of the affinity building process—but to build an affinity requires working in stages. Here we will describe each stage so you can build your own affinity and help others build with you.

At the start of any affinity building session remind everyone on the team of the project's focus. Tell them about the following rules of thumb and watch for compliance during the process.

Building columns (groups of affinity notes)

- A column of affinity notes (groups) is started with any kind of observation note, but not a design idea note or question note.
- Once a column is started, design ideas and questions are treated like any other affinity note.
- If a group doesn't hang together, separate out the notes that don't fit and make new columns.
- Anyone can move any note without justification—it's a group process.

- The eventual goal is to have three to six notes in each column. If you have more than six notes, you are probably burying a distinction that needs to be pulled out into a new column.

Making sense of individual affinity notes

- If a note doesn't make sense, go back to the affinity note list and read the note before or after this affinity note. If it still doesn't make sense, talk to the person who did the interview or someone who was in the interpretation session. Once you have figured out what the note means, place it or hand-edit it if necessary.
- Every affinity note is supposed to contain just one idea. If an affinity note needs to be broken up because it contains more than one idea, handwrite a new affinity note on a yellow Post-it® for the second idea and cross out the duplicate information on the first note. Give the new note the same user code and number and write the note number like this: #A (e.g., U01-22A). See the box, **Can one note go into multiple columns?**, for more help on knowing when to split up a single note into two.

Note: If you are using CDTools, just write the user code and number; CDTools will automatically assign the next available note number when you eventually enter the note into the software.

Can one note go into multiple columns?

The rule is that a note can go into only one column. Decide where is seems to fit best; often putting it in a column that has only one or two notes is the best and fastest choice.

It's not a good use of time to agonize or spend a lot of time discussing it. But, if the note has multiple points in it, do separate it into multiple notes. Just take a blank yellow Post-it® and rewrite it. For example:

U9-25 He keeps his own attendance book, because this is more accurate than the bubble sheet because he can't make changes (95% accurate); doesn't have access to the Scantron system so he can't modify the Scantron

The eChalk team realized that the note has two points in it so they made new notes:

U9-25 He keeps his own attendance book, because this is more accurate than the bubble sheet because he can't make changes (95% accurate)

U9-25a He doesn't have access to the Scantron system so he can't modify the Scantron

Weeding out the "bad" notes

- If you can't find an immediate home for an affinity note, set it aside and come back to it later. Go back to any notes that were set aside during the building process and try to find them a home in the affinity. Or give it to someone else and see if they can find where to place it.
- Look for work implications hidden in Question notes and add them to groups. If there are none, put them in a Questions category that's separate from the affinity.

- Some affinity notes hold demographics or say nothing about the work. Put them in a Junk category to be reviewed later to see if the notes can be integrated into the affinity. If they ultimately are deemed to be junk, CDTools users can mark them as Junk notes to be ignored.

Place all affinity notes on the wall

The first step is to get all the affinity notes up on the wall in loose groupings with no labels. Run the process as follows:

1. Start with one person reading aloud so everyone can hear any affinity note that is not a design idea or question. This person then puts the affinity note on the wall to start the first column.
2. Everyone reads through the affinity notes in their hands to find any affinity notes that go with the one that's already up.
3. If related affinity notes are found, read them aloud and put each under the first affinity note.
4. If you can't find an affinity note telling the same story, read another affinity note with a different focus aloud and start a new column.
5. Repeat this until you have about 10 columns with two to four notes in each. Don't let people just start putting up individual notes with nothing grouped under them.
6. If someone disagrees with placement and wants to move an affinity note from one column to another or group it with one being held, let them do it and remind them that this is done without argument or discussion. This is not a time for discussion or group agreement about where each note goes. Anyone can add or move a note—no one owns an affinity note so it can be moved without justification or consultation.

Starting together this way makes everyone aware of the notes and the groupings as they go up. It focuses everyone on building the wall together. And it is a time when people can remind each other not to keyword the notes. The second step starts to reduce the overall group coordination. See Table 8-1 for tips on placing the first affinity notes.

