

Visualizing Group Creativity

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Graphic designers use creative problem solving techniques in the development of solutions to visual communication problems (Poggenpohl, 1993). However, the daily work of a graphic designer is becoming more and more complex. Creative teams, which include graphic designers, scientists, engineers, writers, marketers, artists, and other professionals, are being assembled to take on complex business, research, and media projects (Sawyer, 2006).

Much research and writing on creativity focuses on the individual (Amabile, 1996). As graphic designers work on more collaborative projects a better understanding of the processes and techniques graphic designers employ in group creativity is needed. Visually exploring their interactions may provide a deeper understanding of the phenomenon of group creativity.

“...A mediocre team will screw up a good idea. But if you give a mediocre idea to a great team and let them work together, they’ll find a way to succeed”

—Ed Catmull of Pixar (as cited in Lehrer, 2012, p. 149)

Method

This study was conducted as a qualitative case study with multiple phases of data collection including observation and interview methods. Graphic design graduate students were recruited to engage in a group ideation activity. Afterward, participants watched video recordings of their group activity and responded to interview questions. The responses to these questions were analyzed and themes emerged describing the types of interaction that occurred between group members. These themes were developed into a coding system and applied to the data derived from the video recorded group observations. Data visualizations were developed to further explore and to find relationships in the data.

Reading a Radial Convergence Graph

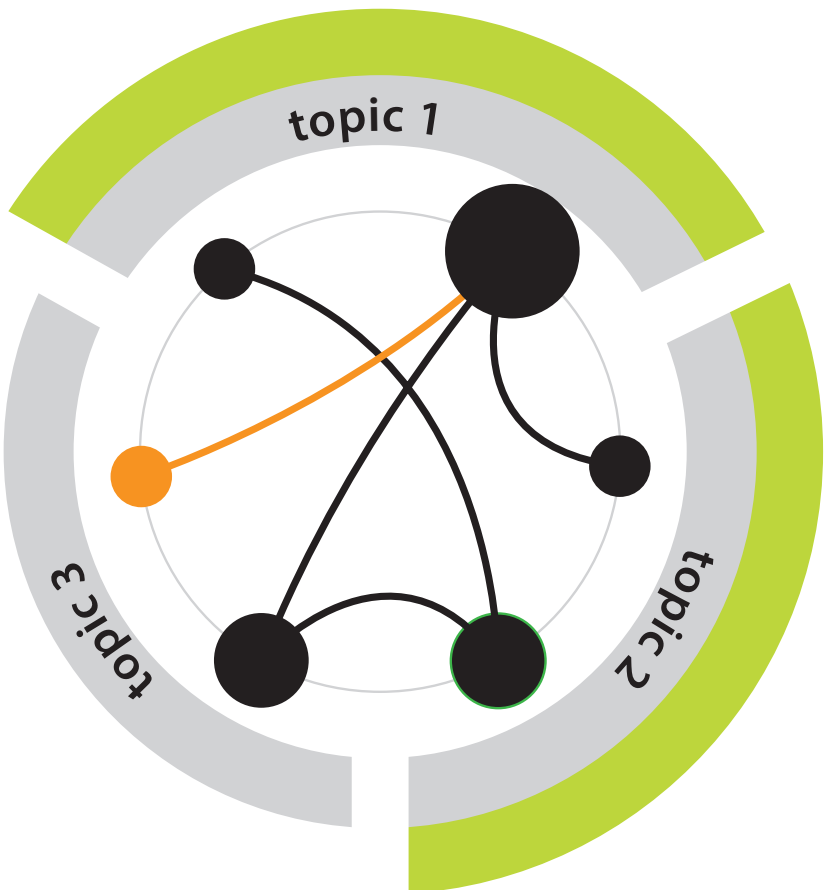
Radial convergence graphs are comprised of nodes arranged in a circle with links between nodes indicating a relationship.

Larger nodes indicate that a node is more relevant based upon the number of links and how far the links can be traced.

Node and link colors indicate a coded interaction—based upon the coding system developed from the qualitative interviews.

The rings around the nodes indicate groupings of data. The graph’s inner ring reports the name of the topics discussed. The outer ring indicates discussions of related topics.

Follow the links from node to node around the graph to see how the nature of the group’s interactions relate to an idea, for example you might find an elaboration that builds upon another elaboration and/or upon a task parameter toward the development of an interesting idea.

