

Übung zur Vorlesung

Informationsvisualisierung

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Arc Diagrams [3]

- Visualization complex patterns of repetitions



Thread Arcs [1]

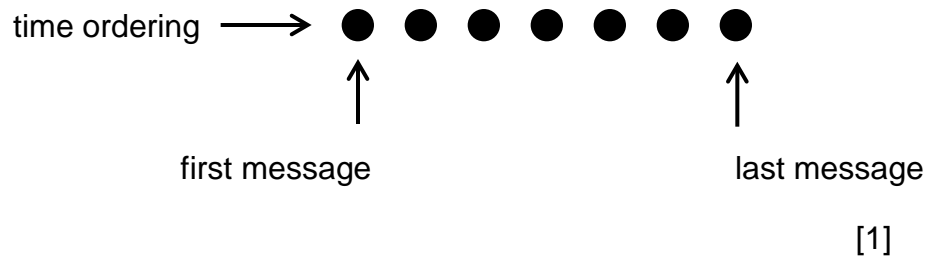
- Visualization of e-mail threads
- Design goals:
 - Keep chronology
 - Show relationships
 - Compactness
 - Stability
 - Quick scanning
 - Quick interaction
 - Easy interpretable



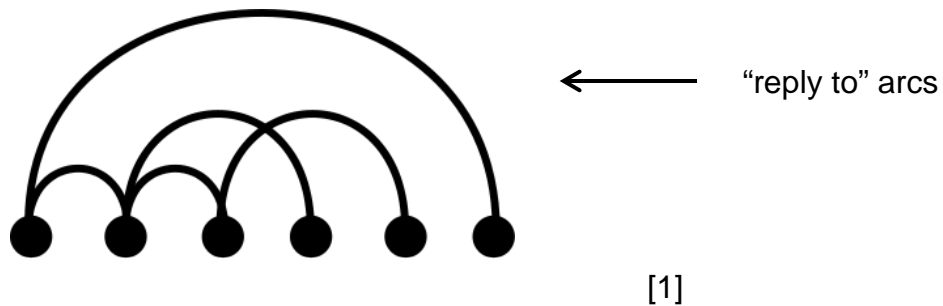
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Thread Arcs

- Chronological ordering
 - width = linear function of thread size

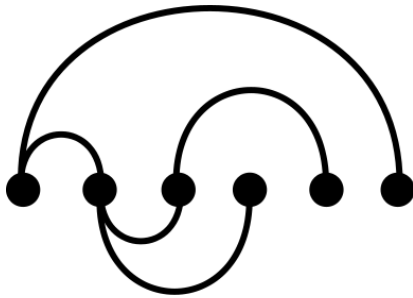


- Relationships



Thread Arcs

- Improvements
 - “The relationships between messages are clearer when arcs are drawn above and below nodes.” [1]