Run the next part of the affinity building process as follows until all the notes are up on the wall or until people really can't track where the groupings are—that is usually with 60 to 80 columns or so.

1. Keep adding new affinity notes but don't read every one aloud; read aloud only notes that start new columns to make people aware of a new grouping to consider.
2. Watch out for groups of only one or two notes—push yourselves to fill in the groupings before putting up a new column.
3. People can talk and yell out if anyone has seen a certain type of work practice, but avoid talking in categories: "Has anyone seen other things about e-mail?" Focus on work practice distinctions.

Dos and don'ts for placing first affinity notes	
Don't	**Do**
Start from a set of categories and try to fit the affinity notes into them.	Move affinity notes around. Avoid pre-conceived categories.
Worry about putting an affinity note in the right place.	Create new distinctions by moving affinity notes. If moving it won't create a new distinction, leave it where it is. The labels are what we care about, not the individual data points.
Find a "keyword" in the affinity note and assume it belongs in that category.	Read the affinity note to find the underlying implication. For example, all the affinity notes with the word "printing" do not automatically go into a column about printing.
Take a lot of time in the initial step of getting all the notes up.	Get the notes on the wall into rough groupings to allow the next layer of sorting and structuring by the group. It doesn't have to be perfect in this first round. Use a time metric to get all the affinity notes up. Plan for two to four hours depending on the number of notes and the number of team members.

Table 8-1: Tips for placing the notes during the first step of affinity building.

4. When everyone seems to know what they are doing and are putting up notes, getting new ones, and filling in columns, stop reading anything aloud and then just get all the notes up.
5. When people run out of notes give them notes from others who still have some—the goal is to get all the notes up or reach the point where you need to put up labels to track the groupings on the wall. For anything under 600 notes you should be able to get them all up before labeling.
6. When almost all notes are on the wall give yourselves 10 to 15 minutes to get all the notes up in a big push in the end. If you started first thing in the morning this will be around noon, so promise lunch as a reward. If you have a smaller affinity, promise a break.

We don't write summary labels or label the groupings formally until all the affinity notes are up on the wall to encourage the team to read the groupings when they add a new Post-it®. This keeps them focused on the content instead of the category and helps keep the grouping more coherent. But don't be surprised if in this first round you get long columns focused on key words—that is part of this initial bottoms-up sorting process. It will be corrected in the labeling process.

Add Blue labels

We add labels to the wall from the bottom up so the first set of labels are the Blue labels describing what is going on in the Post-it® groupings themselves. The wall will reach a critical point when Blue labels are needed—when the team can no longer keep track of the groups.

Assuming you have more than two people working on the affinity, break up into pairs to put up the initial Blue labels. You want to work in pairs so that you can bounce ideas and label possibilities off someone else. Working in pairs also helps to avoid key wording and results in a better affinity.

Start labeling with the longest columns. Your goal is to have an affinity with two to six notes in a coherent grouping. If you have only 300 to 400 notes, make groupings of one to three Post-its® to ensure you don't lose key distinctions. If you have 500 to 1000 notes, aim for groups that are deeper—up to four or five notes. Long columns bury requirements—the first mark of a good affinity is how long the groupings are.

After all the affinity notes are up on the wall without labels, most teams have some columns that end up being anywhere from 10 to 30 Post-its® long. These are usually Post-its® surrounding one semi-coherent theme or story. So when you break it up you will start to see some groupings that show the key work distinctions and issues for that theme.

To break up a group each pair will:

1. Walk through each column of notes looking for notes that hang together in one coherent distinction and regrouping them into these smaller groups.
2. Discuss between themselves any issues or ideas for new groupings.
3. Separate out any notes that don't fit, and when appropriate give them to other pairs in the room working on that topic.
4. Start new columns, if necessary.
5. Write Blue labels for the resulting groupings.
6. If the Blues seem to hang together in a higher order grouping, write Pink labels for those groups.

Once the team identifies the distinctions hidden in the long columns and writes labels for them they can look for other notes that further support these same issues. Usually, there are. So writing a Blue label for one Post-it® when it belongs with a group of other Blue labels will help you start to construct a larger story of the work. And an initial affinity may have some Blue labels with only one note—later data gathering may be able to flesh out this issue.

