

Method 22 of 100: Affinity Diagramming

100 User Experience (UX) Design and Evaluation Methods for Your Toolkit

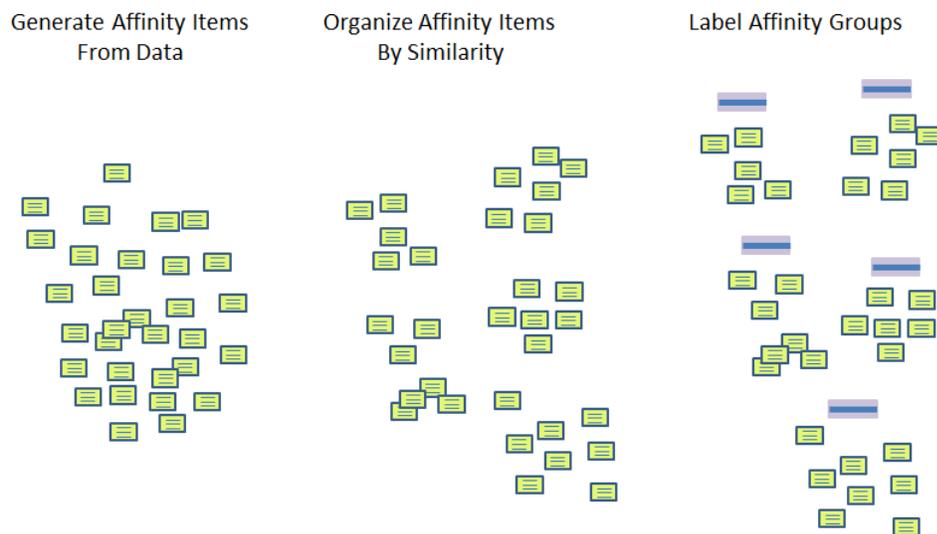
by [Chauncey Wilson](#)

This is the 22nd in a series of 100 short articles about UX design and evaluation methods. Today, I will discuss affinity diagramming, a method for organizing qualitative data into related groups as an individual or group. This method can be used to make sense of data from lab studies, field studies, open-ended questions, brainstorming, diary studies and other methods that produce qualitative data. Affinity diagramming is often done by a group of people in a room with sticky notes, but you can also do this remotely with tools like Google® Spreadsheet (see below), card sorting software and [Microsoft® Sticky Sorter](#).

Method 22 of 100: Affinity Diagramming

Affinity diagramming (sometimes called the KJ method, after Jiro Kawakita, a Japanese anthropologist generally credited as the creator of the method) is a process for understanding research data, capturing insights and pain points, and keeping a product team grounded in data throughout the design and development cycles.

Affinity diagramming is an inductive method where you break up qualitative data from user research or design activities into small chunks and then organize those chunks into groups of related information that highlight particular themes. Figure 1 shows the flow of the affinity diagramming process from generating raw data to organizing the data into related clusters and finally, labeling the clusters with a name that captures the theme of the clusters.



The types of data associated with affinity diagramming include:

- The groupings of ideas into groups and sub-groups
- The number of groups and sub-groups

- The names associated with groups and sub-groups
- A list of prioritized items.
- The themes based on the groups and sub-groups.
- A diagram showing the structure and relationships among the groups and subgroups
- Records of discussions about the affinity diagram.
- “Insight sheets” (a method suggested by Mary Beth Raven and Alicia Flanders and described in Hackos and Redish (1998, pp. 331-332) that highlight key insights from the affinity diagramming activity along with concrete examples and design ideas associated with the insight.

When to Use:

You can use affinity diagramming to:

- Organize qualitative data from users and others stakeholders to understand themes, issues, and concerns.
- Extract requirements from user research.
- Keep important user issues available to product teams.
- Organize brainstorming ideas.
- Support design and data workshops.
- Support the analysis and interpretation of data from multiple studies. This is a type of meta-analysis where you examine patterns from multiple studies to see if there are themes that might, for example, emerge across multiple products from a company.