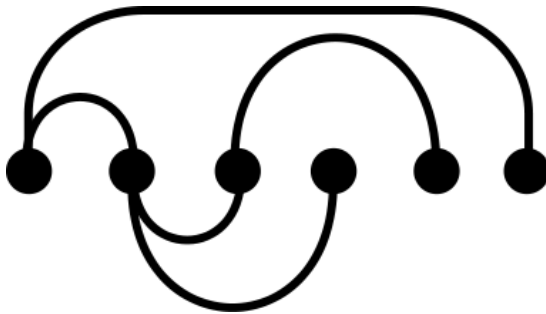


← “reply to” arcs

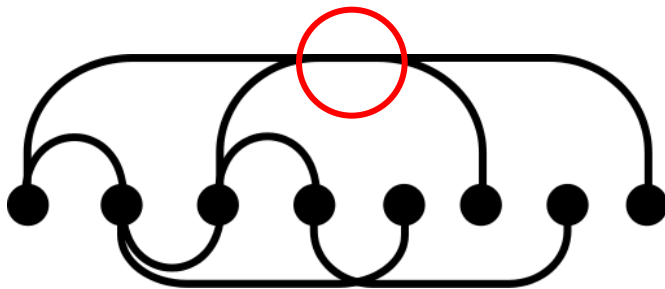
← “reply to” arcs

Thread Arcs

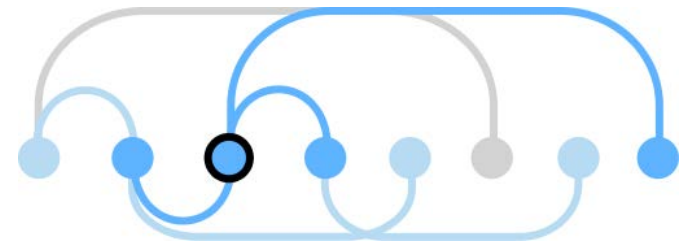
- Improvements
 - “Constraining the maximum height of the arcs makes the visualization more compact.” [1]



- Problem: Overlap

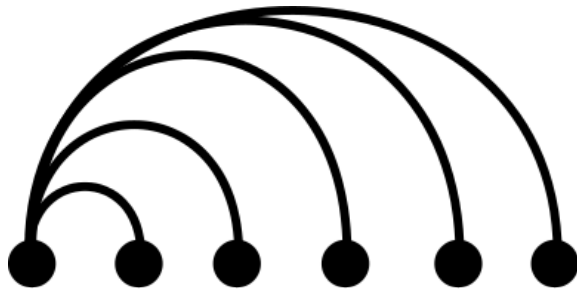


- Solution: selection highlighting



Thread Arcs

- Conversation types:
 - Advantages: makes different conversations easily comparable



bushy



Several answers per message
=> Could be a **group** conversation



narrow



One answer per message
=> Could be a **private** conversation

[1]

Thread Arcs

- Pseudo-code [1]:

sort all messages chronologically
find the generation depth of each message

for each message

if the message is the root then

place the node at the starting position and don't draw an arc

else

place the message to the right of the last message

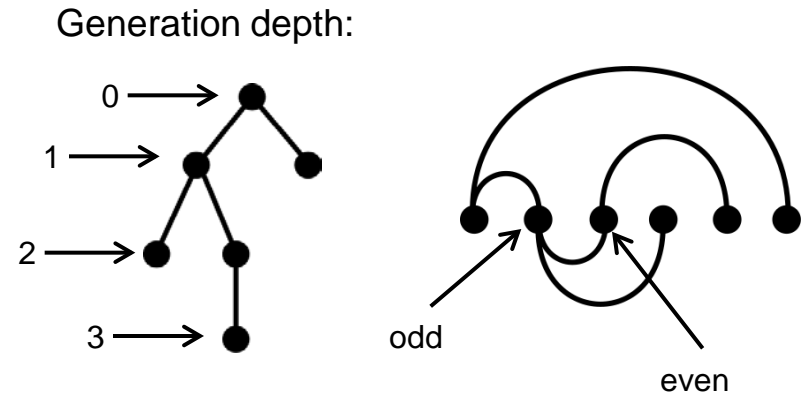
if the message generation depth is odd then