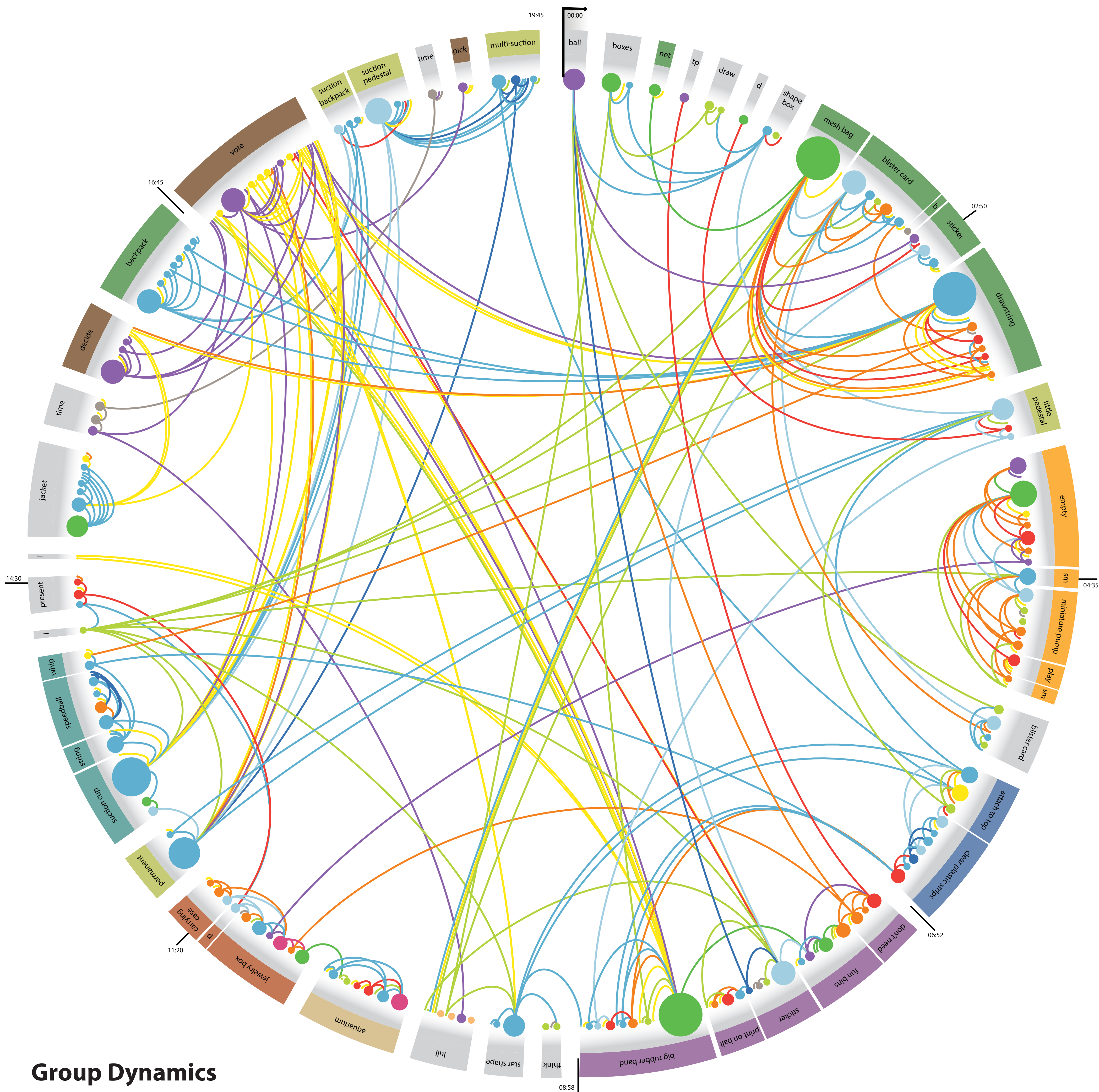


Conclusions

1. The participants used a technique of improvisation where they built up each other’s ideas through elaboration.
2. Contrary to rules of group ideation that recommend the deferment of judgment (Osborn, 1965), the participants criticized each other’s ideas during the idea generation session. This criticism often encouraged or led to further changes to ideas.
3. Problem definitions and task parameters were developed as the group built up and criticized each other’s ideas throughout the idea generation process.
4. Wild ideas were not helpful in generating creative solutions toward goals but did help the group move beyond a lull or slow period of their session.
5. The evaluation, or criticism, along with elaboration allowed the group to discover aspects of the design problem and to adjust and refine their goal as they developed potential ideas.