The general rule of thumb is two to three notes per Blue label in a preliminary affinity and four to six notes per Blue label in the final affinity. If there are more than six notes under a Blue label, examine the column and check if there is a distinction you could pull out.

Good Blue labels have design relevance

A good Blue-level label tells you what matters about the notes underneath it. When your affinity is built and you walk it, you'll be reading it top-down. The goal is to create an affinity where you never have to read the individual affinity notes to understand the labels. If you have to read them to find out what the strategies are, why something is liked, or the details of how people work, the label is too categorical and needs to be rewritten. A good Blue label raises the detailed work issue up into the label language (see Table 8-2 for tips on writing good labels).

Example: eChalk

Both of the following are good labels because they remind the eChalk team that they can't be seduced by technology; they can't assume that the mere act of putting communication online will be useful. The team needs to think about how their product can support person-to-person and informal communication.

Blue: Person-to-person communication is important to me

U04-27 Principal includes a personal note on each printed e-mail that he sends to the teacher

U01-16 Schools are small; teachers talk often

U20-18 There's lots of informal verbal communication between the teachers (e.g., "You must create your students' files so that I can add in my comments")

U16-8 He walks around while students are doing the "do now" and talks one-on-one about the last day's homework

U04-28 DI: Personalized notes on e-mails when forwarding

Blue: When teachers are nearby we communicate informally and verbally

U03-4 She communicates easily with the other first grade teacher; their rooms are across the hall

U12-34 Mostly face-to-face informal communication goes on in the hallways

U02-26 The school teachers communicate in a morning prayer circle

U05-12 Communications take place mostly in verbal form and are informal

U10-2 Informal communication is used to schedule meetings with the vice principal (VP is expected to be in his office)

U11-2 Communication is very informal at the school and is all verbal

A good Blue label will both characterize the work of the users and push home an issue to the team that they need to consider to build the right system for this population. Labels that hide distinctions also hide user needs and aspects of the work that the team must consider in their design. For this reason, the Blue label is the most important driver of design thinking. If your groupings are too long, if your labels are too general, you will not get the full advantage of a well-built affinity.

Because the Blue labels drive design thinking the exact location of one particular Post-it® is not relevant. If one Post-it® can go under one of two Blues and both Blues have some other Post-its® there already it makes no difference where that Post-it® goes because you already have these two labels. But if moving a Post-it® can create a new Blue label—can raise up a hidden distinction—then move it. Or if moving a Post-it® from a group of five to a group of one can bring greater clarity and weight to the label, move it.

But don't get crazy—massaging an affinity for days on end to make it perfect is not a goal. It just needs to be good enough to stimulate good design thinking.

Note: Often a Blue label will be too high level because it is trying to characterize too many Post-its®, but after you break up the affinity notes underneath it and create new Blue labels, the old Blue label will become the Pink label, collecting the Blue labels into a coherent story about the users' experience.

Table 8-2: Tips for writing good labels.

Dos and don'ts for creating affinity labels	
Don't	**Do**
Write labels in the third person.	Write labels as though the user is speaking to you. Use I and We.
Write labels that are too abstract.	A good label captures what its group is saying in detail.
Use your own jargon.	Write clear labels that everyone can understand.
Use pre-defined categories.	Let the data tell the story, don't assume that your preconceived notions are the best way to organize the findings.
Force a label on a group.	Reorganize a group if it's too incoherent for a good label; make sure the label talks about the work.
Bury distinctions that are potentially important to the design.	Surface important design points in the labels so they'll be very visible to the team.

Bad Blue labels hide or misrepresent distinctions

The following label does not reveal a distinction that clearly drives the design—what content drives which mode of communication. You have to read the individual notes to find out what is really going on.