Strengths and Weaknesses:

- + Affinity diagramming is a relatively simple method, though good facilitation is required to keep focus when there is a lot of data.
- + Supports learning about a particular domain. Creating an affinity diagram that contains user information about roles, tasks, language, problems, policies, and other topics can help in the understanding of user tasks and mental models.
- + Supports innovation since there are generally no preconceived categories.
- + Helps groups come to a consensus about what issues and concerns should be the focus of design activities.
- + Serves as a way to build camaraderie in teams
- - Can be time-consuming when there are hundreds or thousands of items.
- - The rules for breaking up interview transcripts and other types of data into “semantic units” can be difficult since many UX practitioners do not have formal knowledge of content analysis methods.
- - There is not yet any good automated system for supporting affinity diagramming (though that might be coming soon).
- - The common deliverable for an affinity diagramming session is a giant hierarchical map with clusters of similar items and headings – but the most important data, the discussions that occur about the affinity diagram are not always captured. For example, the rationale behind particular groupings can easily be lost.

- - Large data sets that were built with sticky notes can be unwieldy to move. (Tip – take photos with a good digital camera and post those in an accessible place.

Procedure:

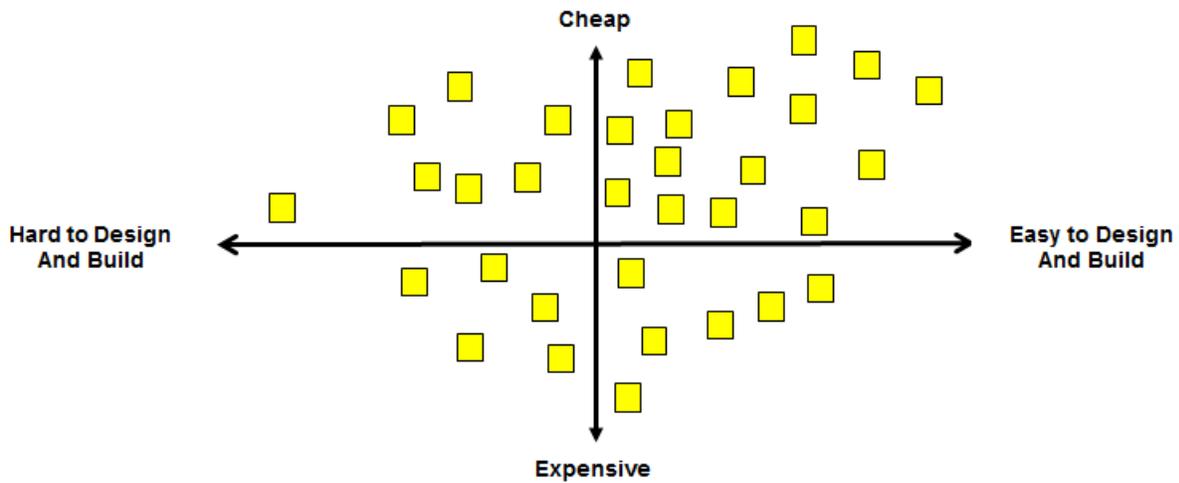
Here is the basic procedure for creating an affinity diagram:

1. Generate data items from notes, transcripts, video, brainstorming or other sources. Only one data item or issue should be on each sticky note. These data can be text, images, or work artifacts.
2. Shuffle the data items to eliminate any pre-existing ordering (e.g., a pile has items from only one company or only one user).
3. Place the items on an affinity surface (a wall or large table or, if online, a high-res large monitor). If you have some really verbal participants, you might do a silent affinity to keep the more verbal colleagues from unduly influencing quieter participants.
4. Ask a group of colleagues to organize the items into “affinity groups” – groups of items that “go together” or that are similar in some way. The facilitator will generally have a small set of ground rules like “anyone can move any item”, “don’t talk while grouping items”, and “don’t discard duplicates”.
5. Try breaking larger affinity groups (more than about 10-12 items) into subgroups.
6. Ask the participants to label each affinity group and subgroup.
7. Review the diagram together to ensure that everyone has a shared understanding of the meaning of the items and names for the groups.
8. Prioritize the affinity groups or individual items for further consideration in the design of products or processes. You can use multi-voting where each person has a limited number of votes. One rule of thumb suggested by George, et al. (2004), is to give people an allocation of votes that equals the total number of items divided by 3. So, if you have 99 items, you would give each person 33 votes. You can set the voting rules so that people can put multiple votes on one item or one vote per item.

Many colleagues use colored dots for voting with the number of dots around an item or group of items as the measure of priority. One criticism of the voting dots approach is that people will be biased to put dots on an items that has many dots so you might consider taking photos and asking people to put dots on the photo privately or you could generate a list of the items in their groups and ask people to vote in separate columns on a spreadsheet.