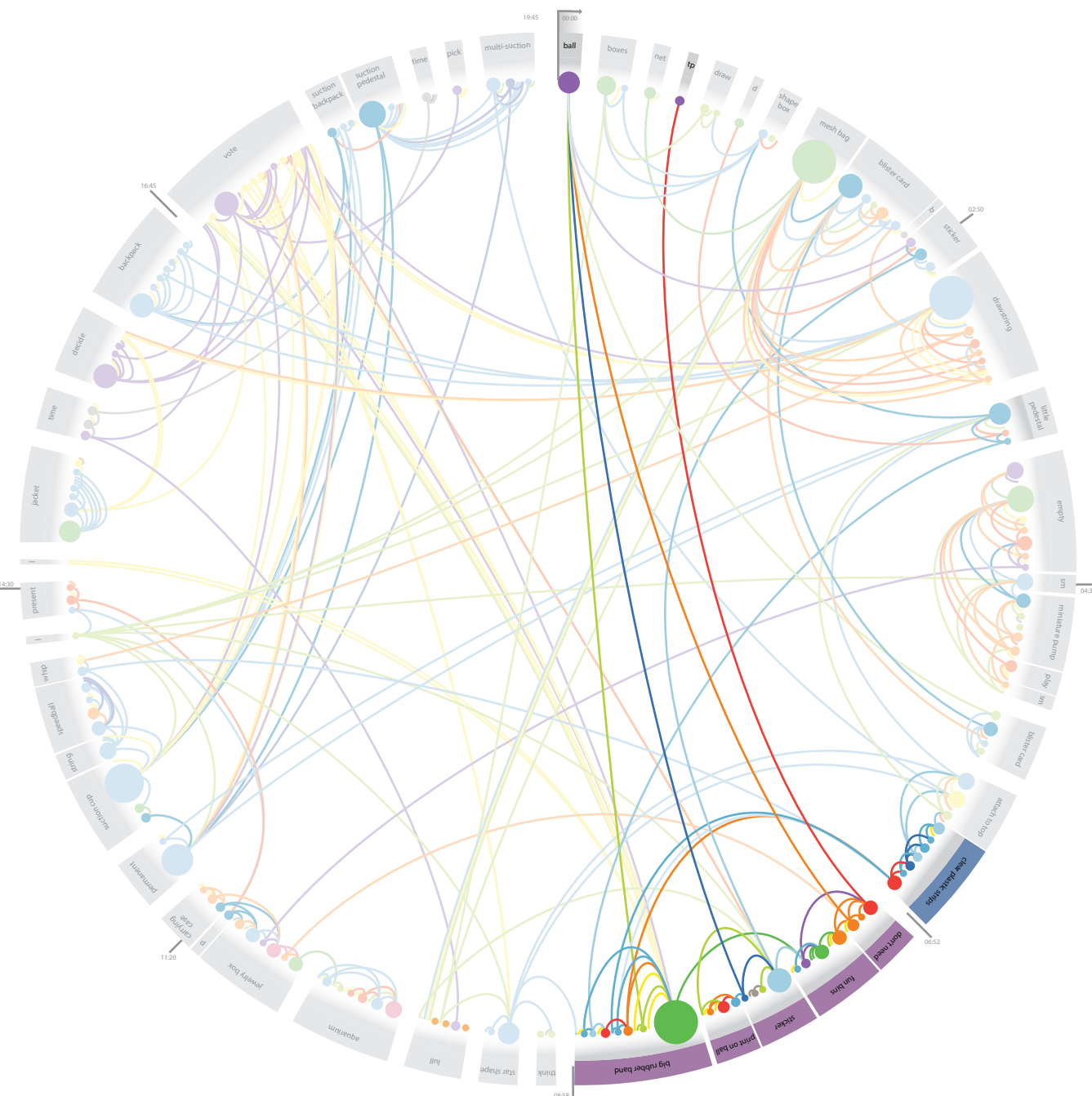
Key

	Elaboration		Criticism
	Combination		Appreciate
	Misunderstanding		Think
	Pre-existing Knowledge		Wild Idea
	Task Parameter		Lull
	Justification		Other