Example 1: eChalk

Original Blue label: My mode of communication with parents is determined by content of conversation

U11-8 She is pleased with success of communicating via e-mail with parents, especially because emotion is removed from the situation

U2-12 Responds back to parents' e-mail by phone because there's more opportunity for interaction with the parent

U12-60 He makes a distinction between schoolwork e-mail (Yahoo) and personal mail (AOL)

U6-7 She has to records of all parent communication that deals with behavioral issues

Indeed this label is hiding four more valuable distinctions. With these distinctions revealed the team can look for other affinity notes to flesh out the groups. Here's how the blue label could be rewritten.

Rewritten Blue label: I use e-mail to diffuse potentially emotional communications

U11-8 She is pleased with success of communicating via e-mail with parents especially because emotion is removed from the situation

Rewritten Blue label: I want face-to-face interaction with parents

U2-12 Responds back to parents' e-mail by phone because there's more opportunity for interaction with the parent

Rewritten Blue label: I need to keep my work and personal e-mails distinct from each other

U12-60 He makes a distinction between schoolwork e-mail (Yahoo) and personal e-mail (AOL)

Example 2: eChalk
Original Blue label: I need to document certain types of communication with parents

U6-7 She has to keep records of all parent communication that deals with behavioral issues

Similarly this label could be improved—it is already known that the school uses information. A better label might be:

Rewritten Blue label: We are using manual processes that are comfortable to us.

U6-7 She has to keep records of all parent communication that deals with behavioral issues

Example 3: eChalk
Blue: The school district or parish uses information from our school

U5-4 When the parish needs information they send a spreadsheet to U25, who manually fills it out

U11-43 She is already comfortable with the school's existing data management program and uses it on her own

U2-3 Manually records all daily attendance into a spreadsheet. The parish uses this to figure out school buses.

This label focuses the team on the real competitors to their tool—existing processes. If this Blue label sits on a wall with other Blue labels that talk about discomfort with change, the team can see their challenge as developing a design that is equally comfortable to the user population.

Reorganize the wall—add Pink and Green labels

When all of the relevant affinity notes are placed on the wall and you have your initial Blue labels you can reorganize the wall to put things together by like themes. By now the team will naturally have started to move Blue labels together that seem to group into related themes. These large chunks of the user story foreshadow your Green labels.

To make building the wall easier, after the Blue labels are up, walk the wall and create temporary Green labels with labels that reflect, for example, big steps in the process, communication strategies, how tools are used, how the organization is structured. In all likelihood these categories defined themselves while you were building the wall (aim for four to six Green labels depending on how large your affinity is). These temporary Green labels help you designate certain space on the wall to work out the details of that theme. Now you can move all the Blue labels that go together under the Green, and start working on identifying the appropriate Pink labels, and then the ultimate Green labels.

When you are done reorganizing the room, assign a Green label to each pair of people you have to work on the wall. If you have experienced people, let one person work on each Green area. At this point you may be thinking that it would be easier to build the affinity online. See the box, **Build your affinity on the wall, not in a tool**, for an explanation of why you shouldn't build online.

Build your affinity on the wall, not in a tool

CDTools helps you to put the paper affinity online efficiently and quickly. And it also has an interface that lets you move the affinity notes and groupings around, edit the labels, and create new ones. So why not just build the affinity online?

Well we can, when we have wall-sized displays! Walls give the team a large space to spread out all the affinity notes, to quickly scan and regroup the labels, and to pair up to complete the affinity building quickly. A tool interface is optimized for one person and although one person could build an affinity one affinity note at a time it would take an awfully long time. More importantly the affinity would represent the perspective of only that one person. The value of having multiple people build the affinity at once is that simply by mixing up the people, the affinity notes, the pairs, and the general group discussion, the affinity comes to represent the thinking process of the whole team. Affinity building is a way of creating a shared understanding of the user data among the team and stakeholders without trying to do it. The simple process of building makes it happen.

It is true that we could imagine a team of 10 sitting around the room, each working on their separate computers putting in their set of affinity notes, seeing each other's groupings, and talking across the table. But come on! Let's just wait for the wall-sized display so we can move things naturally, communicate simply, and not get stuck in manipulating a tool while we are trying to think.