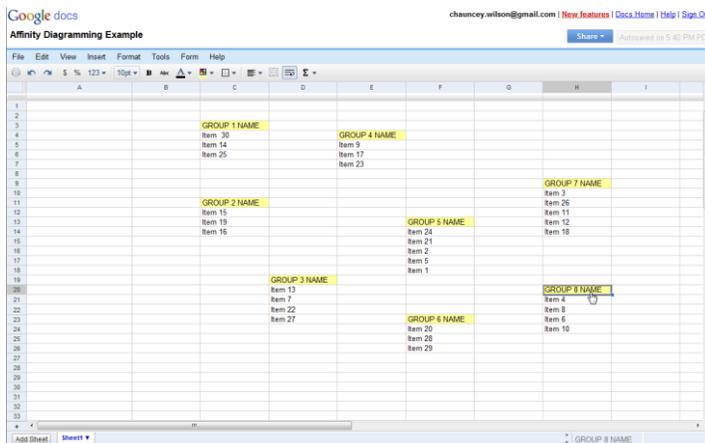
Affinity Mapping – A Variation on Affinity Diagramming

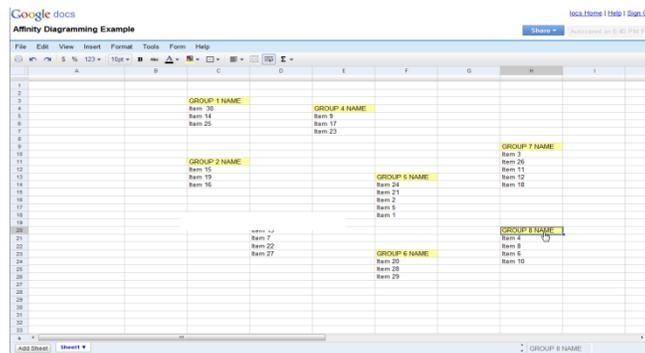
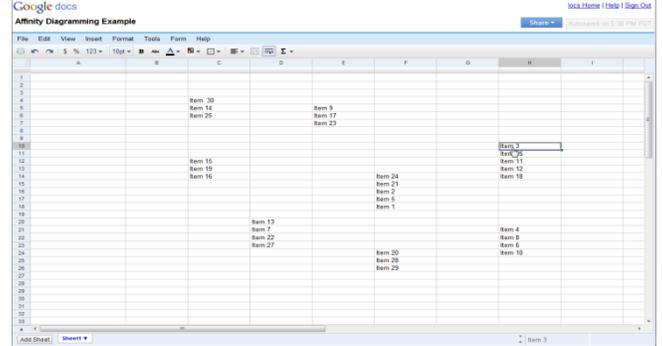
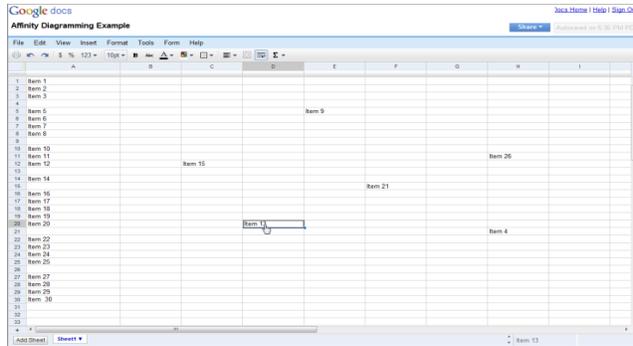
Affinity diagramming asks people to group things that are similar in some way. Affinity mapping is a variation where you map items along two dimensions like “Importance to the User” and “Difficulty for Design/Development”. Figure 2 shows what an affinity map might look like.



Google® Spreadsheet for Remote Affinity Diagramming

If you have a small to medium number of items (say 20-100), you can make use of the distributed interaction features of Google Spreadsheet to do a remote affinity diagram. You can put all the items for the affinity diagramming session in the first column of the spreadsheet and then drag the items to another part of the spreadsheet to create affinity groups. Multiple people can move items from the first column to the groups on the right. This process takes some practice since you need to select a cell, then move the mouse pointer near the border until you see the “hand”, then you can just drag that item like a card to a pile group elsewhere on the spreadsheet. Figure 3 shows the basic flow for using Google Spreadsheet to create an affinity diagram. The groups can be labeled by using a different color above the items.





References:

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