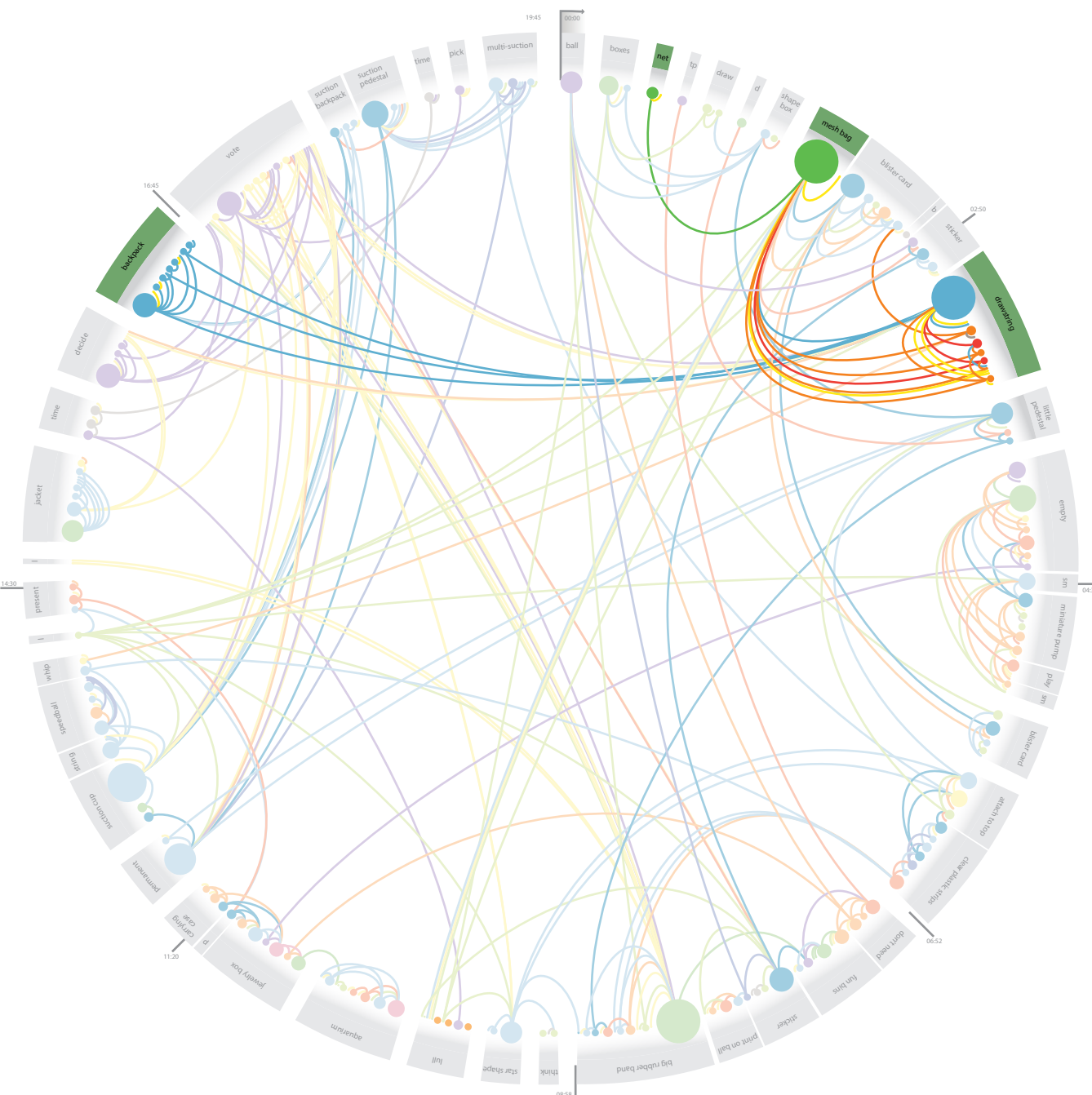
Group Dynamics

This group was made up of graphic design graduate students. Members of this group have professional experience developing ideas and have helped teach classes that focus on creative problem solving and idea generation techniques. The group questioned the need for packaging and explored many concepts even if the concepts didn't influence the final ideas. When it came time to decide on three ideas the group combined a couple previous concepts to generate the third idea.