Each pair will do the following within their Green area:

1. Restructure the Blue labels to eliminate redundancies, make appropriate length Blue groupings, and write your final Blue labels. Move out groupings and Post-its® that don't belong to the themes in one area and place them within other Green areas to be worked on later.

2. Create coherent Pink groupings by grouping like Blue labels together. At the Pink level, as a rule of thumb, there should be two to six Blue labels per Pink label.

3. Group the Pink labels to create your final coherent Green labels and write the real Green labels. A Green label should have four to eight Pink labels. Too many Pink labels under a Green label make it hard to see the structure of the findings; but too many Green labels make the themes too granular. Five to six Green labels is a good number for a good affinity.

Remember the affinity is a communication device; the team will walk the wall and use it to stimulate design thinking. Too many labels in one section make scanning difficult and represent too many concepts to think about at once. And since the labels all are written on Post-it® notes you can keep changing them until they truly reflect the data and the voice of the customer.

Finally, watch out for ownership issues; no one owns wall sections. If you have helpers, move people around and mix up people into pairs to gain a shared perspective on the data. If you are building with a two-person team, start out working together and then split up. But trade areas of the wall so both of you eventually touch all areas of the wall.

Good Pink labels reveal key issues in the data

A good Pink-level label tells you what matters about the Blue columns underneath it. You should not have to read the Blue labels under the Pink label to figure out the key theme of that section; it should be clear in the Pink label.

Example: eChalk

The following label tells a strong story at a glance, letting the eChalk team know which one of the values they'll want their product to support. The team also did a good job of calling out all the ways that teachers use technology to encourage student creativity.

Pink: Technology gets my students excited and allows them to be creative

Blue: I use technology to allow my students to be more creative

Blue: My students are excited about technology

Blue: I tell students to incorporate their own interests into technology projects

Blue: I encourage students to use technology by playing games

Blue: My students use technology to display their work

eChalk also needs to think about their business case, and how they can leverage and extend what the schools do to encourage teachers to use technology. The following Pink label draws attention to this issue, capturing all the current things schools are doing.

Pink: The school supports teachers learning about technology

Blue: Teachers get monetary incentives

Blue: The schools support my learning technology by giving me time

Blue: The school supports my learning technology by sending me to outside classes

Blue: I can use computers during free time

Blue: The schools don't support my learning technology

Bad Pink labels don't provide enough information to understand the issue

Bad Pink labels hide the theme suggested by the Blue labels and do not represent the customer data well. The Pink labels help designers orient to the data—curing the wall walk (see Chapter 10) they draw you in or encourage you to skim a section. So, bad labels inadvertently encourage the team to skip the issues in that section.

Example 1: eChalk

Original Pink label: I need to do it, to know it

Blue: The more I use technology, the more comfortable I am

Blue: I will use technology if you give me features that are useful

Blue: There's no point in training me if I can't apply it right away

Blue: I know as much "tech" as I need to be successful

The wording of this label isn't very clear. Once you read its Blue labels, this Pink label doesn't represent the customer story well.

Rewritten Pink label: I only learn the technology I need to get my job done

Blue: The more I use technology, the more comfortable I am

Blue: I will use technology if you give me features that are useful

Blue: There's no point in training me if I can't apply it right away

Blue: I know as much "tech" as I need to be successful

Example 2: eChalk

Original Pink label: I support technology use

Blue: My students have computers and access to the Internet—I take advantage of this

Blue: My students do not have computers and access to the Internet

Blue: I give students access to computers all day every day

Blue: Students' use of the Web will motivate the school and teachers to adopt technology

Blue: I want to know if technology is being used at home

Blue: I support technology in the school by providing students with e-mail

Blue: I am concerned about content on the Internet

The more general wording, "I support technology use" in the previous Pink label is perfectly acceptable. However, some of the Blue labels are really about when and how students have access, and might be broken into separate groups characterizing those distinctions. More importantly the Blue label, "I am concerned about content on the Internet" belongs in a very separate category and is buried under this label.