draw an arc above the line to the message's parent

else

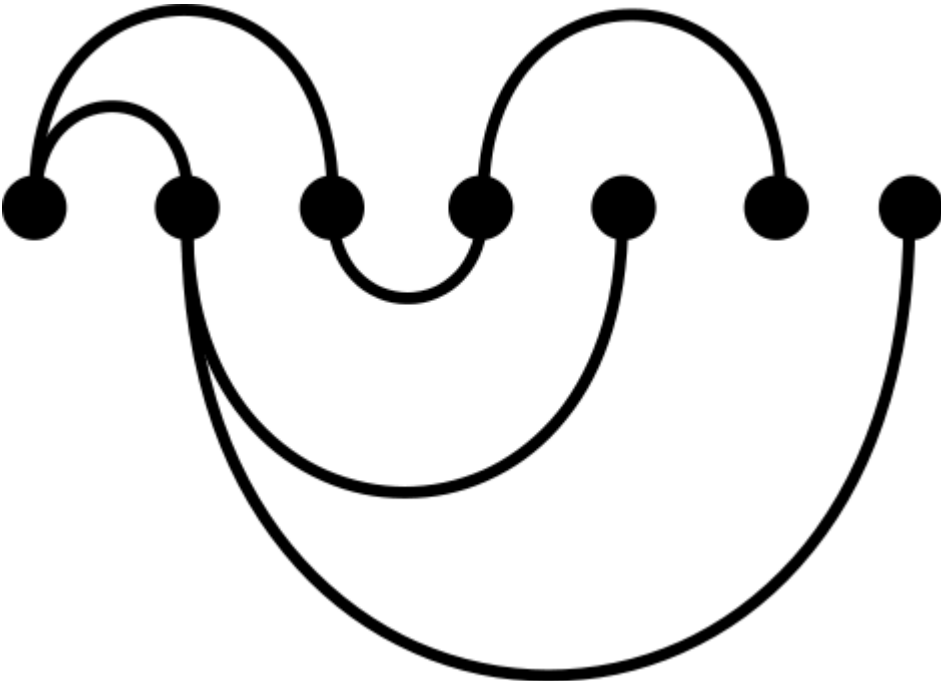
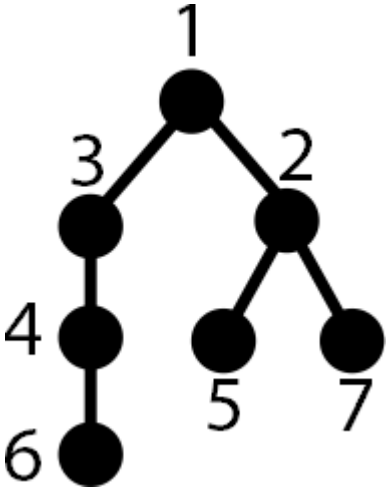
draw an arc below the line to the message's parent