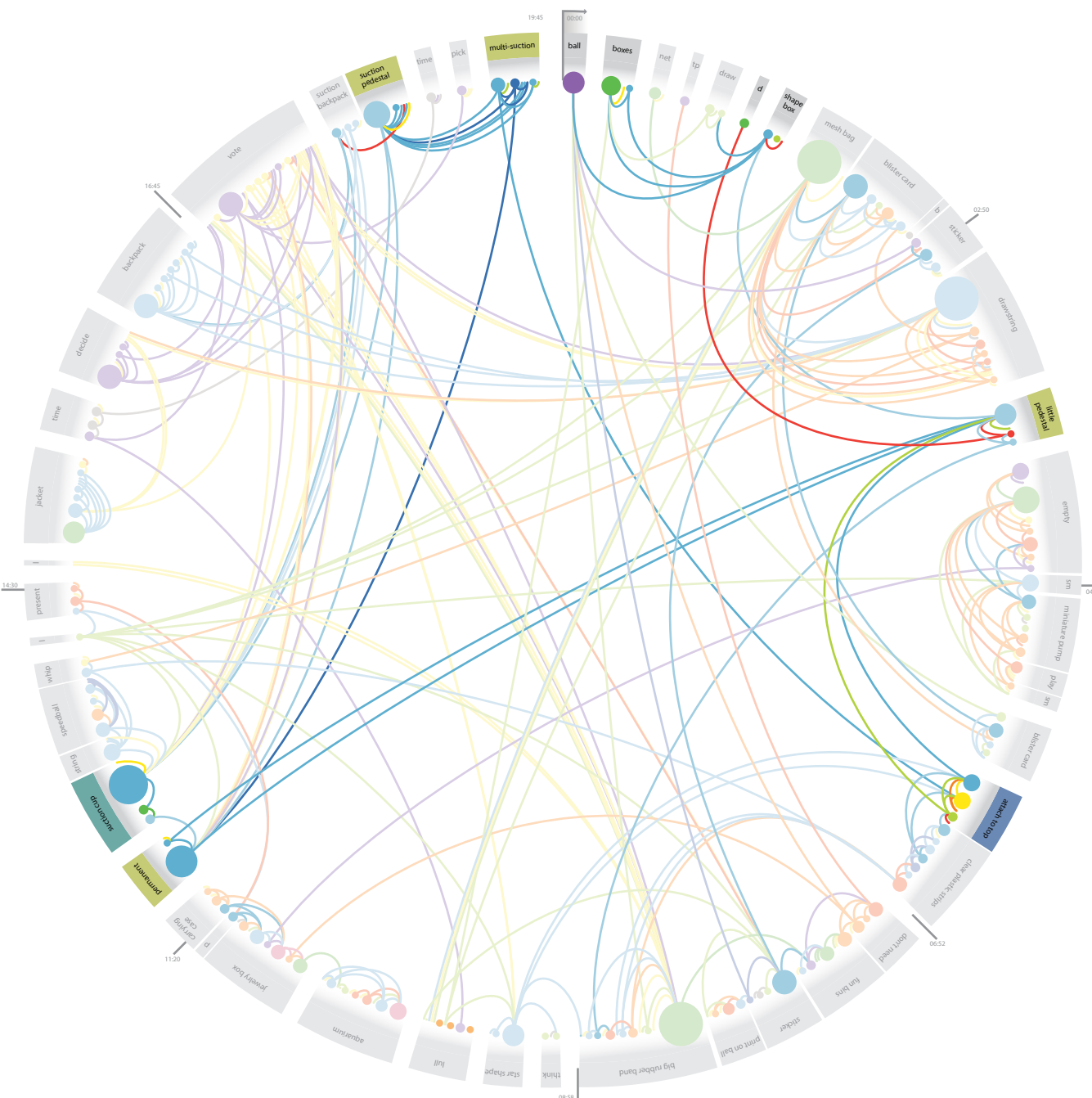
Big Rubber Band

During a discussion about the need for a ball to have packaging the idea of a big rubber band was introduced. The group quickly discussed the concept through a series of justification, elaboration, critique, and combination of ideas. Many of these verbalizations were influenced by an earlier discussion of using a clear plastic strip with the packaging.



Mesh Bag

This was an early concept that quickly developed into a mesh bag with a drawstring to hold the ball. The group criticized and justified the idea before finding it acceptable. Toward the end of the conversation, the group revisited this concept adding a backpack feature to it.



Multi-Suction Pedestal

The concept of using a pedestal to hold the ball was introduced early on. This idea was brought up and elaborated on throughout the group session. This pedestal was combined with a suction cup idea to create a new idea of having a pedestal with suction cups and a cap with suction cups—multi-suction.