Good Green labels group Pink labels that tell a core story of the work

Green labels group together Pink labels and their notes to form a coherent piece of story that is important to the project focus. Unlike Blue and Pink labels, Green labels can be more categorical and abstract. The goal of the Green label is to chunk the wall—to give designers an overview of the key issues so that they can move from section to section easily without getting disoriented. Also, later the Green labels help chunk the information so you can find the information you are interested in quickly. CDTools can help you get your affinity online and into an HTML data browser. Then you can use the Green labels to easily revisit data you are interested in.

e.g.

Example: eChalk

The "Resources & Funding" Green label below is perfectly appropriate because it indicates what that area of the wall is about even though it is not written in the first person like the second grouping. You'll also notice that there are only three Pink labels under this Green label.

This is the only Green label in eChalk's affinity that has so few labels under it, but the team wanted to call it out. That's appropriate for central issues that would otherwise be buried, but if several Green label sections are this small, you may want to think about whether you are breaking up the story too much.

Green: Resources & Funding

Pink: There are too many restrictions to spending our money

Pink: We must come up with creative ways to supplement the budget

Pink: Getting supplies is slow and difficult

Green: My world is impacted by standards and controls

Pink: Bureaucracy and red tape impede my success

Pink: Approval is required so that control can be maintained

Pink: There are standards for the classroom and school

Pink: Our electronic ordering system is impacting how I work (the principal's work)

Pink: Privacy and security issues are important and need to be understood

Pink: I know what I need so let me do it

Bad Green labels don't represent the Pink labels beneath them

Bad Green labels act like a catchall for the Pink labels, sometimes when the team doesn't know where else to put them. But if the label doesn't match the content it suggests that content is missing when it is not or simply makes a confusing story to read.

Example: eChalk

Original Green label: Communication inside the school

Pink: I need to reach school administration

Pink: I need to reach students

Pink: I communicate with other teachers and students

Pink: The Administration/principal communicates with the whole school

Pink: I need to reach parents

Pink: I need to reach other teachers

Pink: This is what I communicate about with other teachers

Pink: We need to promote and show off the school

The wording of this label is fine if all the Pink labels below it are all about communication that occurs inside the school. Some of the Pink labels below this Green label are about communication outside the school (reaching parents), and one (promoting the school) is about community relationships. eChalk's affinity does have other Pink labels about communicating outside the school elsewhere in the affinity. Bringing them together under a Green label such as "Communication between the school and the outside" would highlight an important part of the work. Since eChalk wants to support this kind of communication, the issues around it should be surfaced.

Creating the final affinity—rolling in new data

Once you have put on all your labels and ensured that your columns are not too long your affinity is complete. If you built your affinity after you collected all your data you are ready to walk the wall (see Chapter 10).

But if you built a preliminary affinity you will now go out and collect more data. Look at your initial affinity and identify any holes in your data—where you'd like to flesh it out. Make sure you cover those topics in subsequent interviews. Or change some of your interviewees to ensure you get the data you need.

Once you finish all your interviews you will have new notes to add to the existing affinity structure. To roll in new data use the following procedure:

1. Print the new notes.
2. Quickly sort the notes by the existing Green labels they fit under. This should be a "gut level" exercise, something on which you spend only a few minutes. Notes that don't seem to fit under an existing Green label should go in an "Other" category.
3. Clean up the Green labels. Within each Green grouping, read each new note and stick it on the wall next to the Pink or Blue label it seems to fit with.
4. Start new columns for notes that don't fit with the existing labels because they address completely new issues.
5. Repeat until all notes are placed.
6. Go back to each label with new notes and rework the group.
7. Create new Blue and Pink labels to pull out new distinctions.
8. Organize any completely new sections of the affinity into Blue labels and Pink labels.
9. Create new Green labels, if necessary

Remember, you are pushing to create new distinctions—work to discover new implications and new meaning—work *against* just placing notes wherever they will fit (even if they do fit). And don't let your groups get too long—that is another indication that you are burying data.

Once you have finished your affinity you will need to protect it against damage. One way to do this is to put it online. See the box, **Putting your affinity online**, for suggestions on how best to store your affinity.