next message



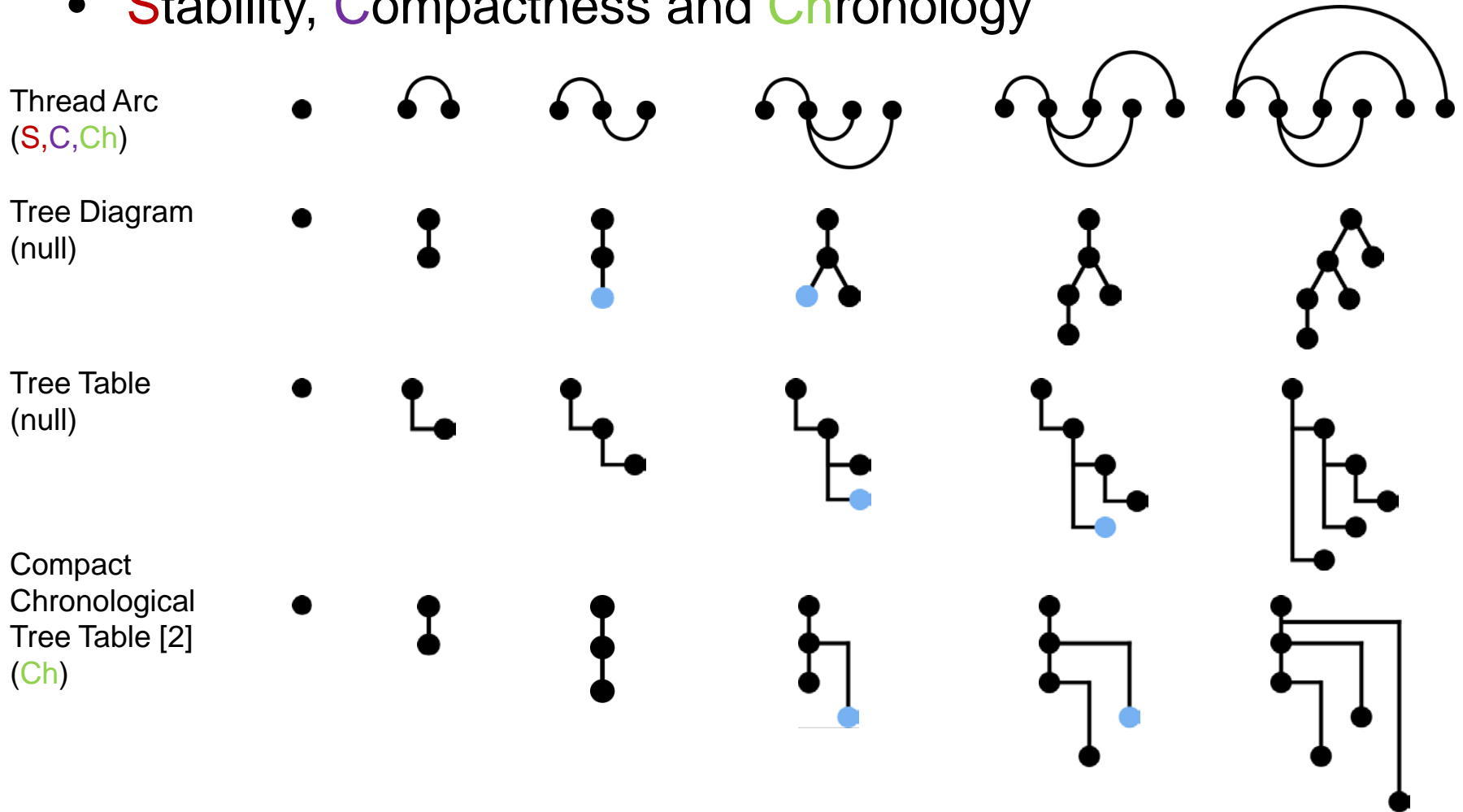
Create a thread arc for the following message structure (represented as a tree diagram).

The number represent the chronological order.