Putting your affinity online

To make sure you don't lose any affinity data (from Post-it® notes falling off the wall, getting moved, etc.), you should put the finished affinity online. Use CDTools to get your affinity online and publish it to an HTML browser (see Figure 8-2). Having the affinity online is especially critical for distributed teams. See Chapter 10 for an example of an affinity published to HTML.

Also, you can keep your affinity up in paper to share with other stakeholders and to use during design, but secure the physical affinity. Tape down the affinity notes and labels with removable tape strips. This also lets you easily transport the walls if you need to move them to a new location. If you have CDTools and Microsoft® Visio®, you can also use the Export to Microsoft Visio® feature to print out wall-sized diagrams that look like your original paper wall.

Assign a team member to own the affinity to keep track of it and make sure it is kept clean and intact. This is especially important if you have to move your affinity from room to room.

Using CDTools to Put the Affinity Online

Putting the affinity online in CDTools affinity Diagram Builder both stores it and places the data in an environment where it can be re-used and shared. Once online in CDTools, the Affinity can be published to an html data browser (see Chapter 9) that acts like an online data library, providing an interactive data repository for communication and reuse. The Affinity can also be printed in wall-sized diagrams by exporting it to Microsoft® Visio® (not included with CDTools).

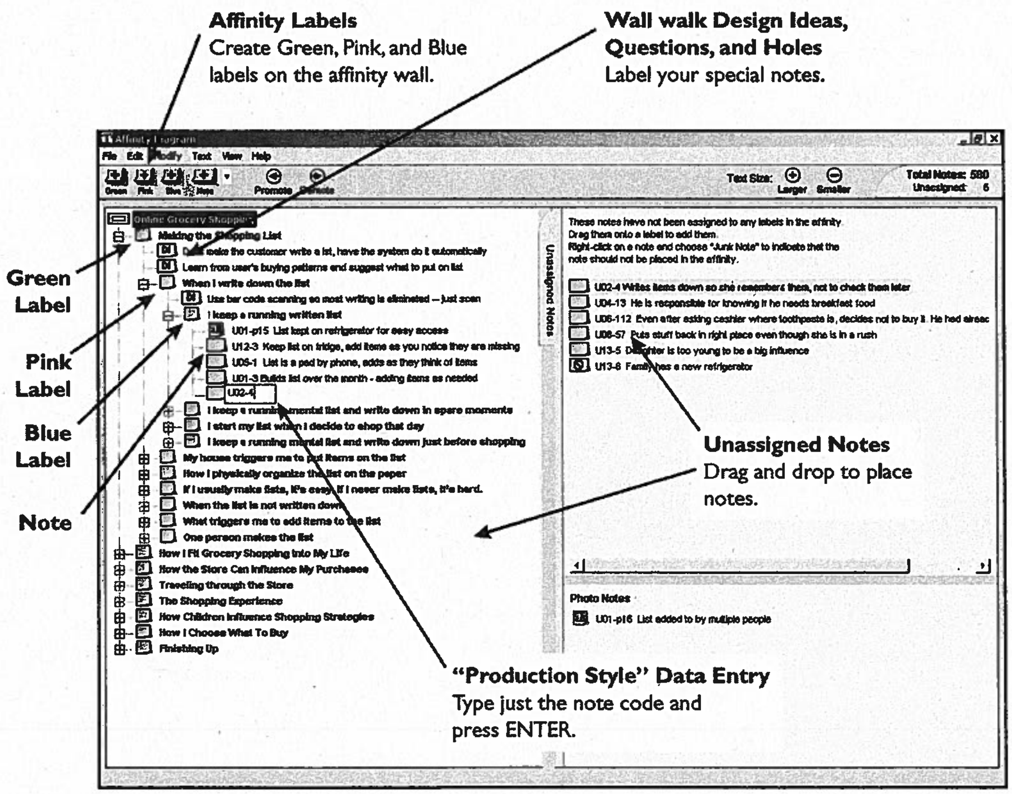

Figure 8-2: CDTools screen for putting the affinity online to share with the team and others by publishing to HTML.