Thread Arcs

- **S**tability, **C**ompactness and **Ch**ronology



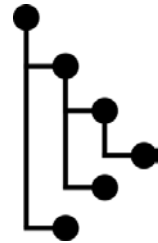
Thread Arcs

- Chronology

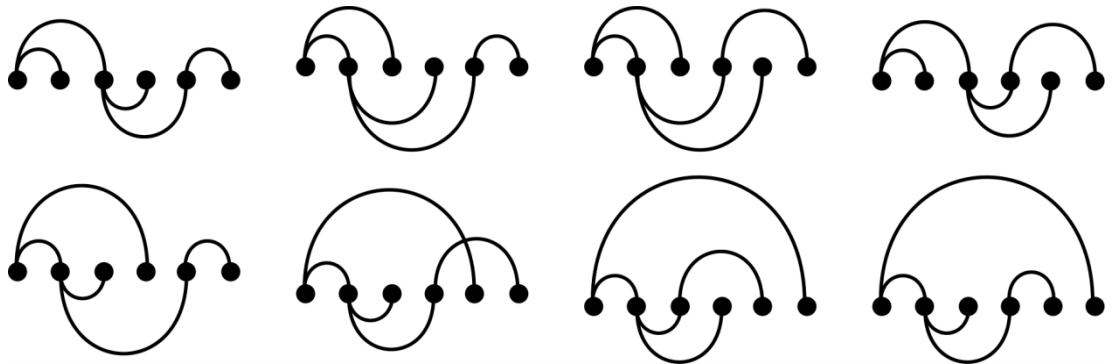
Tree Diagram



Tree Table

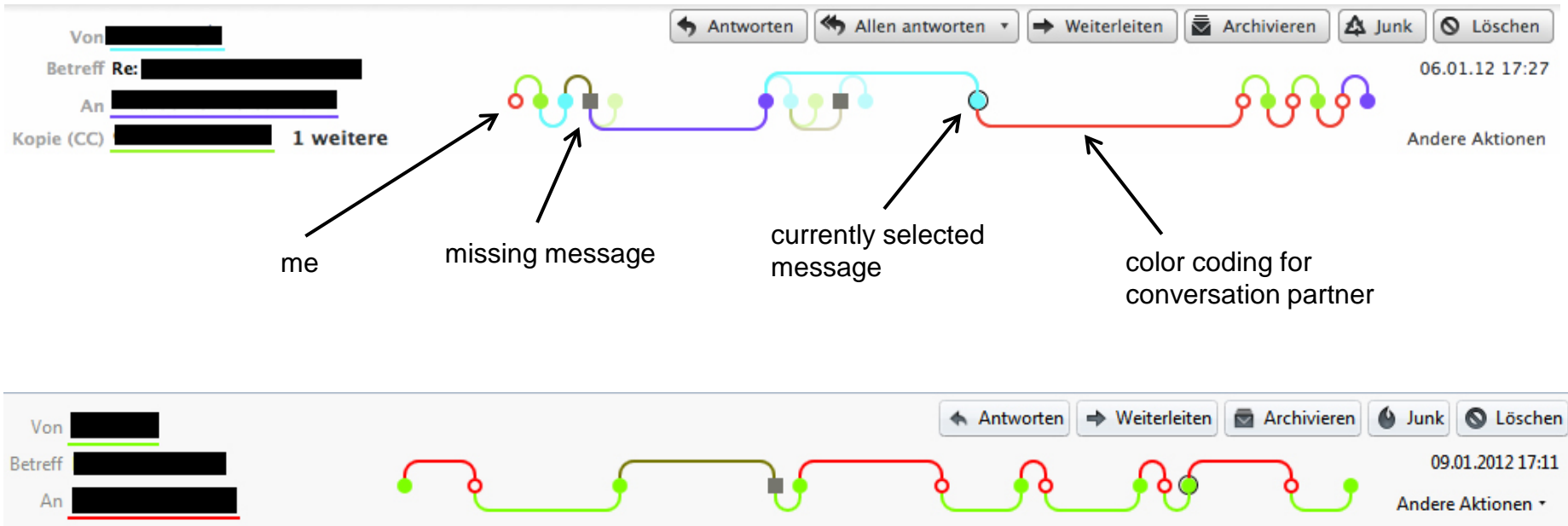


Thread Arc



Thread Arcs

- Example: ThreadVis (Thunderbird)



Projektphase Endspurt

- Noch ca. 2 Wochen (also langsam mal anfangen)
- Abgabe und „mündliche Prüfung“:
 - Präsentation des Projekts vor den Betreuern
 - Zeitraum: 30.01. – 03.02.2012
 - Individuell (E-Mail an Alexander)
 - Amalienstraße 17
- Checkliste:
 - Lauffähig?
 - Wer hat was gemacht?
 - Dynamisch, Interaktiv, Skalierbar ... (siehe Folien zu Übung 6)

Klausur

- 7. Februar
- Open Book

References

1. Kerr, B. THREAD ARCS: An Email Thread Visualization. In Proceedings of the IEEE Symposium on Information Visualization, Seattle, WA, October 19-21, 2003.
2. Rohall, S.L., Gruen D., Moody P., and Kellerman S. Email Visualizations to Aid Communications. Late Breaking, Hot Topic Proceedings of the IEEE Symposium on Information Visualization, San Diego, CA, October 22-23, 2001, pp. 12-15.
3. Wattenberg, M. Arc Diagrams: Visualizing Structure in Strings. Proceedings of the IEEE Symposium on Information Visualization, Boston, MA, October 28-29, 2002 pp. 110-116.